REPORT

BASIC ASSESSMENT & ENVIRONMNTAL MANAGEMENT PROGRAMME REPORT FOR MILIMA INVESTMENT (PTY) LTD

DMR REF NO: NC30/5/1/1/2/12529 PR

NOVEMBER 2020

FILE 2 OF 2

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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).

IMPORTANT NOTICE

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

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

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

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

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

OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

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

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

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

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

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

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

  (ii) The degree to which these impacts—

    (AA) can be reversed;

    (bb) may cause irreplaceable loss of resources; and

    (cc) can be managed, avoided or mitigated;

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

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

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

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

ACRONYMS

BAR	Basic Assessment Report
CBA	Critical Biodiversity Area
CITIES	Convention on International Trade in Endangered Species
DEA	Department of Environmental Affairs
DMR	Department of Mineral Resources
DWS	Department of Water and Sanitation
DAFF	Department of Agriculture Forestry and Fisheries
EMF	Environmental Management Framework
EMP	Environmental Management Plan
EIR	Environmental Impact Report
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officers
ESA	Ecological support area
EAP	Environmental Assessment Practitioner
GDP	Gross Domestic Product
IAPs	Interested and Affected Parties
IDP	Integrated Development Plan
MPRDA	Mineral and Petroleum Resources Development Act
m	Meter
NEMA	National Environmental Management Act
NEMBA	National Environmental Management Biodiversity Act, 10 of 2004
NWA	National Water Act, Act 36 of 1998
NCHRA	Northern Cape Heritage Resource Agency
PM	Project Manager
SDF	Spatial Development Framework
SAHRA	South African Heritage Resource Agency
SANBI	South African National Biodiversity Institute
SFSD	Strategic Framework for Sustainable Development
CO	Carbon Monoxide
TSP	Total Suspended Partial

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PART A:

1. SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT

Contact person and correspondence address

1.1 Details of the EAP

i) Details of the EAP:

Table 1: EAP Details

Consultant Name	Joan Consulting (Pty) Ltd
Report compiled by:	Mukwevho Meriam 076 4845 308 meriam@joanprojects.co.za
Report reviewed by:	Mukondeleli Makoya 063 331 0620 makoya@joanpojects.co.za
Report approved by:	Lufuno Mutshathama 073 912 0800 lufuno@Joanprojects.co.za
Postal address:	P O Box 4147, Honeydew,2040
Physical address:	09 Loerie Road, Randpark ridge, Randburg, Johannesburg
Telephone:	011 791 5032
Fax:	086 235 5142

ii) Expertise of the EAP

(1) The qualifications of the EAP

Meriam Mukwevho- BSc of Environmental and Resources Studies- University of Limpopo

Lufuno Mutshathama - Bachelor of Environmental Science- University of Venda

(2) Summary of the EAP's past experience

EAP	Experience
Mukwevho Meriam	Meriam Mukwevho is an Environmental and Mineral officer at Joan Consulting (Pty) and Ltd specialised in GIS, cartography and Remote Sensing. She holds a degree in Environmental and Resources studies from University of Limpopo
Lufuno Mutshathama- Senior EAP	Lufuno Mutshathama is an Environmental Scientist by profession, and registered as a Certificated Natural Scientist with the South African Council of Natural Scientific Professionals (SACNASP Reg: 114437). She holds a

	Bachelor of Environmental Sciences degree and has 11 years collective experience working in the mining industry specialising in mine environmental management and mineral licensing. Of the 10 years, 3 years were spent at the Department of Mineral Resources (DMR) as an Environmental Officer, 1.5 years were spent working at a JSE listed mining company as the Group Environmental Officer and the 6 years to date were spent as a founder and Principal Consultant at Joan Consulting (Pty) Ltd, an environmental management and mineral licensing firm. Lufuno has extensive experience in mining environmental management areas such as water management, Environmental Management Programme (EMP) implementation, waste management, environmental audits, financial provision estimations and revision, mine rehabilitation and assessments such as Environmental Impact Assessment (EIA), Basic Assessment (BA), scoping, closure plans and environmental risk assessment. Mineral licensing which entails obtaining prospecting and mining rights, their variations and cessions (including environmental due diligence) is also a speciality service offering

1.2 Location of the overall activity

The proposed activity is located on Bellville 16, Witbank 56,703/104,703/115 which is approximately 52 km North of Hotazel and 100 km North West of Kuruman in the Northern Cape Province. The project area falls within Joe Morolong Local Municipality in John Taolo Gaetsewe District Municipality, Northern Cape of South Africa.

Table 2: Property details

Farm Name:	Bellville 16, Witbank 56,703/104,703/115
Application area (Ha)	The area is approximately 15661 ha extent
Magisterial district:	Kuruman Magisterial District
Distance and direction from nearest town	The site is located 52 km North of Hotazel and 100 km North West of Kuruman in the Northern Cape Province.
21-digit Surveyor General Code for each farm portion	C04100000000070300019 C04100000000070300115 C04100000000070300104 C04100000000070300056

1.3 Locality map

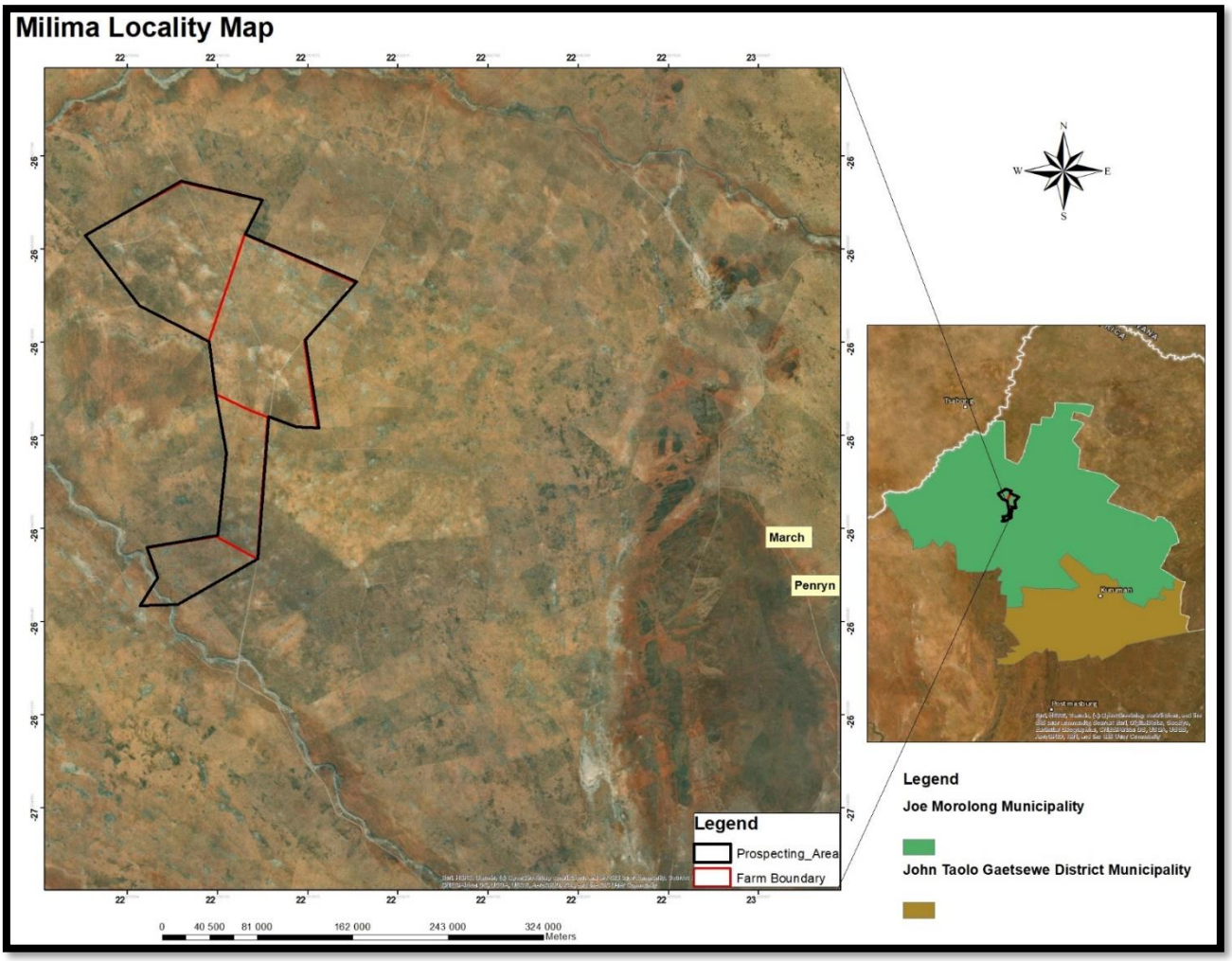

Figure 1: Milima Locality Map

1.4 Description of the scope of the proposed overall activity.

A site plan below shows the shows the location, and area (hectares) of all the main and listed activities, and infrastructure to be placed on site.

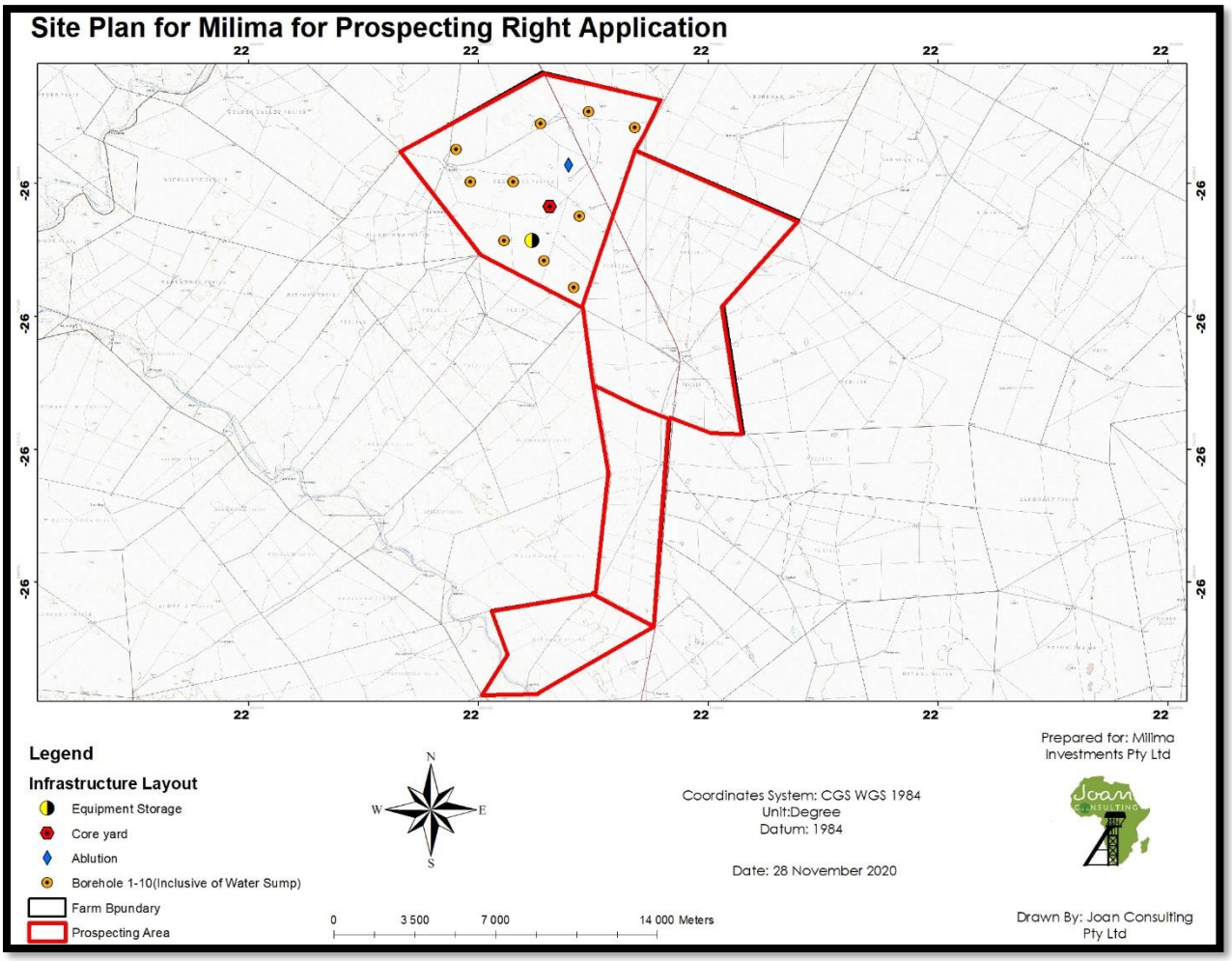

Figure 2: Milima Site Plan

It must be noted that this is a conceptual site plan. It is subject to change depending on the findings of the desktop study, geophysical and geochemical survey.

(i) Listed and specified activities

Table 3: NEMA triggered activities

ME OF ACTIVITY **E.g. For prospecting** - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc**.**	**Aerial extent of the Activity Ha or m²**		**LISLISTED ACTIVITY** Mark with an X where applicable or affected.	**APPLICABLE LISTING NOTICE** (GNR 544, GNR 545 or GNR 546)
Any activity including the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002),		15661 ha	x	Activity 20- GNR R327 of 2017
Site Establishment	1000 m²	0.1ha	x	Activity that falls under Activity 20- GNR R327 of 2017
• Office/core yard	_	_	x	N/A
• Ablution	_	_	x	N/A
• Equipment Storage	_	_	x	N/A
• Workshop	_	_	x	N/A
Establishment of borehole- drill sites- with water sump	200m2 X (10 drill sites)	0.2ha	x	Activity 20- GNR R327 of 2017
Access road- project will use existing road	_	_	x	N/A

(ii) Description of the activities to be undertaken

The application has been lodged for the prospecting right, for Manganese (Mn), Limestone, Cobalt (Co), Copper (Cu), Zinc (Zn), Iron (Fe), Lead, (Pb), without bulk sampling by Milima Investments (Pty) Ltd. This will only involve drilling of 10 boreholes to recover core log from the sub-surface. Each drill site will

be approximately 200m^2 each, and will comprise of a borehole, drill rig and a sump. Recovered cores will be taken from each borehole to test the presence and quality of the minerals of interest.

The prospecting activities to be undertaken includes non- invasive and invasive methods, thus methods that do not have physical contact with the environment and that which has physical contact respectively. Non-invasive method involves phase 1 and invasive involves phase from 2 and 3 as explained below. The undertaking of these activities will be done in phases, with the succeeding phase depending on the results and success of preceding phase. The intended phases and the full description of what each entail in sequential order are indicated below;

PHASE 1

Literature review: -

Literature survey is a comprehensive review of published and unpublished work from secondary data sources. Re-evaluation of previously explored areas of similar nature is very important at this stage to build conceptual geological model. This review will be conducted as an expectation guide of the field

Geological Mapping: -

The area will be geologically mapped to update already existing information. All gathered information will be integrated with the existing information acquired during literature review assist with informed site planning.

