

# ENVIRONMENTAL ASSESSMENT FOR MINERAL EXPLORATION ON EPL 8113, CENTRAL NAMIBIA

#### **EXECUTIVE SUMMARY**

#### 1. Introduction

#### 1.1 Overview

The proponent, Coutada Granite Mining CC, was granted an exclusive prospecting licence (EPL) by the Ministry of Mines and Energy. The licence holder intends to explore for Dimension Stones. Impala Environmental Consulting was appointed by the proponent to undertake an Environmental Assessment (EA) and Environmental Management Plan (EMP) for the mineral exploration project.

#### 1.2 Location

The license area is located about 27 km southwest of Karibib, accessible along the C32 road. The coordinates for the centre of the licence are -22.180556 and 15.736111.

#### 1.3 Environmental Assessment Requirements

The Environmental Regulations procedure (GN 30 of 2012) stipulates that no mining and mineral exploration activities may be undertaken without an environmental clearance certificate. As such, an environmental clearance certificate must be applied for in accordance with regulation 6 of the 2012 environmental regulations. It is imperative that the environmental proponent must conduct a public consultation process in accordance with regulation 21 of the 2012 environmental procedure, produce an environmental scoping report and submit an Environmental Management Plan for the proposed mineral exploration activities.

#### 1.4 Project Alternatives

An alternative to the proposed mineral exploration activity would be to allocate the land-usage to other income generating activities tourism activities. The proposed project will strictly employ locals from nearby towns and settlements.



# ENVIRONMENTAL ASSESSMENT FOR MINERAL EXPLORATION ON EPL 8113, CENTRAL NAMIBIA

## **FINAL SCOPING REPORT**

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## 1. Introduction

## 1.1 Project Background

The proponent, Coutada Granite Mining CC, was granted an exclusive prospecting licence (EPL) by the Ministry of Mines and Energy. The licence holder intends to explore for Dimension Stones. An outline of the area is shown in the image below.

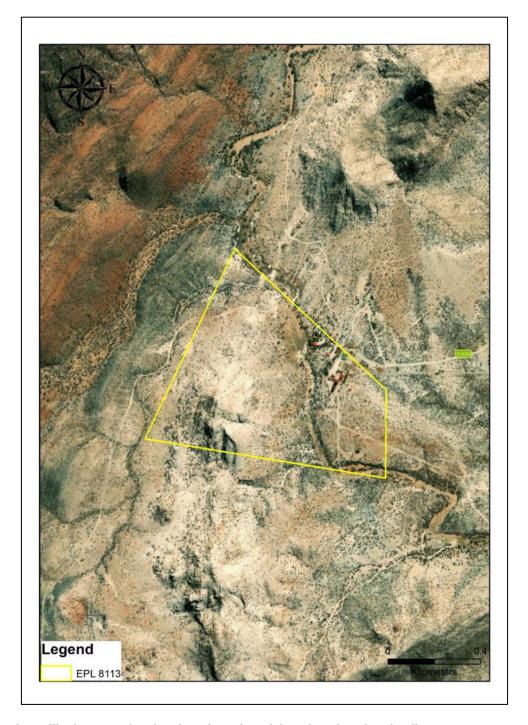


Figure 1 A satellite imagery showing the orientation of the mineral exploration licence.



Figure 2 shows the surrounding farms of the project area. The licence falls within a traditional authority area.

#### 1.1.1 Mineral Licence Tenure

The exclusive prospecting number is 14/2/1/4/2/8113. The mineral licence is issued to Coutada Granite Mining CC.

The size of the mineral licence is **58.6223 Hectares**. It is granted for Dimension Stone commodities.

#### 1.1.2 Environmental Consultant

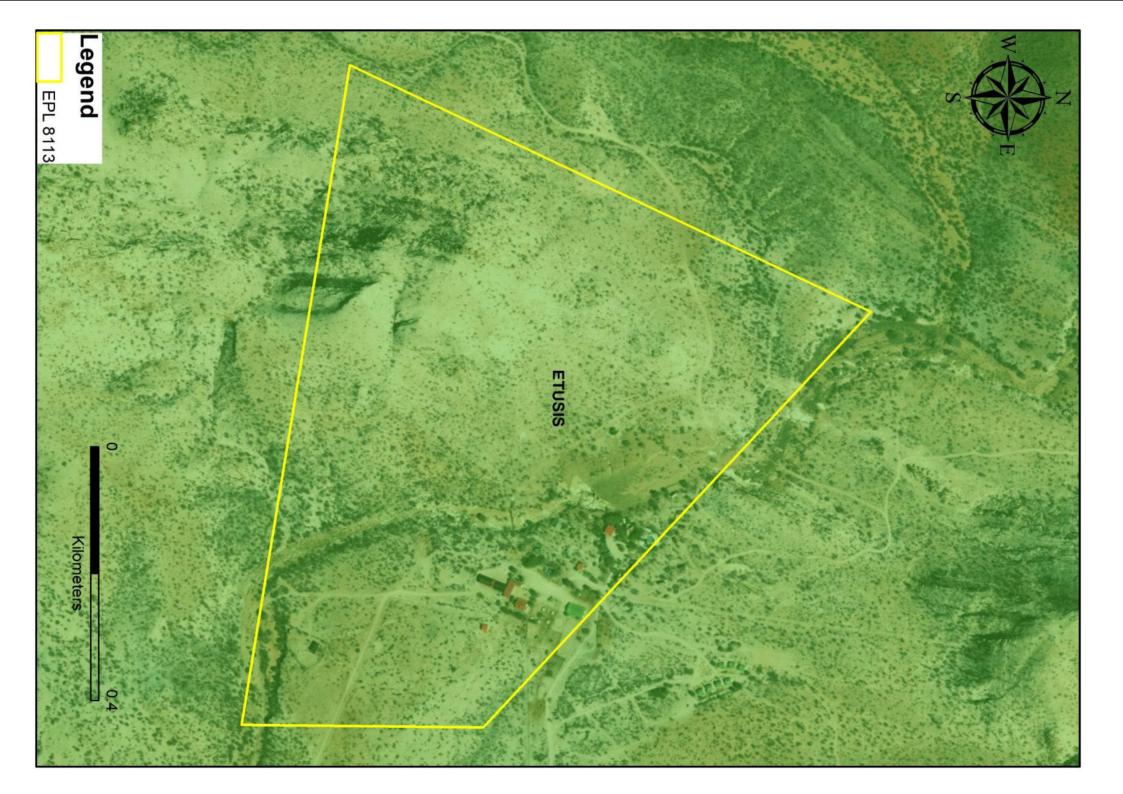
Impala Environmental Consulting cc was appointed by the proponent to undertake an Environmental Assessment (EA) and Environmental Management Plan (EMP) for the mineral exploration project. Impala does not have any interest, be it business, financial, personal or other, in the proposed activity, application or appeal, other than fair remuneration for work performed on this project. The public participation process and report writing was overseen by Mr. Ndaluka Amutenya as the EAP. CV's of various role players are annexed to the appendix section of this report.

#### 1.1.3 Proponent of the Proposed Project

The Exclusive Prospecting Licence belongs to Coutada Granite Mining CC.

Licence Holder	Postal Address	Email Address	Contact
Coutada Granite	P O Box 29532		0813684888
Mining CC.			





## 1.2 Project Location

The mineral license is located about 27 km southwest of Karibib, accessible along the C32 road. The coordinates for the centre of the licence are -22.180556 and 15.736111.

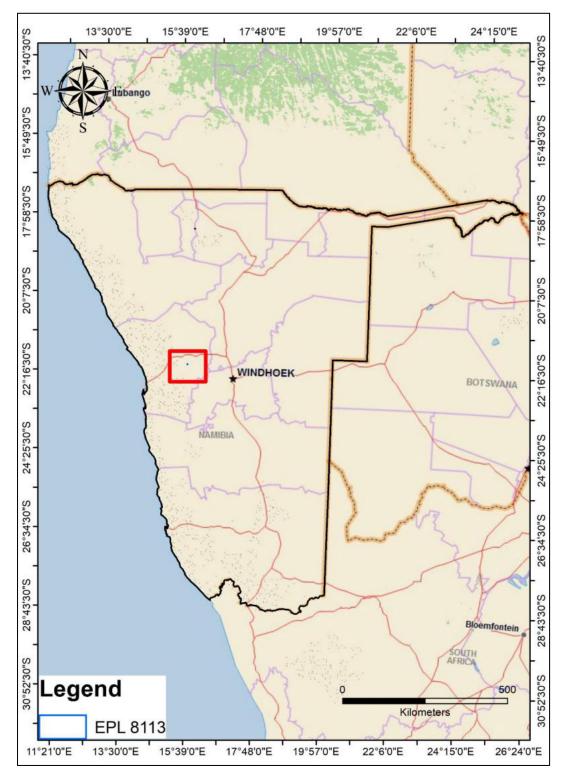


Figure 3 Locality map of the exclusive prospecting licence area



#### 1.3 Infrastructure and Services

#### 1.3.1 Electricity

At this stage, electricity requirements for the project are minimal. The bulk of the power supply to the exploration site will be sourced from the proponent's own generator. The power requirements for the proposed project will be minimal as power will only be required for the following activities:

- · Emergency lighting.
- Powering small machinery during the mineral exploration process.
- Power supply for temporary office block or container if necessary.