Geochemical Sampling & Anomaly Screening:

The target mineralization identified during the desktop study and mapping exercise would be further defined using surveyed line/grid based traversing geochemical soil / stream sediment and grab / float sampling activities.

Geophysical Surveys: -

Various methods of geophysical applications will be applied on the target areas if need be and this may include: ground magnetics, gravity and radiometric traversing on irregular grids

PHASE 2- CONSTRUCTION AND OPERATIONAL

This phase entails the construction, operation and rehabilitation activities of the project, and they are explained in detail below;

Reconnaissance/Stratigraphical Drilling:

Phase 2 will commence with reconnaissance / stratigraphical drilling. The construction part entails the site preparation of clearing the site and bringing the equipment such as the drill rig and chemical toilets on site. Five (5) reconnaissance diamond drill holes are planned at this stage. These holes will serve to establish the

stratigraphy of the project area and to establish mineralized portions within the stratigraphy. The boreholes will be drilled approximately 50m from the outcrop position, and will be drilled to a depth of approximately 200m.

The two boreholes will be correlated to establish the preliminary stratigraphical column.

Secondly, the boreholes will be sampled and analysed for mineral content and the results of the sampling will be used as a basis for the next phase of exploration drilling.

Resource Diamond Drilling:

Drilling targets for this phase of drilling will be based on the results of the two boreholes drilled during the reconnaissance phase coupled with the conceptual geological / structural model to be established from the geophysical studies and associated interpretation. If mineralized horizons are intersected, five (5) follow-up boreholes will be drilled.

These two boreholes will also be sampled, analysed and the results of the sampling will be used as a basis for Phase 3 resource definition / exploration drilling.

If economically viable reef is intersected in all the 10 boreholes drilled during reconnaissance and resource drilling campaigns, then a drill grid will be established as Phase 3 drilling. This follow-up exploration drilling program will be conducted as the source for gaining ground truth information of the potential ore body and to prove continuity in the third dimension in detail, addressing reef facies, structure and metallurgical parameters. This drilling phase will define the orientation and shape of the ore body and also define the grade and tonnage and improve the geological confidence.

Any follow up and infill boreholes will be planned and those will have to be drilled at a grid of 200m. It is estimated that the depth of each borehole will range from 150 – 200m.

Drill core will be logged (structure, lithology and facies), sampled and analysed for Zinc, Nickel, Copper, Iron, Limestone, Cobalt and Lead Additional hole-deflections or holes will be drilled for value verification and to ascertain variance in metallurgical and mineralogical parameters.

The current planning suggests that a total of 10 initial exploration boreholes are planned. This drilling Programme should lead into a maiden inferred to indicate resource definition.

Decommissioning and Rehabilitation

Upon completion of the drilling and logging process, the drilling equipment and all machineries will be removed from site. The drilled boreholes will be closed with a steel casing to suitable depth and a concrete cap will be placed on top with the exception of locations were boreholes will be drilled on cultivated land. Topsoil that has been removed from drill sites will also be replaced, and all disturbed areas (including roads)

will be ripped and allowed to return to the natural state. The denuded area will be re-vegetated by spreading a seed mixture that represent the local vegetation.

PHASE 3

Pre-Feasibility Study: -

A multi-disciplinary pre-feasibility study will be done based on the geological model and Indicated Resource outlined in the previous phases.

The outcome of the pre-feasibility Study will be a complete mine and plant design, together with a preliminary EMP for the operations. The associated infrastructure, human resourcing, and social and labour plan will have been completed to a lesser accuracy. Should this prove positive, feasibility study work will commence.

Other Activities listed on table 3 are outline below:

- Movement of vehicles and machineries for the proposed activities.
- There are currently existing roads that give access to the proposed site. Two major roads give access to the site and thus R380 and R31.
- Supply of water for prospecting purposes. Portable water for contractors will be provided and will be stored on site

1.5 Policy and Legislative Context

Table 4: Applicable legislation to this Application

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** (i.e. Where in this document has it been explained how the development complies with and responds to the legislation and policy context)	**HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE POLICY AND LEGISLATIVE CONTEXT?** (E.g. In terms of the National Water Act: -Water Use Licence has/has not been applied for)
Minerals and Petroleum Resources Development Act (No 28 of 2002).	Prospecting Right Application	Section 16 of the Mineral and Petroleum Resources Development Act (MPRDA) read with the relevant regulation direct the application of the prospecting right. This prospecting right was applied according to this section.
National Environmental Management Act, 1998 [Act 107 Of 1998], as Amended (NEMA) and Environmental Impact Assessment (EIA) Regulations, 2014	Environmental Authorisation Application and BAR	The prospecting right application requires a Basic Assessment to be Conducted in terms of the NEMA Regulations of 2014 as amended in April 2017. The NEMA regulations identify DMR as the Competent Authority and details out the Basic Assessment process to be followed. The Environmental Authorisation application has been lodged and the Basic Assessment report requirement is fulfilled by this report,

Environmental Impact Assessment (EIA) Regulations, 2014	Environmental Authorisation Application and BAR	This regulation gives guidelines in terms of methodology to be followed in terms of the requirement by NEMA and the content of the report thereof. This report forms part of the Basic Assessment of the EIA being undertaken and the EA application is lodged.
National Environmental Management: Biodiversity Act 2004 (ACT NO. 10 of 2004)	Vegetation clearance	BGIS LUDS has been consulted when determining the baseline environmental conditions for the areas impacted by proposed surface activities.
National Environmental Management: Waste Act, 2008 (Act No.59 of 2008)	Prospecting Activities	The principles of the NEM: WA will be applied to all aspects of the activities covered by this application. This will take in account all measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development.
National Water Act, 1998 (ACT NO. 36 of 1998)	Drilling Phase	The principles of the NWA will be applied to all physical activities implemented as part of ongoing drilling. The purpose of the National Water Act of 1998 (Act no.36 of 1998) is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in a manner that promotes equitability, efficiency and sustainability for present and future generations. To do so, the National Water Act regulates the following water uses: Water Use Authorisation and The Water Use License

National Heritage Resources Act, 1999 (ACT NO. 25 OF 1999)	Prospecting Activities	All activities covered by this application will avoid any identified heritage resource to prevent the destruction or unsympathetic alteration of heritage resources that have either Formal or General Protection.
Spatial Planning and Land Use Management Act, 2013 (Act No. 16 of 2013)	Prospecting Activities	Land use selected is compatible to the local spatial land use and all the principles of spatial development frame work will be applied. This is necessary, to maintain economic unity, equal opportunity and equal access to government services given the Republic's past racial inequalities and divisions in terms of planning
The Mine Health and Safety Act, 1996 (No 26 of 1996)	Prospecting Activities	The Mine Health and Safety Act, 1996 (No 26 of 1996) provides for the protection of health and safety of employees and other persons at mines and serves- • To promote a culture of health and safety; • To provide for the enforcement of health and safety measurements; • To provide for appropriate systems for employee, employer and state participating to provide effective monitoring systems and inspections, investigations and inquiries to improve health and safety; • To promote training and human resource of development; • To regulate employers' and employees' duties to identify hazards and eliminate, control and minimise the risk to health and safety; • To entrench the right to refuse to work in dangerous conditions

South African National Biodiversity Institute (SANBI) Biodiversity GIS (bgis.sanbi.org)	Baseline environmental description	Used during desktop research to identify sensitive environments within the right area.
Conservation of Agricultural Resources Act 1983(ACT NO. 43 OF 1983)	Prospecting Activities	The Act provides for control over the utilisation of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invade plants; and for matters connected therewith. All invader species classified in terms of the Conservation of Agricultural Resources Act 1983 (Act 43 of 1983) within the road reserve should be identified and eradicated in an ecologically sensitive manner during the construction phase

1.6 Need and desirability of the proposed activities.

Assessment of the geological data available has determined that the area in question may have the availability of Manganese, limestone, cobalt, copper, zinc, iron, and lead Ore minerals.

In order to ascertain the above minerals and determine the nature, location and extent of the subject minerals within the proposed prospecting area, it will be necessary that prospecting be undertaken. Prospecting will also determine if there are any features that may have an impact on the economic extraction of the subject minerals. As such, a prospecting right is required to allows Milima Investments (Pty) Ltd to survey or investigate the area of land for the purpose of identifying an actual or probable mineral deposit

Obtained data from the prospecting activities will be necessary to determine how and where the minerals will be extracted and how much economically viable mineral reserves are available within the proposed prospecting area. Should the proposed minerals be found in the project area, available reserves will be used to extend to the life of mine, which will in turn contributes to the socio-economic development through job creation and local business expansion

Given the nature of the proposed drilling project, all impacts identified and discussed below, will be limited to the footprint of the drill sites, in this regard, boreholes will be planned away from homesteads/ villages so that people's health and wellbeing will not be impacted and all mitigation measures proposed in the EMPr will be adhered to.

According to the Spatial development plans of the John Taolo Gaetsewe District Municipality, Milima falls within an area classified as agriculture according to the spatial planning categories and a mining focus area according to the industrial areas spatial vision. The mining focus area is aligned with the planned prospecting activities which can be conducted concurrently with existing agricultural land uses due to its minimal environmental impacts.

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

The proposed site was selected based on extensive research and also following on information from previous prospecting activities in the area. There are known Manganese, limestone, cobalt, copper, zinc, iron, and lead ore reserves in the area. The application area was selected following a desktop study applying base metal ore deposit models and using regional geological maps, geophysical data and historical reports – the area under application is underlain by the Kalahari Group which is comprised of metamorphosed sedimentary rocks consisting mainly of the Aeolian sands plus minor superficial deposits of fluvial gravels, clays, sandstone, silcrete and calcrete. The site is therefore regarded as the preferred site and alternatives are not considered

The selected/preferred technology and method to be used for this proposed method is chosen based on the fact that;

- The Prospecting method (drilling) was identified as the most effective method to obtain the desired minerals.
- The prospecting area can be reached by an existing road. No new road will need to be constructed.
- No residual waste as a result of the prospecting activity will need to be produced and treated on site.

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

1.8.1 Details of the development footprint alternatives considered.

The location of the activity, the type of the activity, the design or layout plan and operational aspects of the activity were all determined by the type of the mineral, availability and positioning**.**

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

The applicant's property or location is being guided by the presence of higher potential underlying Manganese, limestone, cobalt, copper, zinc, iron, and lead Ore as well as the geology of the area, thus not any location or property is suitable for the proposed activity. The proposed property is situated 43 km North of Hotazel.

(ii) the type of activity to be undertaken;

Two activities where considered for the extraction of interested minerals for this application. This include prospecting with bulk sampling and prospecting without bulk sampling. After financial consideration and environmental consideration, the applicant opted for prospecting without bulk sampling.

(iii) the design or layout of the activity;

The preliminary layout has been designed in such a manner to avoid any potential sensitive areas, to minimise access away from existing farm tracks and to minimise impacts on existing activities. The exact access routes required will only be available once the final locations of the boreholes have been established, however due to the availability of routes on site, minimal routes will be required.

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

The preferred prospecting method (drilling) is a proven prospecting method for this type of mineral. This prospecting method is also considered to have a low environmental impact if managed correctly, therefore No technology alternatives where considered.

(v) the operational aspects of the activity;

Prospecting site alternatives are limited to the location of the mineral resources. Therefore, the sites of the proposed drill holes are based on the potential for high grade minerals to be present in these areas. However, alternative sites may be determined once the desktop studies and geophysical surveys have been completed.

(vi) <u>The option of not implementing the activity.</u>

The option of not undertaking prospecting activities on the project site assumes the site remains in its current state, therefore the option of not implementing would result in no impacts on the social and biophysical environment. However, the option of not implementing the activity will result in a loss of valuable information regarding the minerals status present on the affected properties. In addition to this, should economical reserves be present and the applicant does not have the opportunity to prospect, the opportunity to utilise the reserves will be lost.

1.8.2 Details of the Public Participation Process Followed

The section below details the process of public participation which is to be undertaken for the proposed project.

- **Objectives of public participation Process**
  - Provide I&APs with sufficient and accessible information to assist them to raise comments and make recommendations which are included in the EIA process;
  - Provides I&APs with the opportunity of suggesting ways of reducing or mitigating negative impacts of an activity and for enhancing positive impacts;
  - Provides I&APs with the opportunity of suggesting ways of reducing or mitigating negative impacts of an activity and for enhancing positive impacts;
  - Provides I&APs with the opportunity of suggesting ways of reducing or mitigating negative impacts of an activity and for enhancing positive impacts

The following steps have been undertaken to satisfy the public consultation process:

- **Identification of Interested and affected parties**

The NEMA Regulations requires identification of and consultation with I&APs. The term I&AP generically refers to persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively. A register of I&AP's in terms of Section 42 of the EIA Regulations (GN R 982 of 2014) is compiled and attached as appendix D and it include full contact details of registered I&Aps and as well as other stakeholders involved.

- **Notification and register of Interested and affected parties**

Various means of notification are used to inform farm owner's, organs of states as well as I&AP's the intension of the applicant. The content of the notification included the proposed site, DMR reference number, the scope of work to be conducted as well as the contact details of the EAP responsible. These means of notification includes:

- Newspaper advertisement:
- Site Notices are placed at prominent points.
- Registered Letters, emails and facsimiles are composed and are sent to the identified authorities, adjacent landowners, ward councilors and I&Aps including Joe Morolong Local Municipality Manager.

- **Availability of BID and Draft Basic Assessment Report**

Draft Basic Assessment Report has been made available to registered interested and affected parties for a period of 30 days. This included a background information document which summarized the application process as well the impacts associated with the proposed project. These organs of state have received Draft Basic Assessment Report for Comments; Northern Cape Department of water and sanitation, Northern Cape department of Rural Development and Land reform, Northern Cape Department of Agricultural, Department of Environmental Affairs Other stakeholders that are notified including, John Taolo Gaetsewe District Municipality and Joe Morolong Local Municipality.

- **Public Meeting**

A public participation plan has been submitted for approval to the department of mineral resources and energy in northern Cape province. This plan has been approved and exempted Joan Consulting to conduct public meeting except meeting with committees, due to the Covid-19 circumstances. This is done to reduce risks of exposure to the virus. COVID 19 measures were followed for a meeting requested by various farmers' unions held at Doorndraai Farmers' Hall on the 26 November 2020 at 10:00 am. Please refer to the minutes of the meeting attached as appendix D

Summary of issues raised by I&Aps

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

Table 5: Summary of interested and Affected Parties

Interested and Affected Parties	**Date comments received**	**Issues raised**	**EAPs response to issues as mandated by the applicant**	**Section and paragraph reference in this report where the issues and or response were incorporated.**
Please refer to appendix D for the summary of the meeting minutes.				

1.8.3 The Environmental attributes associated with the alternatives.

(1) Baseline Environment

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

This section is intended to provide environmental information which is interlinked with the proposed site. It will identify all environmental aspects within the site that will need special consideration during all the phases of the projects with the intent to minimize impacts.

Climate

- **Temperature**

The mean annual minimum/maximum temperatures in the district range between 8°C and 28°C, with the mean annual temperatures ranging between 16°C and 20°C (EMF, 2011). As alluded to above, the harsh climate is accompanied by high evaporation rates due to the high summer temperatures, which limits the contribution of precipitation to the water reserves in the area.

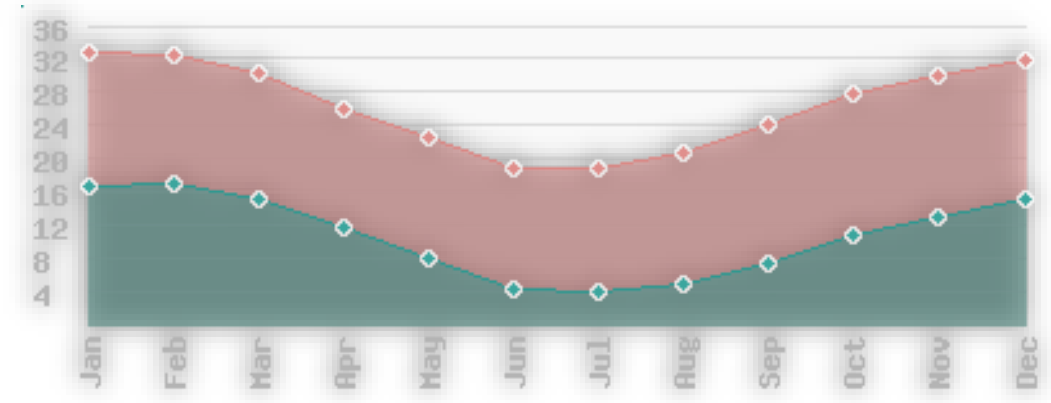

Figure 3: Average Temperature in Northern Cape (Kuruman)

- **Rainfall**

Located in a semi-arid part of South Africa, Kuruman receives between 500mm annual rainfall in the south-eastern and 200mm in the north-western part of the district. This is below the generally accepted average of 500mm per annum for dry land cropping. The already low precipitation is often concentrated in a few downpours, which have a tendency to occur towards the end of the summer season (notably in February) when temperatures and evaporation are high. The prospecting works will be planned to avoid rainy seasons. This will minimize impacts associated with soil compaction and soil erosions.

Noise

The prospecting area is located within the Hotazel Town, next to the industrial area. The typical noise rating in the area and is expected to be that for rural districts / suburban districts with road traffic. According to SANS

10103:2008, the continuous noise rating level is thus likely between 35 dB (A) at night to 45 /50 dB (A) during the day. The proposed activity will contribute to the noise level of the area; however, it is not expected that it will exceed the threshold required. Noise will be kept as little as possible and the proposed area is situated far away from any residential and industrial areas.

Air quality

The main sources of air pollution in the Northern Cape are biomass burning and mining, followed by industry and motor vehicles. Biomass burning is a major contributor of carbon monoxide (CO) whereas mining contributes particulate matter and total suspended particles (TSP). Long range atmospheric transport of air pollutants from the industrialised Highveld and biomass burning in southern and central Africa may influence ambient air quality over parts of the Northern Cape.

Site-specific air quality and emissions data is not available for the prospecting area or the town of Kuruman, however, baseline conditions are expected to be reflective of those experienced at the provincial level due to similar sources, drivers and landscapes. This proposed project will impact the quality of air from vehicle movements and drilling; however, these impacts will be minimized through water spraying.

Fauna and Flora

The proposed site gives a feel of the savanna biome as well as the vegetation unit on site. The site is dominated by Medium-tall tree layer with *Vachellia erioloba* in places, but mostly open and including *Boscia albitrunca* as the prominent trees. Other plant species recorded include *Melia azedarach, Prosopis glandulosa, Vachellia mellifera, Terminalia sericea, Ziziphus mucronata, Grevia occidentalis, Senna didymoboytra, Datura ferox, Grewia retinervis, Nolletia arenosa, Sida cordifolia, Lycium hirsutum, Gymnosporia buxifolia, Rhigozum brevispinosum, Vachellia hebeclada and Argemone mexicana.*

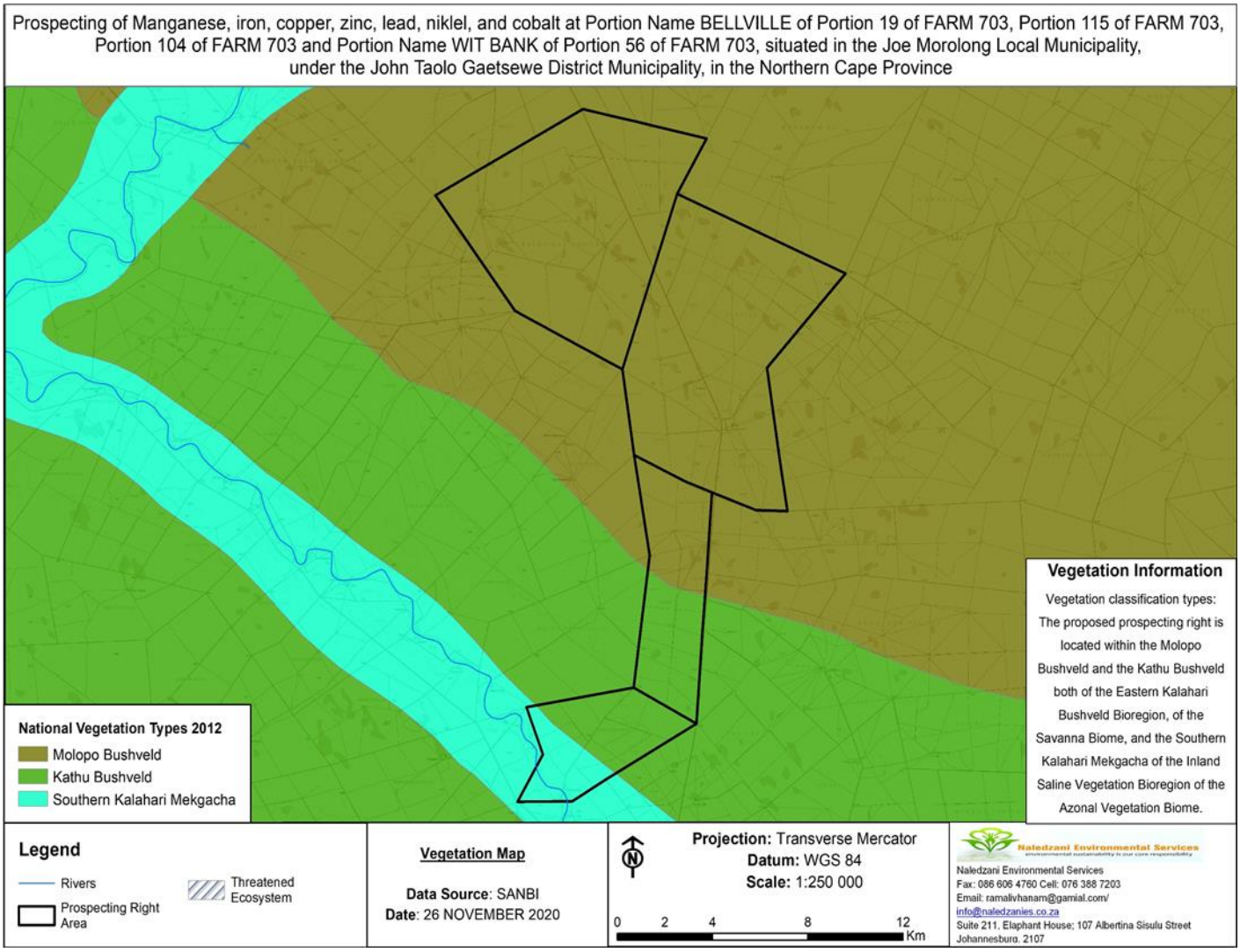

Figure 4: Milima Vegetation Map

Cultural/Heritage

The literature review and field surveys confirmed that the project area is situated within a contemporary cultural landscape dotted with settlements with long local history. In terms of the archaeology and heritage in respect of the proposed prospecting site, there are no obvious 'Fatal Flaws' or 'No-Go' areas. However, the potential to encounter accidental finds ranges from medium to high, the applicant and contractors are advised to be diligent and observant during prospecting, should prospecting activities commence on the site. The procedure for reporting chance finds has clearly been laid out (see Appendix 3). This report concludes that the prospecting right application may be approved by SAHRA to proceed as planned subject to recommendations herein made and heritage monitoring plan being incorporated into the EMP (also see Appendices). The mitigation measures are informed by the results of the AIA/HIA study and principles of heritage management enshrined in the NHRA, Act 25 of 1999.

Geology

The climatic conditions (semi-arid to arid) of the Northern Cape are ideal for the exposure of fresh, un-weathered rocks at surface and fossils related to them. The Northern Cape spans a wide range of geology. On a regional scale, the project area is located on the relatively young Kalahari Group. Rock types of the Kalahari include fluvial gravels, sands, lacustrine and pan mudrocks, evaporites, aeolian sands, pedocretes.

Due to the arid conditions, which began approximately 15 million years ago (Miocene Epoch), the region only has sparse fossilised areas and these areas are usually ancient pans, lakes and river systems.

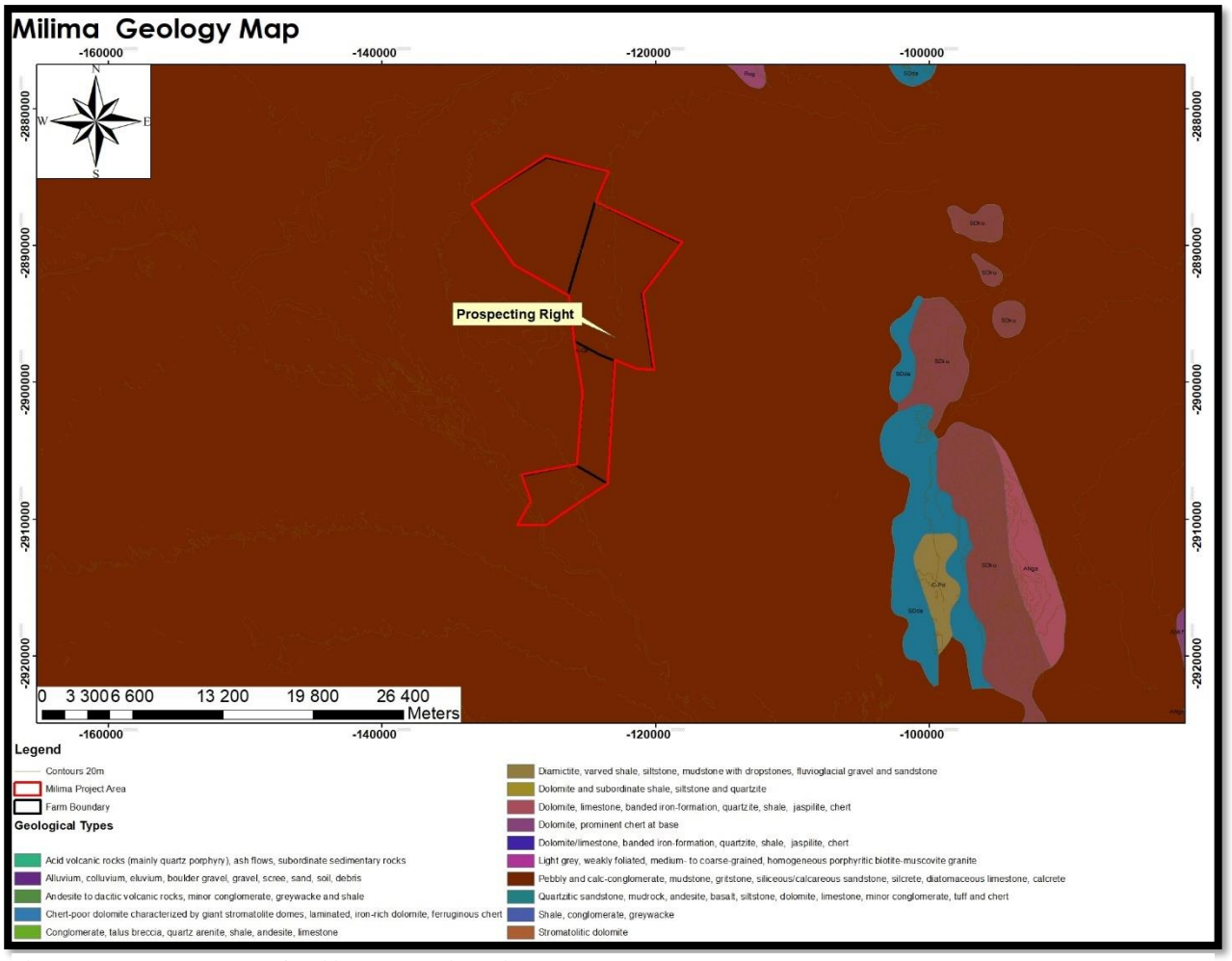

Figure 5: Geology of Milima Belville site

Socio Economic Conditions

The proposed prospecting area is located in the Joe Morolong Local Municipality under John Taolo Gaetsewe District Municipality. Joe Morolong is one of four municipalities within John Taolo Gaetsewe District Municipality. Joe Morolong covers the next largest area of 9 477 km2 (KDM, IDP 2006). The John Taolo Gaetsewe District comprises of 186 towns and settlements of which the majority (80%) are villages in the Joe Morolong Municipality.

- **Population**

According to the 2017-2022 Kuruman IDP, the population of the John Taolo Gaetsewe District Municipality has had an increase of about 17 465; 224 799 in 2011 to 242 264 in 2016. The increase of the population in the District is evident in the local municipalities of Ga-Segonyana (11.49) and Gamagara (28.93). There has been a major decline of about 6.3% in the population of Joe Morolong Local Municipality; this is mainly due to the out-migration from the municipality to the Ga-Segonyana and Gamagara Local Municipalities.

As a result, the proposed prospecting project will contribute to the local economy through purchase of goods and services from the local community.

- **Health**

The district is grappling with a number of health problems that affect children and maternal health in particular and are symptomatic of constraints such as geographical remoteness from facilities, the low-income status of many households and the inadequacy of some healthcare services. There is a high level of reliance on public health facilities as less than 13% of the district's population has medical aid cover. A further problem is the quality and integrity of healthcare data available, sometimes making it difficult to accurately monitor health trends.