#### 1.3.2 Water Supply

The water requirements for the project are minimal. Water containers will be brought on site and utilised whenever necessary. The water will mostly be used for general consumption and cleaning. The water used for drilling will be recycled.

#### 1.3.3 Refuse and Waste Removal

The proponent will negotiate directly will all suppliers of consumables such as grease, oil etc. to remove these materials for disposal once they have been used and need to be discarded. The proponent will provide adequate temporary sanitary facilities and such facilities must be maintained in a hygienic condition. Sewerage will be disposed of in a manner not polluting the environment. The proponent will remove all refuse pertaining to the proponent's activities, domestic or otherwise, from the property. The Miner will undertake environmental rehabilitation, both during and at the conclusion of the mineral exploration operations.

#### 1.3.4 IT Systems and Communication

If drilling commences, provision will be made for two-way radios to enable the drill rig operators and the on-site staff to communicate effectively.

#### 1.3.5 Security and Fencing

No provision has been made for fencing although strict access to and from the exploration site will be facilitated by personnel.



## 1.3.6 Buildings

At this stage, no exploration camp will be set up and so provision will be made for prefabricated containers.

#### 1.3.7 Roads

Access to the mineral exploration sites is limited as there are currently no convenient roads, except for 4x4 tracks.

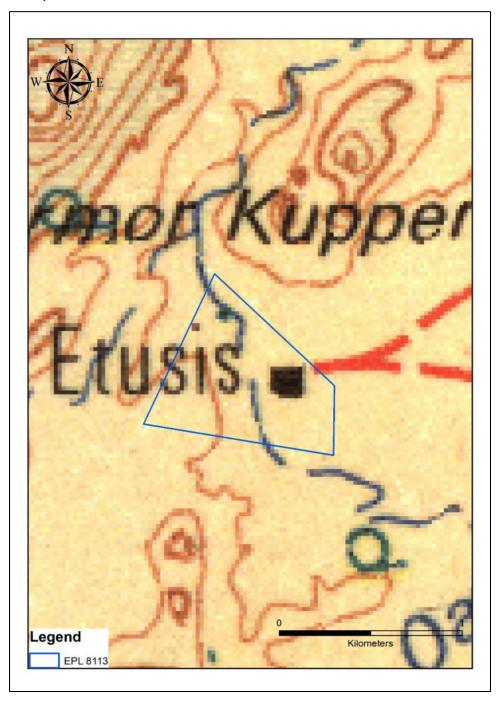


Figure 4 Topographic map showing the existing road network within the licence area.



#### 1.3.8 Mobile Equipment

The proponent's vehicle fleet will be optimised during the next project phase. Provision will be made 4x4 vehicles and a drill rig.

## 1.3.9 Fuel Distribution, storage and supply

During the drilling phase, diesel will be delivered to the by road transport and offloaded into the vehicles by offloading pumps.

#### 1.3.10 Storage of Lubrication and consumables

During the drilling phase, consumables and lubricants will be stored in a designated area within a container. These substances will only be used for mechanical purposes and are assumed to be non-hazardous.

#### 1.3.11 Fire Fighting Provision

Portable fire-extinguishers will be fitted, as required, in vehicles and, as well as in the mobile containers where possible.

## 1.4 Environmental Impact Assessment Requirements

The Environmental Regulations procedure (GN 30 of 2012) stipulates that no mineral exploration activities may be undertaken without an environmental clearance certificate. As such, an environmental clearance certificate must be applied for in accordance with regulation 6 of the 2012 environmental regulations. It is imperative that the environmental proponent must conduct a public consultation process in accordance with regulation 21 of the 2012 environmental procedure, produce an environmental scoping report and submit an Environmental Management Plan for the proposed mineral exploration activities.

## 1.5 Purpose of the Scoping Report

The scoping report is prepared for the Environmental Impact Assessment for mineral exploration on an area which is located about 27 km southwest of Karibib, accessible along the C32 road. Environmental scoping is a critical step in the preparation of an EIA for the proposed mineral exploration activities. The scoping process identifies the issues that are likely to be most important during the EIA and eliminates those that are



of little concern. The scoping process shall be concluded with the establishment of terms of reference for the preparation of an EIA, as set out by the Ministry of Environment and tourism. The purpose of this scoping report is to:

- Identify any important environmental issues to be considered before commencing with mineral exploration activities on the proposed mineral exploration sites.
- To identify appropriate time and space boundaries of the EIA study.
- To identify information required for decision-making.

As such, the key objectives of this scoping study are to:

- Inform the public about the proposed mineral exploration activities.
- Identify the main stakeholders, their comments and concerns.
- Define reasonable and practical alternatives to the proposal.
- To establish the terms of reference for an EIA study.