- **Water Source**

About 90% of the water within the area is provided by privately owned boreholes. These boreholes are mostly found in farms and other traditional villages. Due to the low rainfall figures and highly variable run-off, very little usable surface runoff is generated, which has resulted in an ever-increasing use of groundwater resources for human needs. Mostly farms found on farms depend on boreholes as a source of water. The proposed project will have very minimal impact on the water resources of the area. Water required for the proposed project will be outsourced (purchased) from the local municipality and transposed to site by water tankers with a capacity of 10 000 litres.

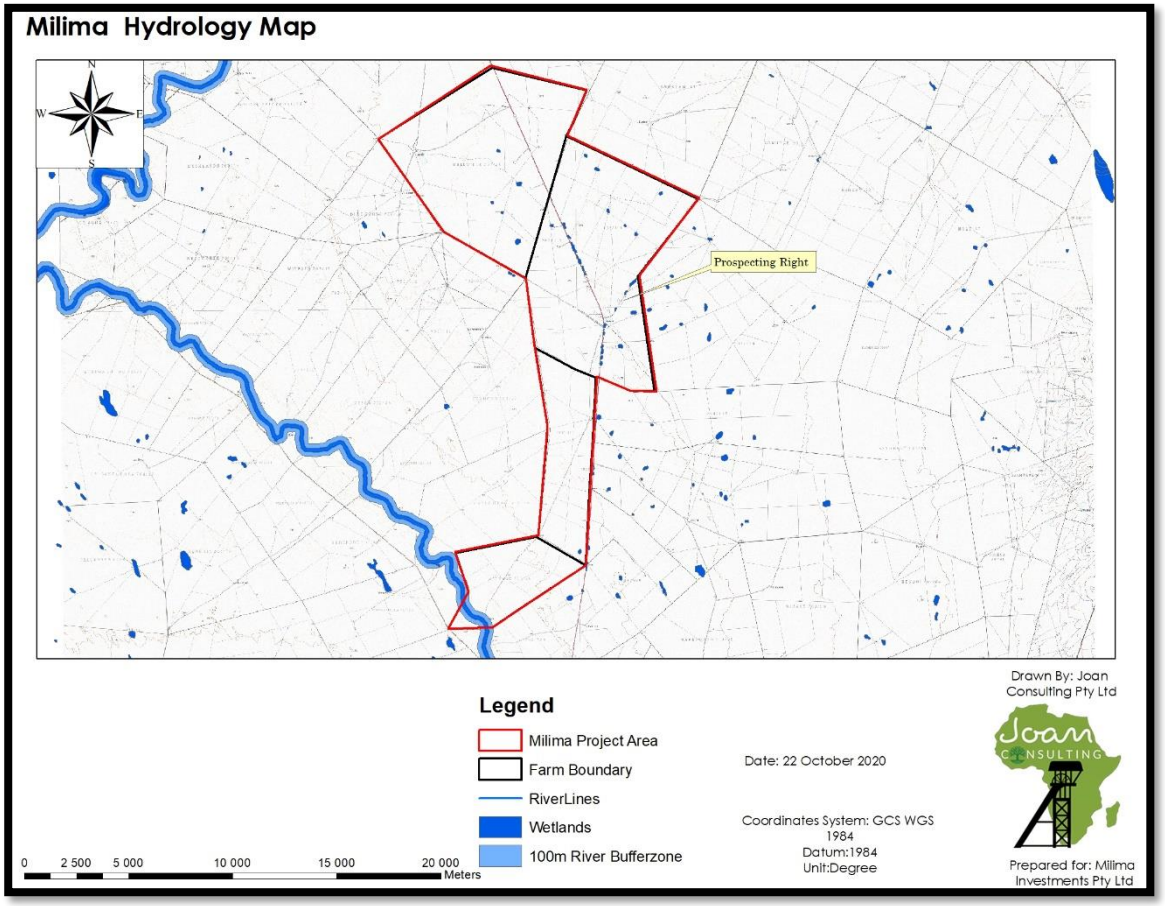

Figure 6: Hydrology Map of the Proposed Area

- **Accessibility**

An existing road networks are found throughout Joe Morolong Municipal area, with the state thereof ranging between very well-maintained tar roads, such as the N14, to gravel roads in the rural areas that are not in a very good condition. The N14 forms the major access road to the core of the economic development, where it crosses through Kuruman in an east/ west direction. In the centre of Kuruman the N14 conjuncts with the Hotazel/ Daniëlskuil road. R380 road passes through the proposed area, thus there will no construction of road taking place.

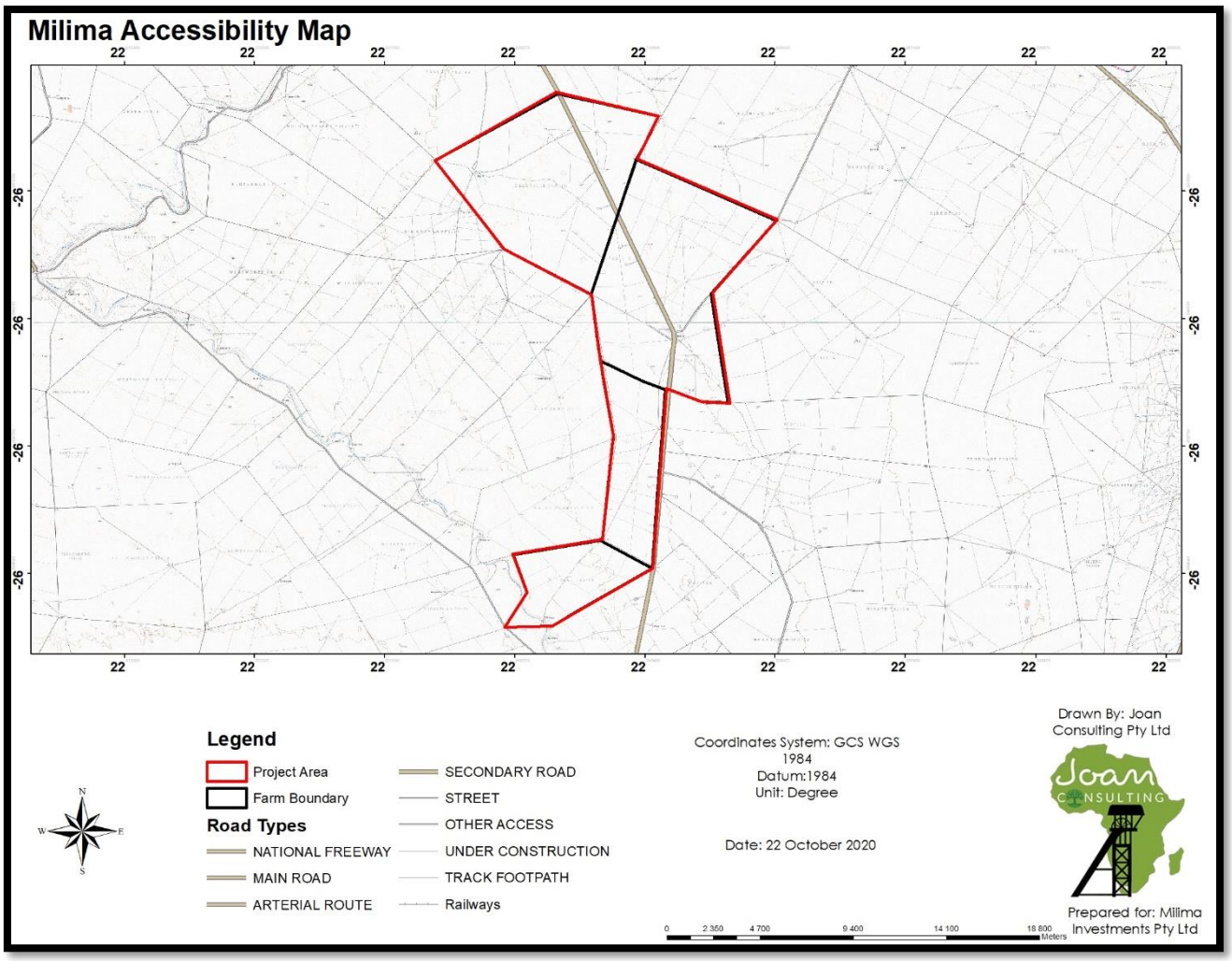

Figure 7: Milima Transportation Map

(b) Description of the current land uses

Land use is defined as the operations carried out by humans on the land surface, with the intention to obtain products or benefits through using land resources. This can be simplified as the purpose the land serves. Land uses varies according to places and according to zoning. Some of the land uses includes settlement, agriculture, mining, retail and etc. The land use for the proposed site is composed of Livestock farming and grazing. Few farm houses used for settlement where observed during site visit. Most of the land adjacent to the proposed site is used for game farming, lodges, guest houses as well as B&B.

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

The only prominent infrastructures noted on site during site visit are;

- Gravel road networks;
- Farm houses
- Farm fences
- Windmills
- Boreholes
- Cattle's kraals

The environmental features observed on site during the site visit include;

- Non perennial river

Figure 8: Photos taken during site visit

(d) Environmental and current land use map

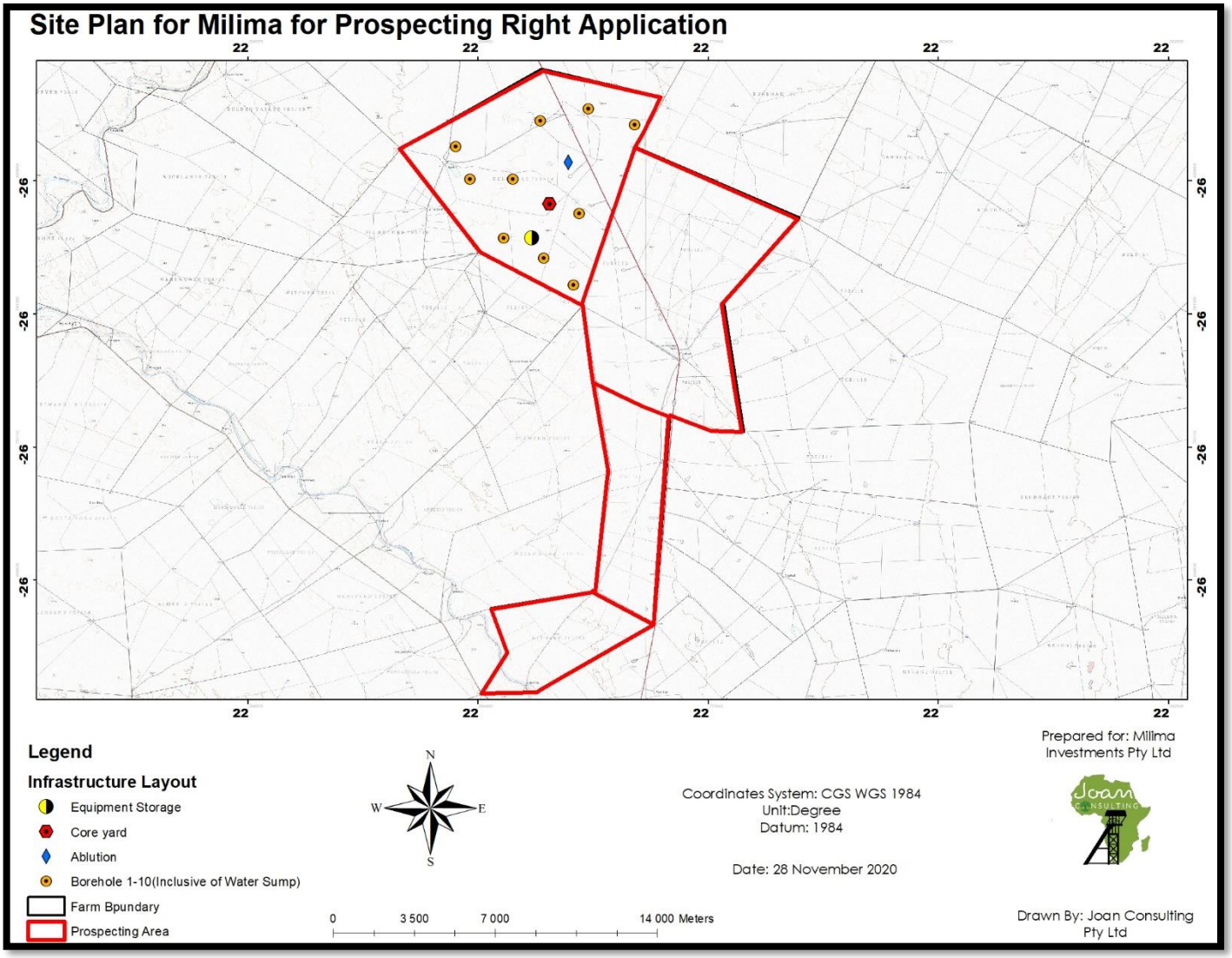

Figure 9: Milima Environmental and Current Land use Map

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

Table 6: Summary of potential impact risks

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
Clearing of vegetation and movement of vehicles for site establishment	Generation of Dust	Air quality	Construction	-	6	1	1	3	24	Dust suppression using water will be under taken to manage dust emitting from vegetation removal. Footprint earmarked for vegetation removal must be clearly marked	4	1	1	2	16
Clearing of vegetation and movement of vehicles for site establishment	Increased noise levels from movement of vehicles	Noise	Construction	-	6	1	1	3	24	Trucks, machinery, and equipment must be regularly serviced to reduce noise levels Work should be conducted during day time only to minimise disruption of neighbours and animal life	4	1	1	2	16

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
Clearing of vegetation and movement of vehicles for site establishment	Destruction of archaeological remains and un identified graves	Cultural Heritage	Construction	-	6	1	4	5	55	None were recorded but potential for accidental finds is high	6	2	4	3	36
	Disturbance of graves	Cultural Heritage	Construction	-	4	1	2	4	28	None were recorded however potential for chance finds ranges from medium to high during prospecting	6	2	4	3	4
	Disturbance of buildings and structures older than 60 years old	Cultural Heritage	Construction/ Operational	-	4	1	2	2	14	None required	4	1	2	2	14
Clearing of vegetation and movement of vehicles for site establishment	Disruption and destruction of animal life	Fauna	Construction	-	6	1	2	2	18	Do not disturb nests, breeding sites or young ones. Do not attempt to kill or capture snakes unless directly threatening the safety of employees. Dogs or other pets are not allowed to the worksite as they are threats to the natural wild animal.	4	1	1	2	12

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
										A low speed limit should be enforced on site to reduce wild animal-vehicle collisions No animals should be intentionally killed or destroyed and poaching and hunting should not be permitted on the site. Severe contractual fines must be imposed and immediate dismissal on any contract employee who is found attempting to snare or otherwise harms remaining faunal species. Hunting weapons are prohibited on site. Contract employees must be educated about the value of wild animals and the importance of their conservation.					

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
										The ECO must conduct regular site inspections of removing any snares or traps that have been erected. Employees and contractors should be made aware of the presence of, and rules regarding, flora and fauna through suitable induction training and on-site signage.					
Clearing of vegetation and movement of vehicles for site establishment	Disruption and destruction of vegetation	Flora	Construction	-	4	1	4	5	45	Due to the sensitivity of the areas it is advised that areas designated for vegetation clearing should be identified and visibly marked off and also approved as part of final drilling map. Avoid drilling on The Falls area as it provides habitat for Vultures as well as Blue Cranes.	1	1	1	1	Low

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
										Use already available farm roads and avoid creating new ones. Vegetation clearing areas should be kept to a minimum and restricted to the proposed drilling sites. Exposed areas should be rehabilitated with indigenous plants to the project area as soon as construction is finished					
Clearing of vegetation and movement of vehicles for site establishment	Loss of fertile topsoil	Soil, Land Use and Land Capability	Construction	-	4	2	4	5	50	Following prospecting, rehabilitation of disturbed areas is required Avoid areas with sensitive soils, steep slopes during rain or windy season Ensure that roads are not paved but well maintained (as gravel) to reduce the speed of water by promoting infiltration	1	1	1	1	Low
Clearing of vegetation and movement of	Soil Compaction	Soil, Land Use and Land Capability	Construction	-	6	2 1	1	2	12	Avoid creating many access routes;	4	1	1	2	12

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
vehicles for site establishment										Keep the speed limit to minimum to reduce the tire contractions on the soil.					
Clearing of vegetation and movement of vehicles for site establishment	Soil contamination from hydrocarbon spills	Soil, Land Use and Land Capability	Construction	-	4	1	1	3	18	Clean all hydrocarbon spills from machinery immediately, and Dispose contaminated soils at a permitted site; Drip trays are to be watertight, and must be emptied regularly and before rain events. The contents of drip trays are to be treated as hazardous waste; Only emergency and essential repairs of vehicles and equipment may take place on site.	4	1	1	2	12

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
Clearing of vegetation and movement of vehicles for site establishment	Uncontrolled soil erosion and change in the area topography	Topography	Construction	-	6	1	1	3	24	Demarcate construction footprint and limit activities to within this footprint as far as possible; Keep the clearance area as small as possible; and Keep as much original land cover as possible	4	1	1	2	12
Clearing of vegetation and movement of vehicles for site establishment	Increased sedimentation, surface runoff and Soil Erosion	Surface Water resources	Construction	-	6	1	1	3	24	limit the development footprint to reduce high-sediment runoff; Avoid clearing the site during the rainy seasons Rehabilitate the area by re-using stockpiled soil within as short a period of time.	4	1	1	2	12
Clearing of vegetation and movement of vehicles for site establishment	Surface water contamination from hydrocarbon spills	Surface Water resources	Construction	-	4	1	1	3	18	Clean all hydrocarbon spills from machinery immediately, and Dispose contaminated soils at a permitted site;	2	1	1	2	8

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
										Drip trays are to be watertight, and must be emptied regularly and before rain events; The contents of drip trays are to be treated as hazardous waste.					
Clearing of vegetation and movement of vehicles for site establishment	Increased visual levels such as dust and infrastructures	Visual Aspect	Construction	-	6	1	2	3	27	The development footprints and disturbed areas should be kept as small as possible; Construction activities should be restricted to daylight hours to limit the need to bright floodlighting and the potential for skyglow; Dust suppression should be carried throughout, whenever dust emanates	4	1	1	2	12
Clearing of vegetation and movement of vehicles for site establishment	Impact on Game Lodges, Lodges & Guest Houses: ▪ Dust Generation ▪ Noise Generation	Air Quality Noise	Construction	-	8	3	2	4	52	• Dust suppression using water will be under taken to manage dust emitting from vegetation removal • Footprint earmarked for vegetation removal must be clearly marked	6	2	1	2	18

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
										• Trucks, machinery, and equipment must be regularly serviced to reduce noise levels Work should be conducted during day time only to minimise disruption of neighbours and animal life					
Clearing of vegetation and movement of vehicles for site establishment	Impact on Game Lodge Dispersing and disruption of animals	Fauna	Construction	-	6	2	2	2	20	• No wild animal may under any circumstance be handled, removed or be interfered with • No wild animal may be fed on site • No wild animal may under any circumstance be hunted, snared, captured, injured or killed • No wild animal may under any circumstance be hunted, snared, captured, injured or killed Remove and dispose of any snares or traps found on or adjacent to the site	4	1	1	2	12
Clearing of vegetation and movement of vehicles for site establishment	On Settlement and Residential Negatively impacting on	Social	Construction	-	8	2	2	5	60	The applicant must consult with the affected parties on which times are favourable for them before undertaking the activities which	4	1	1	3	18

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
	residents' livelihoods									could negatively impact their livelihood					
Clearing of vegetation and movement of vehicles for site establishment	Fear of farm attacks by farmers due to strangers in the area	Safety and Security	Construction	-	6	3	2	4	44	• Notify the local farmer's forum (Agri-Kuruman and affected forums) Comply with all the local safety requirements	2	1	1	1	4
Movement equipment	Destruction public monuments and plaques	Cultural Heritage	Construction and Operational	-	2	1	1	1	4	• Mitigation is not required because there are no public monuments within the prospecting right application site	2	1	1	4	4
Prospecting works	Generation of waste	Impact all environmental aspects	Construction	-	6	1	1	4	32	Dedicate a storage area on site for the collection of wastes. Litter bins must be equipped with a closing mechanism to prevent their contents from over following blowing out by wind; Empty litter bins regularly to avoid overflow;	4	1	1	2	18

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
										Proper ablution facilities on site must be provided					
Prospecting works	Work injury- impacting on the wellbeing of employees	Social, Health & Safety Aspect	Construction	-	6	1	1	3	24	Proper protective equipment must be allocated to all personnel working with high risk equipment (drill rig) Tool box talk must be conducted to address the risk associated with the proposed project.	4	1	1	2	12
Borehole drilling, construction of water sump and movement of vehicles	Generation of Dust	Air quality	Operational	-	6	1	1	3	24	Dust suppression using water will be under taken to manage dust emitting from vegetation removal.	4	1	1	2	12
Borehole drilling, construction of water sump and movement of vehicles	Increased noise levels from movement of vehicles	Noise	Operational	-	6	1	1	3	24	Trucks, machinery, and equipment must be regularly serviced to reduce noise levels	4	1	1	2	12
Borehole drilling, construction of water	Destruction of archaeological	Cultural Heritage	Operational	-	4	1	2	2	14	Burial sites must be plotted, clearly marked and must be	2	1	2	2	10

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
sump and movement of vehicles	remains and un identified graves									protected/barricaded to avoid accidental damage during prospecting activities Custodians must be involved in any mitigation work to their family burial sites Should and graves or archaeological artifacts are discovery on site, work should cease immediately until a heritage specialist gives a go ahead					
Borehole drilling, construction of water sump and movement of vehicles	Disruption and destruction of animal life	Fauna	Operational	-	6	1	2	2	18	No wild animal may under any circumstance be handled, removed or be interfered with. No wild animal may be fed on site.	4	1	2	2	14

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
										No wild animal may under any circumstance be hunted, snared, captured, injured or killed. No wild animal may under any circumstance be hunted, snared, captured, injured or killed. Remove and dispose of any snares or traps found on or adjacent to the site.					
Borehole drilling, construction of water sump and movement of vehicles	Disruption and destruction of vegetation	Flora	Operational	-	6	1	2	4	36	Do not disturb, deface, destroy or remove plants or natural features outside the demarcated area. No open fires are permitted under trees and no vegetative matter may be removed for firewood.	4	1	2	2	14

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
										Locate construction camps on the outside fringe of the riparian vegetation zone. Where damage to protected plants and natural features is a problem, then these should be fenced for protection.					
Borehole drilling, construction of water sump and movement of vehicles	Loss of fertile topsoil	Soil, Land Use and Land Capability	Operational	-	6	1	2	2	18	The construction footprint should be kept as small as possible; Keep as much original land cover as possible; Stripped soils should be stockpiled surrounding the disturbed area	4	1	2	2	14
Borehole drilling, construction of water sump and movement of vehicles	Soil Compaction	Soil, Land Use and Land Capability	Operational	-	6	1	2	3	27	Avoid creating many access routes.	4	1	2	2	14

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
										Keep the speed limit to minimum to reduce the tire contractions on the soil.					
Borehole drilling, construction of water sump and movement of vehicles	Soil contamination from hydrocarbon spills	Soil, Land Use and Land Capability	Operational	-	4	1	1	3	18	Clean all hydrocarbon spills from machinery immediately, and Dispose contaminated soils at a permitted site. Drip trays are to be watertight, and must be emptied regularly and before rain events. The contents of drip trays are to be treated as hazardous waste. Only emergency and essential repairs of vehicles and equipment may take place on site.	4	1	1	2	12
Borehole drilling, construction of water	Uncontrolled soil erosion and	Topography	Operational	-	6	1	1	2	16	Demarcate construction footprint and limit activities to within this footprint	4	1	1	2	12

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
sump and movement of vehicles	change in the area topography									as far as possible; Keep the clearance area as small as possible; and Keep as much original land cover as possible					
Borehole drilling, construction of water sump and movement of vehicles	Increased sedimentation, surface runoff and Soil Erosion	Surface Water resources	Operational	-	4	1	2	2	14	limit the development footprint to reduce high-sediment runoff; Avoid clearing the site during the rainy seasons Rehabilitate the area by re-using stockpiled soil within as short a period of time.	4	1	1	2	12
Borehole drilling, construction of water sump and movement of vehicles	Surface water contamination from hydrocarbon spills	Surface Water resources	Operational	-	4	1	1	3	18	Clean all hydrocarbon spills from machinery immediately, and Dispose contaminated soils at a permitted site.	4	1	1	2	16

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
										Drip trays are to be watertight, and must be emptied regularly and before rain events. The contents of drip trays are to be treated as hazardous waste.					
Borehole drilling, construction of water sump and movement of vehicles	Increased visual levels such as dust and infrastructures (drill rig)	Visual Aspect	Operational	-	6	1	1	3	24	The development footprints and disturbed areas should be kept as small as possible Construction activities should be restricted to daylight hours to limit the need to bright floodlighting and the potential for skyglow Dust suppression should be carried throughout, whenever dust emanates	4	1	1	2	12
	Impacts on Game Lodges, Lodges & Guest Houses:	Air Quality Noise	Operational	-	8	3	2	4	52	• Dust suppression using water will be under taken to manage dust emitting from vegetation removal	6	2	1	2	18

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
	• Dust Generation • Noise Generation									• Footprint earmarked for vegetation removal must be clearly marked • Trucks, machinery, and equipment must be regularly serviced to reduce noise levels Work should be conducted during day time only to minimise disruption of neighbours and animal life					
	Impacts on Game Lodge Dispersing and disruption of animals	Fauna	Operational	-	6	2	2	2	20	• No wild animal may under any circumstance be handled, removed or be interfered with • No wild animal may be fed on site; • No wild animal may under any circumstance be hunted, snared, captured, injured or killed • No wild animal may under any circumstance be hunted, snared, captured, injured or killed • Remove and dispose of any snares or traps found on or adjacent to the site	4	1	1	2	12
	Impact on Settlement and Residential	Social	Operational	-	8	2	2	5	60	The applicant must consult with the affected parties on which times are	4	1	1	3	18

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
	Negatively impacting on residents' livelihoods									favourable for them before undertaking the activities which could negatively impact their livelihood					
	Fear of farm attacks by farmers due to strangers in the area	Safety and Security	Operational	-	6	3	2	4	44	• Notify the local farmer's forum (Agri-Kuruman and affected forums) • Comply with all the local safety requirements	2	1	1	1	04
Prospecting works	Generation of waste	Impact all environmental aspects	Operational	-	6	1	1	4	32	Dedicate a storage area on site for the collection of wastes. Litter bins must be equipped with a closing mechanism to prevent their contents from over following blowing out by wind. Empty litter bins regularly to avoid overflow	4	1	1	2	12

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
										Proper ablution facilities on site must be provided.					
Prospecting works	Work injury-impacting on the wellbeing of the employees	Social, Health & Safety Aspect	Operational	-	6	1	1	4	32	Proper protective equipment must be allocated to all personnel working with high risk equipment (drill rig) Tool box talk must be conducted to address the risk associated with the proposed project.	4	1	1	2	12
Decommissioning	Dust generated from removal of site infrastructures and from spreading of topsoil	Air Quality	Decommissioning	-	6	1	1	4	32	Topsoil must be spread during less windy days; Vegetation cover must be introduced as soon as possible to avoid soil erosion; Implement dust suppression measures to minimize dust;	4	1	1	2	12

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
										Revegetation must be done during rainy season.					
Decommissioning	Hydrocarbons spillages and wildlife deaths from Vehicles	Fauna and Flora	Decommissioning	-	6	1	2	3	27	Protect vegetation and soil by avoiding hydrocarbon spillages; Vehicles must make use of existing roads to avoid destruction of vegetation;	4	1	2	2	14
Decommissioning	Rehabilitation activities (spreading of topsoil, removal of infrastructures and rehabilitation of access roads) will assist to reduce the negative visual impact of mining on the receiving environment.	Visual	Decommissioning	+	8	1	5	4	56	All unnecessary infrastructure must be removed from the site; Spread topsoil over the rehabilitated area; Surface water and drainage lines must be rehabilitated to create a free-draining topography; Re-vegetate the rehabilitated areas;	8	1	5	4	56

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
										Ensure that the all boreholes are closed with a steel cap.					
Decommissioning	Increase of ambient noise levels from vehicles movements	Noise	Decommissioning	_	6	1	1	3	24	Trucks, machinery, and equipment must be regularly serviced to ensure noise levels are not exceeded; Reduce the vehicles speed limits; Switch off equipment when not in use.	4	1	1	2	12
Decommissioning	Restoration of the surrounding land and its land use	Soil, land use and land capabilities	Decommissioning	+	8	1	5	5	70	No mitigation measure is required for this impact as is positive and land is reinstated back to the state prior prospecting activities	8	1	5	5	70
	Soil and Land contamination from Hydrocarbons spillages	Soil, land use and land capabilities	Decommissioning	+	8	1	4	4	52	Protect vegetation and soil by avoiding hydrocarbon spillages; Vehicles must make use of existing roads to avoid destruction of vegetation;	8	1	4	4	52

Activity	Impact	Aspect	Phase	Nature	Magnitude	Extent	Duration	Probability	Significance pre mitigation	Mitigation measures	Magnitude	Extent	Duration	Probability	Significance post mitigation
										Alien invasive control program must be adhered to.					

1.8.5 Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks;

This section provides the detailed methodology used for the assessment of the significance of potential environmental impacts in the study. This methodology allows for the identified potential impacts to be analysed in a systematic manner, with significance rating (from insignificant to very high) assigned to each potential impact. The significance of an impact is defined as a combination of the consequence of the impact occurring and the probability that the impact will occur. The criteria used to determine impact consequence include extent, intensity and duration of the impact and are presented below.

Table 7: Criteria Used for Rating of Impacts

Nature of the impact (N)		
Positive	+	Impact will be beneficial to the environment (a benefit).
Negative	-	Impact will not be beneficial to the environment (a cost).
Neutral	0	Where a negative impact is offset by a positive impact, or mitigation measures, to have no overall effect.
`Magnitude(M)		
Minor	2	Negligible effects on biophysical or social functions / processes. Includes areas / environmental aspects which have already been altered significantly, and have little to no conservation importance (negligible sensitivity*).
Low	4	Minimal effects on biophysical or social functions / processes. Includes areas / environmental aspects which have been largely modified, and / or have a low conservation importance (low sensitivity*).
Moderate	6	Notable effects on biophysical or social functions / processes. Includes areas / environmental aspects which have already been moderately modified, and have a medium conservation importance (medium sensitivity*).
High	8	Considerable effects on biophysical or social functions / processes. Includes areas / environmental aspects which have been slightly modified and have a high conservation importance (high sensitivity*).
Very high	10	Severe effects on biophysical or social functions / processes. Includes areas / environmental aspects which have not previously been impacted upon and are pristine, thus of very high conservation importance (very high sensitivity*).
Extent (E)		
Site only	1	Effect limited to the site and its immediate surroundings.
Local	2	Effect limited to within 3-5 km of the site.
Regional	3	Activity will have an impact on a regional scale.
National	4	Activity will have an impact on a national scale.
International	5	Activity will have an impact on an international scale.
Duration (D)		
Immediate	1	Effect occurs periodically throughout the life of the activity.

Short term	2	Effect lasts for a period 0 to 5 years.
Medium term	3	Effect continues for a period between 5 and 15 years.
Long term	4	Effect will cease after the operational life of the activity either because of natural process or by human intervention.
Permanent	5	Where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient.
Probability of occurrence (P)		
Improbable	1	Less than 30% chance of occurrence.
Low	2	Between 30 and 50% chance of occurrence.
Medium	3	Between 50 and 70% chance of occurrence.
High	4	Greater than 70% chance of occurrence.
Definite	5	Will occur, or where applicable has occurred, regardless or in spite of any mitigation measures.

Once the impact criteria have been ranked for each impact, the significance of the impacts will be calculated using the following formula:

Significance Points (SP) = (Magnitude + Duration + Extent) x Probability

The significance of the ecological impact is therefore calculated by multiplying the severity rating with the probability rating. The maximum value that can be reached through this impact evaluation process is 100 SP (points). The significance for each impact is rated as:

- High (SP≥60),
- Medium (SP = 31-60)
- Low (SP<30).

Table 8: Criteria for Rating of Classified Impacts

Significance of predicted NEGATIVE impacts		
Low	0-30	Where the impact will have a relatively small effect on the environment and will require minimum or no mitigation and as such have a limited influence on the decision
Medium	31-60	Where the impact can have an influence on the environment and should be mitigated and as such could have an influence on the decision unless it is mitigated.
High	61-100	Where the impact will definitely have an influence on the environment and must be mitigated, where possible. This impact will influence the decision regardless of any possible mitigation.
Significance of predicted POSITIVE impacts		
Low	0-30	Where the impact will have a relatively small positive effect on the environment.
Medium	31-60	Where the positive impact will counteract an existing negative impact and result in an overall neutral effect on the environment.

High	61-100	Where the positive impact will improve the environment relative to baseline conditions.

1.8.6 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.

Table 9: Positive and Negative Impacts of the Project

Positive Impacts from the proposed activity	Negative Impacts from the proposed activity
This project will assist in expanding information of available resources within the area.	Destruction of protected plant species
Contractors on site will rely on local market for materials, beverages and food	Removal of the natural vegetation
All potential impacts that will be generated from the development of the project will be managed through the implementation of the EMP	Disturbance to animals on site

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

Please refer section 1.8.5 above, table 7 for a full description of the Impact Assessment including mitigation measures

1.8.8 Motivation where no alternative sites were considered.

The selected/preferred site, activities and technology to be used is chosen based on the attributes of the underlying geology of the area as well as the overall environmental attributes within the site.

1.8.9 Statement motivating the alternative development location within the overall site

The preferred site is based on the desktop analysis of the geology of the area. The site is potentially underlain by reserves of the minerals to be prospected for, it is for this reason why prospecting activities are to be carried out to verify the availability of minerals and the feasibility of mining them in future.

1.9 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.

The potential impacts were identified during the site visit and through literature review of the same activities. The receiving environment and its surrounds were assessed and studied to understand all natural (and social) features that would be affected by the proposed development. The generic criteria and systematic approach used to identify, describe and assess impacts as outlined in this report is stated in the above section, this was done in order to determine the significance of each activity rated.

Interested and affected parties as well as landowners were consulted and notified of the proposed project to ensure that they exchange any information pertaining to the environment that may be of great importance to the attention of the EAP compiling the report.

1.10 Summary of specialist reports.

This proposed project will only involve 10 boreholes. The establishment of infrastructure such as ablution facility and core yard as well as construction and operational activities will take into account a 100m buffer away from any sensitive environment such as rivers, wetlands and other critical biodiversity. Although the proposed project will have impacts, such impacts are envisaged to be minimal due to the scale of work proposed therefore. Two specialist studies were conducted for this proposed project and their recommendation thereof are discussed below.

- **Biodiversity Assessment Report**

From the desktop assessment it seems the plant communities on the site were in a good condition, representing natural, close to pristine vegetation. The proposed area for the prospecting is regarded as having a conservation value of Medium apart from the already disturbed area (due to cultivation). This is due to the abundance and richness of the protected plant species (*Vachellia erioloba and Boscia albitrunca*).

It is therefore important that the placement of the prospecting sites including structures is done with these sensitive areas in mind. The placement of drilling sites must take into account the area contains protected and red listed plants. The opportunity exists however, for the proposed prospecting to contribute significantly to conservation of biodiversity within the region, as not the whole area will be removed of vegetation but rather only the drilling sites. Rather than creating new roads use already available farm roads to the drilling sites. Conservation of as much of the natural land in the area within the site as possible, and the creation of corridors linking other natural areas would aid in conservation of ecosystems, flora and fauna. If efforts are made to initiate conservation of this habitat, and conservation is maintained after the closure of the prospecting, the net impacts on biodiversity will be positive. Avoid drilling close to watercourses.

All these recommendation from the biodiversity assessment specialist report has been included in this basic assessment report and are referenced in section 1.8.5

- **Heritage Impact Assessment Report**

The literature review and field surveys confirmed that the project area is situated within a contemporary cultural landscape dotted with settlements with long local history. In terms of the archaeology and

heritage in respect of the proposed prospecting site, there are no obvious 'Fatal Flaws' or 'No-Go' areas. However, the potential to encounter accidental finds ranges from medium to high, the applicant and contractors are advised to be diligent and observant during prospecting, should prospecting activities commence on the site. The procedure for reporting chance finds has clearly been laid out (see Appendix 3). This report concludes that the prospecting right application may be approved by SAHRA to proceed as planned subject to recommendations herein made and heritage monitoring plan being incorporated into the EMP (also see Appendices). The mitigation measures are informed by the results of the AIA/HIA study and principles of heritage management enshrined in the NHRA, Act 25 of 1999.

All these recommendation from the heritage impact assessment specialist report has been included in this basic assessment report and are referenced in section 1.8.5

1.11 Environmental impact statement

1.11.1 Summary of the key findings of the environmental impact assessment;

- **Biodiversity Impact Assessment Report**

It is then advised that drilling prospecting may continue provided that the mitigation measures as suggested can be implemented, then the overall impact of the development components would be of low overall significance and it is unlikely that the development would result in an overall net loss of biodiversity or long-term degradation of the receiving environment as the area to be drilled is smaller in terms of vegetation removal.

- **Heritage Impact Assessment Report**

The literature review and field surveys confirmed that the project area is situated within a contemporary cultural landscape dotted with settlements with long local history. In terms of the archaeology and heritage in respect of the proposed prospecting site, there are no obvious 'Fatal Flaws' or 'No-Go' areas. However, the potential to encounter accidental finds ranges from medium to high, the applicant and contractors are advised to be diligent and observant during prospecting, should prospecting activities commence on the site. The procedure for reporting chance finds has clearly been laid out (see Appendix 3). This report concludes that the prospecting right application may be approved by SAHRA to proceed as planned subject to recommendations herein made and heritage monitoring plan being incorporated into the EMP (also see

Appendices). The mitigation measures are informed by the results of the AIA/HIA study and principles of heritage management enshrined in the NHRA, Act 25 of 1999.

1.11.2 Site Map

Please refer to figure 4 for Milima- Bellville Site Plan

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

All the positive and negative impacts pertaining to the proposed project has been outlined in detail in above.

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

The objective of the identified mitigation measures is to ensure that the impacts are minimised or avoided, where impacts cannot be avoided. Rehabilitation measures are to be implemented upon closure, and as part of the closure objectives of the project. All the potential (negative) impacts identified have been assessed and found to be of low and low to medium significance and after applying the mitigation measures, the impacts get even lower.

The EMPr addresses the environmental impacts associated with the project during construction, operation and decommissioning phases of the proposed project. The objectives of this EMPr will be to provide detailed information that will advise the planning design of the prospecting of the Iron, Manganese, Limestone, Lead, Nickel, Cobalt, Copper and Zinc.

1.13 Aspects for inclusion as conditions of Authorisation.

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

- Existing access routes must be used to access the point of interest. The access routes should be maintained to ensure that other users are not affected by the use of routes for the development.
- All wastes generated must be disposed of at an appropriate registered landfill and disposal certificate be kept on site;

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

- It is assumed that the all the aspects of the environment were observed during the site assessment and that the desktop -sourced information is correct.
- It is assumed that the information compiled from the site visit is correct.
- It is assumed that the information obtained from the existing literature is correct.
- This report has been compiled according to the requirements stipulated or outlined in the NEMA regulations.
- It is assumed that information obtained from Kuruman Museum, regarding sensitivities, biodiversity, climatic condition, heritage and any other related information is a true flection of the existing condition of the site

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

1.15.1 Reasons why the activity should be authorized or not.

The applicant is applying for a prospecting right which will be undertaken through drilling of only 10 boreholes which has low impact on the environment. Should the mitigation measures and monitoring programmes proposed in this document be implemented on site, no fatal flaws could be identified that were deemed as severe as to prevent the activity from continuing. The authorization of this project will assist the government to obtain geological information such as quality and quantity of the minerals in the area from the applicant

1.15.2 Conditions that must be included in the authorisation

- The management objectives listed in this report under 3.14 should be considered for inclusion in the environmental authorisation.
- The EMPr of this proposed project must form part of the contractual agreement and be adhered to by both the contractors and the applicant.
- The applicant must also ascertain that there is representation of the applicant on site at all times to, ensure compliance with the conditions of the EMPr. Speed limits must be maintained on all roads.

1.16 Period for which the Environmental Authorisation is required.

The authorisation is required for the duration of 5 years from the date of granting of the prospecting right.

1.17 Undertaking

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

1.18 Financial Provision

The financial provision estimated is R 63 726,35.

1.18.1 Explain how the aforesaid amount was derived.

The amount was derived from using the quantum calculation table and applying 2020 Master Rates.

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

It is confirmed that the amount is provided for in the Prospecting Work Programme.

1.19 Specific Information required by the competent Authority

1.19.1 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: -

(a) Impact on the socio-economic conditions of any directly affected person.

The proposed prospecting is within private land, drilling operation is normally a short to medium term in duration, creating short term job opportunity and potential to improve local economy. The proposed activity will have very minimal socio-economic impact to the farm owners as only 10 boreholes will be drilled. Groundwater resources pollution potential and extent is low.

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

The literature review and field surveys confirmed that the project area is situated within a contemporary cultural landscape dotted with settlements with long local history. In terms of the archaeology and heritage in respect of the proposed prospecting site, there are no obvious ‘Fatal Flaws’ or ‘No-Go’ areas. However, the potential to encounter accidental finds ranges from medium to high, the applicant and contractors are advised to be diligent and observant during prospecting, should prospecting activities commence on the site. The procedure for reporting chance finds has clearly been laid out (see Appendix 3). This report concludes that the prospecting right application may be approved by SAHRA to proceed as planned subject to recommendations herein made and heritage monitoring plan being incorporated into the EMP (also see Appendices). The mitigation measures are informed by the results of the AIA/HIA study and principles of heritage management enshrined in the NHRA, Act 25 of 1999.

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

No other matters required in terms of sections 24(4) (a) and (b) of the Act

PART B

2. ENVIRONMENTAL MANAGEMENT PROGRAMME.

2.1 Details of the EAP,

It is confirmed that the requirements for the provision of the details and expertise of the EAP are already included in PART A, section 1.1.

2.2 Description of the Aspects of the Activity

It is confirmed 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 1.4

2.3 Composite Map

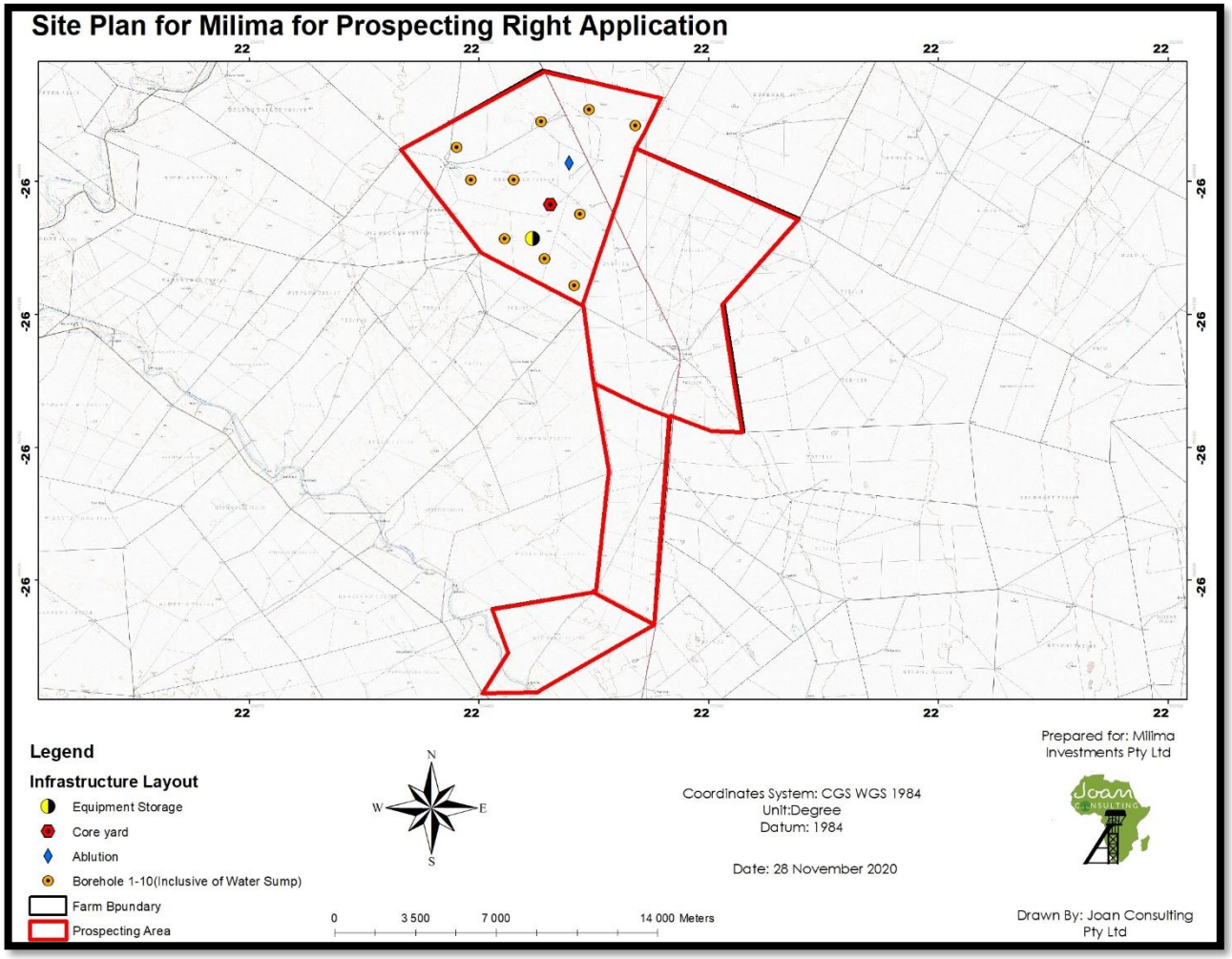

Figure 10:Composite Map for Milima Bellville

2.4 Description of Impact management objectives including management statements

1.4.1 Determination of closure objectives.

The overall goal for closure of the 0,3ha prospecting site is to, ensure that the land is stable and safe in the long-term and the disturbed area is rehabilitated back to its original or closest state.

The closure will involve removal of all machinery/equipment from site. All topsoil stockpiles will be levelled and spread back to the disturbed area. Alien vegetation introduced on site due to the prospecting work will be removed. All waste types generated will be removed and disposed properly. No rubble or domestic waste will be left lying in and around the site.

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

The operation requires approximately ±250 litres of water per day. This quantity of water is for dust suppression and cooling down the rig.

1.4.3 Has a water use license has been applied for?

The quantity of water required does not trigger a water use licence application and therefore no water use license has been applied

2.5 Impacts to be mitigated in their respective phases

Impact management at different phases have been addressed on table 11 below

2.6 Impact Management Outcomes

Impact management outcomes have been addressed on table 11 below

2.7 Impact Management Actions

Table 10: Measures to rehabilitate the environment affected by the undertaking of any listed activity

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
Clearing of vegetation and movement of vehicles for site establishment	Generation of Dust	Air quality- dust	Construction	0.3	Dust suppression using water will be under taken to manage dust emitting from vegetation removal.	Compliance with Ambient air quality Standards	Throughout the life cycle of the prospecting work	To remain within air quality ambient level
Clearing of vegetation and movement of vehicles for site establishment	Increased noise levels from movement of vehicles	Noise	Construction	0.3	Trucks, machinery, and equipment must be regularly serviced to reduce noise levels	Compliance with Ambient Noise Standards	Throughout the life cycle of the prospecting work	To remain within ambient noise level

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
Clearing of vegetation and movement of vehicles for site establishment	Destruction of archaeological remains and un identified graves	Cultural Heritage	Construction	0.3	Burial sites must be plotted, clearly marked and must be protected/barricaded to avoid accidental damage during prospecting activities Custodians must be involved in any mitigation work to their family burial sites	Compliance with cultural heritage standards	During construction phase	Protection of cultural heritage sites
Clearing of vegetation and movement of vehicles for site establishment	Disruption and destruction of animal life	Fauna	Construction	0.3	No wild animal may under any circumstance be handled, removed or be interfered with. No wild animal may be fed on site. No wild animal may under any circumstance be hunted, snared, captured, injured or killed. No wild animal may under any circumstance be hunted, snared, captured, injured or killed.	Compliance with conservation of wild life Standards	Throughout the life cycle of the prospecting work	Prevent and protect and conserve the lives of fauna

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
					Remove and dispose of any snares or traps found on or adjacent to the site.			
Clearing of vegetation and movement of vehicles for site establishment	Disruption and destruction of vegetation	Flora	Construction	0.3	Do not disturb, deface, destroy or remove plants or natural features outside the demarcated area. No open fires are permitted under trees and no vegetative matter may be removed for firewood. Locate construction camps on the outside fringe of the riparian vegetation zone. Where damage to protected plants and natural features is a problem, then these should be fenced for protection.	Compliance with conservation of wild life Standards	Throughout the life cycle of the prospecting work	Prevent and protect and conserve the lives of flora

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
Clearing of vegetation and movement of vehicles for site establishment	Loss of fertile topsoil	Soil, Land Use and Land Capability	Construction	0.3	The construction footprint should be kept as small as possible; Keep as much original land cover as possible; Stripped soils should be stockpiled surrounding the disturbed area	Compliance with measures outlined on this EMP and soil quality standard	During Construction phase	Prevent fertile soil. implementation of Monitoring programme
Clearing of vegetation and movement of vehicles for site establishment	Soil Compaction	Soil, Land Use and Land Capability	Construction	0.3	Avoid creating many access routes. Keep the speed limit to minimum to reduce the tire contractions on the soil.	Compliance with measures outlined on this EMP and soil quality standard	During Construction phase	Prevent compaction of soil and land. implementation of Monitoring programme
Clearing of vegetation and movement of vehicles for site establishment	Soil contamination from hydrocarbon spills	Soil, Land Use and Land Capability	Construction	0.3	Clean all hydrocarbon spills from machinery immediately, and Dispose contaminated soils at a permitted site.	Compliance with measures outlined on this EMP and	During Construction phase	Prevent pollution of soil and land.

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
					Drip trays are to be watertight, and must be emptied regularly and before rain events. The contents of drip trays are to be treated as hazardous waste. Only emergency and essential repairs of vehicles and equipment may take place on site.	soil quality standard		implementation of Monitoring programme
Clearing of vegetation and movement of vehicles for site establishment	Uncontrolled soil erosion and change in the area topography	Topography	Construction	0.3	Demarcate construction footprint and limit activities to within this footprint as far as possible; Keep the clearance area as small as possible; and Keep as much original land cover as possible	Compliance with measures outlined on this EMP	During Construction phase	To conform to the natural surroundings of the area
Clearing of vegetation and movement of	Increased sedimentation,	Surface Water resources	Construction	0.3	limit the development footprint to reduce high-sediment runoff;	Compliance with water	Throughout the life cycle of the prospecting work	Prevent pollution of

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
vehicles for site establishment	surface runoff and Soil Erosion				Avoid clearing the site during the rainy seasons Rehabilitate the area by re-using stockpiled soil within as short a period of time.	quality Standards		surface water.
Clearing of vegetation and movement of vehicles for site establishment	Surface water contamination from hydrocarbon spills	Surface Water resources	Construction	0.3	Clean all hydrocarbon spills from machinery immediately, and Dispose contaminated soils at a permitted site. Drip trays are to be watertight, and must be emptied regularly and before rain events. The contents of drip trays are to be treated as hazardous waste.	Compliance with water quality Standards	Throughout the life cycle of the prospecting work	Prevent pollution of surface water.
Clearing of vegetation and movement of vehicles for site establishment	Increased visual levels such as dust and infrastructures	Visual Aspect	Construction	0.3	The development footprints and disturbed areas should be kept as small as possible	Compliance with measures outlined on this EMP	During Construction phase	To conform to the natural surroundings of the area

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
					Construction activities should be restricted to daylight hours to limit the need to bright floodlighting and the potential for skyglow Dust suppression should be carried throughout, whenever dust emanates			
Clearing of vegetation and movement of vehicles for site establishment	Impact on Game Lodges, Lodges & Guest Houses: ▪ Dust Generation Noise Generation	Air Quality Noise	Construction	0.3	• Dust suppression using water will be under taken to manage dust emitting from vegetation removal • Footprint earmarked for vegetation removal must be clearly marked • Trucks, machinery, and equipment must be regularly serviced to reduce noise levels • Work should be conducted during day time only to minimise disruption of neighbours and animal life	Compliance with Ambient air and noise quality Standards	Throughout the life cycle of the prospecting work	To remain within air and noise ambient level

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
Clearing of vegetation and movement of vehicles for site establishment	Impacts on Game Lodge Dispersing and disruption of animals	Fauna	Construction	0.3	• No wild animal may under any circumstance be handled, removed or be interfered with • No wild animal may be fed on site • No wild animal may under any circumstance be hunted, snared, captured, injured or killed • No wild animal may under any circumstance be hunted, snared, captured, injured or killed • Remove and dispose of any snares or traps found on or adjacent to the site	Compliance with conservation of wild life Standards	Throughout the life cycle of the prospecting work	Prevent and protect and conserve the lives of fauna
Clearing of vegetation and movement of vehicles for site establishment	Impact on Settlement and Residential Negatively impacting on residents' livelihoods	Social	Construction	0.3	The applicant must consult with the affected parties on which times are favourable for them before undertaking the activities which could negatively impact their livelihood	Compliance with standards within the IDP	Throughout the life cycle of the prospecting work	Protect the livelihood of farmers owners and local residence

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
Clearing of vegetation and movement of vehicles for site establishment	Fear of farm attacks by farmers due to strangers in the area	Safety and Security	Construction	0.3	• Notify the local farmer's forum (Agri-Kuruman and affected forums) • Comply with all the local safety requirements	Compliance with health and safety standards	Throughout the life cycle of the prospecting work	Safety of all I&AP's
Prospecting works	Generation of waste	Impact all environmental aspects	Construction	0.3	Dedicate a storage area on site for the collection of wastes. Litter bins must be equipped with a closing mechanism to prevent their contents from over following blowing out by wind. Empty litter bins regularly to avoid overflow Proper ablution facilities on site must be provided.	Compliance with waste management regulation	Throughout the life cycle of the prospecting work	Waste reduction on site

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
Prospecting works	Work injury- impacting on the	Social, Health & Safety Aspect	Decommissioning	0.3	Proper protective equipment must be allocated to all personnel working with high risk equipment (drill rig) Tool box talk must be conducted to address the risk associated with the proposed project.	Compliance with Health and safety of contractors	Throughout the life cycle of the prospecting work	
Borehole drilling, construction of water sump and movement of vehicles	Generation of Dust	Air quality- dust	Operational	0.3	Dust suppression using water will be under taken to manage dust emitting from vegetation removal.	Compliance with Ambient air quality Standards	Throughout the life cycle of the prospecting work	To remain within air quality ambient level
Borehole drilling, construction of water sump and movement of vehicles	Increased noise levels from movement of vehicles	Noise	Operational	0.3	Trucks, machinery, and equipment must be regularly serviced to reduce noise levels	Compliance with Ambient Noise Standards	Throughout the life cycle of the prospecting work	To remain within ambient noise level
Borehole drilling, construction of	Destruction of archaeological	Cultural Heritage	Operational	0.3	Burial sites must be plotted, clearly marked and must be	Compliance with cultural	During operational phase	Protection of cultural

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
water sump and movement of vehicles	remains and un identified graves				protected/barricaded to avoid accidental damage during prospecting activities. Custodians must be involved in any mitigation work to their family burial sites Should and graves or archaeological artifacts are discovery on site, work should cease immediately until a heritage specialist gives a go ahead	heritage standards		heritage sites
Borehole drilling, construction of water sump and movement of vehicles	Disruption and destruction of animal life	Fauna	Operational	0.3	No wild animal may under any circumstance be handled, removed or be interfered with. No wild animal may be fed on site.	Compliance with conservation of wild life Standards	Throughout the life cycle of the prospecting work	Prevent and protect and conserve the lives of fauna

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
					No wild animal may under any circumstance be hunted, snared, captured, injured or killed. No wild animal may under any circumstance be hunted, snared, captured, injured or killed. Remove and dispose of any snares or traps found on or adjacent to the site.			
Borehole drilling, construction of water sump and movement of vehicles	Disruption and destruction of vegetation	Flora	Operational	0.3	Do not disturb, deface, destroy or remove plants or natural features outside the demarcated area. No open fires are permitted under trees and no vegetative matter may be removed for firewood. Locate construction camps on the outside fringe of the riparian vegetation zone.	Compliance with conservation of wild life Standards	Throughout the life cycle of the prospecting work	Prevent and protect and conserve the lives of flora

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
					Where damage to protected plants and natural features is a problem, then these should be fenced for protection.			
Borehole drilling, construction of water sump and movement of vehicles	Loss of fertile topsoil	Soil, Land Use and Land Capability	Operational	0.3	The construction footprint should be kept as small as possible; Keep as much original land cover as possible; Stripped soils should be stockpiled surrounding the disturbed area	Compliance with measures outlined on this EMP and soil quality standard	During operational phase	Prevent fertile soil. implementation of Monitoring programme
Borehole drilling, construction of water sump and movement of vehicles	Soil Compaction	Soil, Land Use and Land Capability	Operational	0.3	Avoid creating many access routes; Keep the speed limit to minimum to reduce the tire contractions on the soil.	Compliance with measures outlined on this EMP and soil quality standard	During operational phase	Prevent compaction of soil and land. implementation of Monitoring programme

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
Borehole drilling, construction of water sump and movement of vehicles	Soil contamination from hydrocarbon spills	Soil, Land Use and Land Capability	Operational	0.3	Clean all hydrocarbon spills from machinery immediately, and Dispose contaminated soils at a permitted site; Drip trays are to be watertight, and must be emptied regularly and before rain events; The contents of drip trays are to be treated as hazardous waste; Only emergency and essential repairs of vehicles and equipment may take place on site.	Compliance with measures outlined on this EMP and soil quality standard	During operational phase	Prevent pollution of soil and land. implementation of Monitoring programme
Borehole drilling, construction of water sump and movement of vehicles	Uncontrolled soil erosion and change in the area topography	Topography	Operational	0.3	Demarcate construction footprint and limit activities to within this footprint as far as possible; Keep the clearance area as small as possible; and Keep as much original land cover as possible	Compliance with measures outlined on this EMP	During operational phase	To conform to the natural surroundings of the area

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
Borehole drilling, construction of water sump and movement of vehicles	Increased sedimentation, surface runoff and Soil Erosion	Surface Water resources	Operational	0.3	limit the development footprint to reduce high-sediment runoff; Avoid clearing the site during the rainy seasons; Rehabilitate the area by re-using stockpiled soil within as short a period of time.	Compliance with water quality Standards	Throughout the life cycle of the prospecting work	Prevent pollution of surface water.
Borehole drilling, construction of water sump and movement of vehicles	Surface water contamination from hydrocarbon spills	Surface Water resources	Operational	0.3	Clean all hydrocarbon spills from machinery immediately, and Dispose contaminated soils at a permitted site; Drip trays are to be watertight, and must be emptied regularly and before rain event; The contents of drip trays are to be treated as hazardous waste.	Compliance with water quality Standards	Throughout the life cycle of the prospecting work	Prevent pollution of surface water.
Borehole drilling, construction of water sump and	Increased visual levels such as dust and infrastructures (drill rig)	Visual Aspect	Operational	0.3	The development footprints and disturbed areas should be kept as small as possible;	Compliance with measures	During Operational phase	To conform to the natural

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
movement of vehicles					Construction activities should be restricted to daylight hours to limit the need to bright floodlighting and the potential for skyglow Dust suppression should be carried throughout, whenever dust emanates	outlined on this EMP		surrounding s of the area
Prospecting works	Generation of waste	Impact all environmental aspects	Operational	0.3	Dedicate a storage area on site for the collection of wastes; Litter bins must be equipped with a closing mechanism to prevent their contents from over following blowing out by wind; Empty litter bins regularly to avoid overflow; Proper ablution facilities on site must be provided.	Compliance with waste management regulation	Throughout the life cycle of the prospecting work	Waste reduction on site

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
Prospecting works	Work injury-impacting on the	Social, Health & Safety Aspect	Operational	0.3	Proper protective equipment must be allocated to all personnel working with high risk equipment (drill rig); Tool box talk must be conducted to address the risk associated with the proposed project.	Compliance with health and safety of contractors	Throughout the life cycle of the prospecting work	
Decommissioning	Dust generated from removal of site infrastructures and from spreading of topsoil	Air Quality	Decommissioning	0.3	Topsoil must be spread during less windy days; Vegetation cover must be introduced as soon as possible to avoid soil erosion; Implement dust suppression measures to minimize dust; Revegetation must be done during rainy season.	Compliance with Ambient air quality Standards	Throughout the life cycle of the prospecting work	To remain within air quality ambient level
Decommissioning	Hydrocarbons spillages and wildlife deaths from Vehicles	Fauna and Flora	Decommissioning	0.3	Protect vegetation and soil by avoiding hydrocarbon spillages; Vehicles must make use of	Compliance with conservation	Throughout the life cycle of the prospecting work	Prevent and protect and conserve the lives of

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
					existing roads to avoid destruction of vegetation;	of wild life Standards		fauna and flora
Decommissioning	Rehabilitation activities (spreading of topsoil, removal of infrastructures and rehabilitation of access roads) will assist to reduce the negative visual impact of mining on the receiving environment.	Visual	Decommissioning	0.3	All unnecessary infrastructure must be removed from the site; Spread topsoil over the rehabilitated area; Surface water and drainage lines must be rehabilitated to create a free-draining topography; Re-vegetate the rehabilitated areas; Ensure that the all boreholes are closed with a steel cap.	Compliance with measures outlined on this EMP	During Operational phase	To conform to the natural surroundings of the area
Decommissioning	Increase of ambient noise levels from	Noise	Decommissioning	0.3	Trucks, machinery, and equipment must be regularly serviced to ensure noise levels are not exceeded;	Compliance with Ambient	Throughout the life cycle of the prospecting work	To remain within ambient noise level

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
	vehicles movements				Reduce the vehicles speed limits; Switch off equipment when not in use.	Noise Standards		
Decommissioning	Restoration of the surrounding land and its land use	Soil, land use and land capabilities	Decommissioning	0.3	No mitigation measure is required for this impact as is positive and land is reinstated back to the state prior prospecting activities	Compliance with measures outlined on this EMP and soil quality standard	Decommissioning phase	Land restoration
	Soil and Land contamination from Hydrocarbons spillages	Soil, land use and land capabilities	Decommissioning	0.3	Protect vegetation and soil by avoiding hydrocarbon spillages; Vehicles must make use of existing roads to avoid destruction of vegetation;	Compliance with measures outlined on this EMP and soil quality standard	Decommissioning phase	Land restoration

Activity	Impact	Aspect	Phase	Size and scale	Mitigation measures	Compliance with standards	Time period for implementation	Standard to be Achieved
					Alien invasive control program must be adhered to.			

2.8 Financial Provision

1.7.1 Determination of the amount of Financial Provision.

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

Closure and rehabilitation will be done with reference to the closure objectives. The closure objectives include:

- ► To rehabilitate the disturbed area back to its natural state as close as possible, leave no remnant impacts on the neighbouring farmers and rehabilitate to allow re-vegetation.

(ii) 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 the closure objectives are part of this BAR and are distributed to the landowners for review.

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

During rehabilitation, all drilled 10 boreholes will be closed with caps to prevent surface water to flow inside and contaminate ground water. Temporary infrastructure such as core yard, ablution block and workshop will be removed from the site. Areas where the water sump have been established will filled up with soil and topsoil, and revegetated. General waste and any other waste will be cleaned and disposed of to a registered land fill site. Both established sites will be restored back to its original state through ripping of the area, spreading of topsoil and revegetating.

Table 11: Rehabilitation measures

Activity	Aerial Extent	Rehabilitation and Closure Measures
Boreholes	0,2 ha	all drilled boreholes will be closed by a steel casing to avoid any foreign material underneath the surface. Areas where the water sump have been established will filled up with soil and topsoil, and revegetated

Site Establishment • Core-Yard • Ablution • Workshop • Equipment storage	0,1 ha	Temporary infrastructure such as core yard, ablution block and workshop will be removed from the site General waste and any other waste will be cleaned and disposed of to a registered land fill site
Total Area disturbed	0.3ha	Will be rehabilitated as per the above measures

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

The closure objectives are aligned with the site rehabilitation plan that must be done. The closure objectives are aimed at leaving the project site in the state which is safe and which will allow natural succession as far as possible. The rehabilitation plan responds to these closure objectives and aims to carry out tasks that will ensure that the closure objectives are met.

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

Table 12: Financial Provision for Rehabilitation for year 1.

CALCULATION OF THE QUANTUM							
Applicant: **Milima Investment (Pty) Ltd**					**Ref No.:NC30/5/1/1/2/12529 PR**		
Evaluator: **Joan Consulting**					**Date: 01 Nov 20**		
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	17,3	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	0	241,3	1	1	0
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	355,7	1	1	0
3	Rehabilitation of access roads	m2	0	43,2	1	1	0
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	419,2	1	1	0
4 (B)	Demolition and rehabilitation of non-electrified railway lines	m	0	228,6	1	1	0
5	Demolition of housing and/or administration facilities	m2	0	482,7	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha	0	245652,0	1	1	0
7	Sealing of shafts audits and inclines	m3	0	129,6	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	0	168679,4	1	1	0
8 (B)	Processing waste deposits and evaporation ponds (salt)	ha	0	210087,1	1	1	0
8 (C)	Processing waste deposits and evaporation ponds (acid, metal)	ha	0	610192,5	1	1	0

9	Rehabilitation of subsided areas	ha	0	141243,5	1	1	0
10	General surface rehabilitation	ha	0,3	133622,5	1	1	40086,75
11	River diversions	ha	0	133622,5	1	1	0
12	Fencing	m	0	152,4	1	1	0
13	Water management	ha	0	50807,0	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0,3	17782,5	1	1	5334,741
15 (A)	Specialist study	Sum				1	0
15 (B)	Specialist study	Sum				1	0
					Sub Total 1		45421,491

1	Preliminary and General	5450,57892	**Weighting Factor 2** 1	5450,57892
2	Contingencies	4542,1491		4542,1491
			Subtotal 2	55414,22
			VAT (15%)	8312,13
			Grand Total	**ZAR 63 726,35**

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

The financial provision will be provided as determined by the competent authority.

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

2.9 Monitoring of Impact Management Actions

Monitoring of the impact management actions will be done by the Environmental Control Officer and the project manager. The ECO will be based on site to ensure that all management actions are implemented where required. Should, under any circumstance, the contractor's activities pose any damage on the environment and not comply with measures and impact management actions as stipulated in the EMP, the contractor will be held responsible for any such non-compliance. It is therefore the responsibility of the contractor to ensure that all relevant measures are taken to rectify such damage, at the contractor's expense. It is the duty of the ECO to monitor compliance with the EMP, and report and notify the contractor of any non-compliance, highlighting the following:

- Details of the nature of the non-conformance;
- The actions to be taken to correct the situation; and
- The date by which each corrective action should be executed.

The contractor will also be liable to produce a Corrective Action Plan, within which he/she will detail how the required corrective actions will be implemented. This plan will be submitted to the ECO and Project Manager for approval prior to implementation and the corrective measures have been carried out, the ECO will then be required to sanction the success or failure of the corrective action.

2.10 Monitoring and reporting frequency

Monitoring will be done monthly and the reporting to the competent authority will be done annually. Any non-compliances will be recorded and plans of actions documented.

2.11 1.10 Responsible persons

For this EMP to be implemented effectively, all role players involved in this project need to comply with the directives set out. A concise description of impacts and their mitigation/management measures will be provided and understood by all role players responsible for the implementation and monitoring of the mitigation measures

This project will comprise of the following responsible role players:

- Lead Authority (DMR- North West Regional)
- The Environmental Control Officer;

- The Contractor;
- The project manager and
- The Developer (Permit holder).

These parties will ensure that all conditions stated on the right are adhered to and that all environmental management requirements are met. Each person's responsibility is detailed in the Table below

Table 13: Responsible Persons for the Project

Functions	Responsibility
Permit Holder	Ensuring compliance to the EMP and conditions contained in the Environmental Authorisation (EA). Contracting the Environmental Control Officer as an independent appointment to objectively monitor and implement the applicable environmental legislation.
Project Manager	Complete responsibility of the whole project and any contracted parties and ensuring that all environmental management facets are adhered to. The Project Manager will be supported by the ECO, with the following roles and responsibilities during the operations; • Review the annual reports compiled by the Environmental Control Officer (ECO); • Identify the need for remedial measures with regard to proposed works; • Communicate directly with the Contractors; and • Issue non-conformance notifications to Contractors that do not comply with the requirements as set out in the EMP.
Environmental Control Officer	• Objectively monitor, implement applicable environmental legislation, conditions of Environmental Authorisations (EA's) and the EMP. • Conduct audits on compliance to applicable environmental legislation, conditions of EA's and the EMP. Including size and sensitivity of the development (on grounds of the EIA). • Liaison between the relevant authorities and project team. Any changes in environmental conditions, registration and updating of all EMP documentation should be communicated and carried out by the ECO • Develop environmental awareness training for all new site personnel (e.g. posters, tool box talks, signage);

	• Undertake visual inspections of the activities of employees with regard to implementation of the requirements outlined in the EMP; • Immediately notify the Project Manager of any non-compliance with the EMP, or any other complaints or issues of environmental concern; • ; and Ensure that all environmental monitoring programmes (sampling, measuring, recording etc.) are carried out according to protocols and schedules
Lead Authority (DMR)	The department responsible for approving the Environmental Authorisation application. Ensuring that the monitoring and adherence to EMPs is carried out, by going through/reviewing audit reports submitted by the ECO and conducting regular site visits.
Contractor	A Contractor will be employed by the developer for different components of the project. The Contractor's primary responsibilities are to construct the works and ensure compliance with the EMP whilst carrying out the work

2.12 Time period for implementing impact management actions

The impact management actions must be implemented immediately or within a day of being approved

2.13 Mechanism for monitoring compliance

Table 14: Mechanisms 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
Construction, operational and decommissioning	Generation of Dust	Daily inspection of construction and operational works to ensure that no dust is generated	ECO and project manager	Daily monitoring and reporting. Management actions will be implemented daily
	Increased noise levels	Monitoring of construction and operational vehicles to ensure that noise level is kept at minimal	ECO and Project manager	Daily monitoring and reporting. Management actions will be implemented daily
	Destruction graves	Inspection of construction and operational works to ensure that no graves are destructed	ECO, project manager and drilling contractor	Monitoring and reporting as and when graves are encountered. Management actions will be implemented as mandated by SAHRA
	Soil contamination	Daily inspection of operational equipment. Service vehicles timeously	ECO and Project manager	Daily monitoring and reporting as spills occur. Management actions will be implemented as spill incidences occurs

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
	Uncontrolled soil erosion	Ensure concurrent rehabilitation (backfilling and fertilisation/re-vegetation) is implemented throughout the life of the mine	ECO, project manager and drilling contractor	Monitoring and reporting throughout the entire prospecting operation. Management actions will be implemented in the event of erosion.
	Surface water contamination	Daily inspection of operational equipment. Service vehicles timeously	ECO and Project manager	Daily monitoring and reporting as spills occur. Management actions will be implemented as spill incidences occurs
	Generation of waste	Inspection of waste storage and ablution facilities and the general site inspection for any oil spillages	ECO & Project Manager	Weekly monitoring Monthly reporting Immediate implementation of management actions
Decommissioning	Rehabilitation activities (spreading of topsoil, removal of infrastructures and rehabilitation of access roads) will assist to reduce the negative visual	Inspection of rehabilitation on site and comparison of rehabilitation progress against rehabilitation plan	ECO, project manager and competent authority	Annual inspection and reporting. No implementation of impact management action is required

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
	impact of mining on the receiving environment.			
	Restoration of the surrounding land and its land use	Inspection of rehabilitation on site and comparison of rehabilitation progress against rehabilitation plan	ECO, project manager and competent authority	Annual inspection and reporting. No implementation of impact management action is required

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

The performance assessment or audit report will be submitted annually**.**

2.15 Environmental Awareness Plan

An environmental officer will undertake environmental awareness training of different environmental aspect on how to deal with emergency situations and how to remediate impacts resulting from such emergencies.

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

The environmental officer will have monthly meetings to conduct environmental awareness with all the employees.

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

This EMP will be made available on site as it contains all mitigation measures for this prospecting work, therefore all the risks associated with this project has been outlined and the manner to deal with these risks.

2.16 Specific information required by the Competent Authority

Consultation process is still under way. All issues raised by interested and affected parties will be incorporated on the final BAR report. Confirmation is hereby given that the financial provision will be reviewed on an annual basis

3. UNDERTAKING

The EAP herewith confirms

- The correctness of the information provided in the reports ☒
- The inclusion of comments and inputs from stakeholders and I&APs; ☒
- The inclusion of inputs and recommendations from the specialist reports where relevant; ☒and
- That the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected. Parties are correctly reflected herein. ☒

Signature of the environmental assessment practitioner:

Joan Consulting (Pty) Ltd

Name of company:

November 2020

Date

-END-