#### 1.6 Terms of Reference

The approach and methodology taken was guided by the Environmental Regulations of 2012 and the Terms of Reference (ToR) which were provided by the proponent:

- Identify all legislation and guidelines that have reference to the proposed project.
- Identify existing environmental (both bio-physical and socio-economic) conditions of the area in order to determine their environmental sensitivity.
- Inform Interested and Affected Parties (I&APs) and relevant authorities of the details of the proposed development and provide them with a reasonable opportunity to participate during the process.
- Consider the potential environmental and social impacts of the development and assess the significance of the identified impacts.
- Compile a Scoping Report detailing all identified issues and possible impacts, stipulating the way forward and identifying specialist investigations, if required.



- Outline management and mitigation measures in an Environmental Management Plan (EMP) to minimize and/or mitigate potentially negative impacts.
- Submit the final scoping report to the competent authority and the Environmental Commissioner.



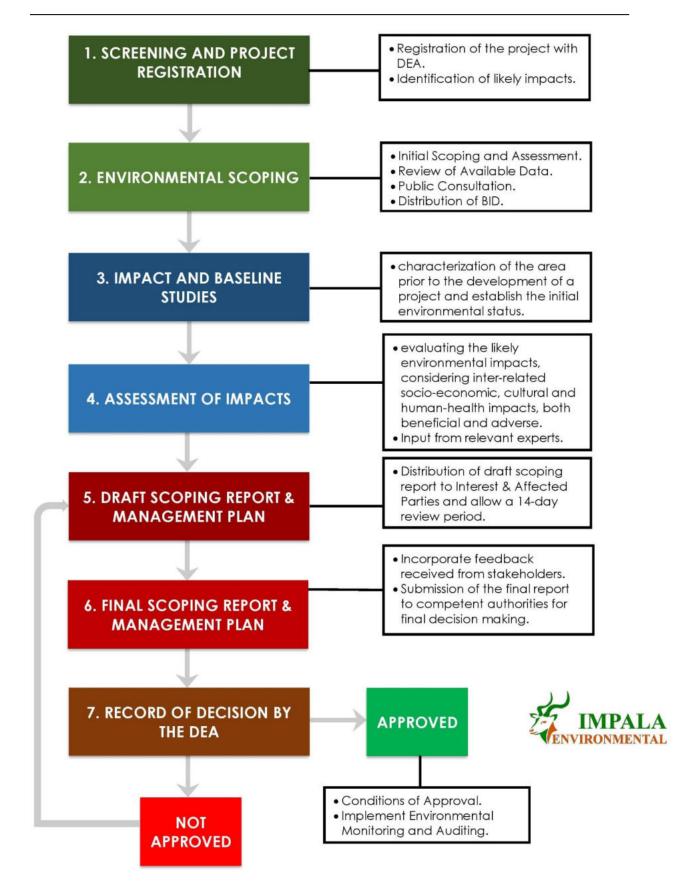


Figure 5 Flowchart of the Environmental Impact Assessment process followed in Namibia.



## 1.6.1 Environmental Assessment Approach and Methodology

Environmental assessment process in Namibia is governed by the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 gazetted under the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007) and in line with the provisions of the Cabinet approved Environmental Assessment Policy for Sustainable Development and Environmental Conservation of 1995.

This report has taken into consideration all the requirements for preparation of all the supporting documents and application for an Environmental Clearance Certificate and lodgement of such application to the Environmental Commissioner (EC), Department of Environmental Affairs (DEA) in the Ministry of Environment and Tourism (MET).

The purpose of the Scoping Phase was to communicate the scope of the proposed project to Interested and Affected Parties (I&APs), to consider project alternatives, to identify the environmental (and social) aspects and potential impacts for further investigation and assessment, and to develop the terms of reference for specialist studies to be conducted in the Impact Assessment Phase if necessary. The steps undertaken during the Scoping Phase are summarised below.

#### 1.6.1.1 Project Initiation and Screening

The project registered on the online ECC portal (eia.met.gov.na) in order to provide notification of the commencement of the EIA process and to obtain clarity on the process to be followed.

#### 1.6.1.2 Initial Scoping Public Participation Process

The objective of the public scoping process was to ensure that interested and affected parties (I&Aps) were notified about the proposed project, given a reasonable opportunity to register on the project database and to provide initial comments. Steps that were undertaken during this phase are summarised below:

 I&AP identification: A preliminary I&AP database was compiled using the farmer's contact details that were obtained from the Ministry of Lands and contact details of other interested and affected parties that were provided by the proponent. Additional I&AP's were added to the database based on



responses to the advertisements and notification letters, as well as attendees to the various meetings.

- Notification letter and Background Information Document (BID): A
  notification letter and Background Information Document was distributed for
  review and comment for a period of 3-4 weeks after commencement of the
  project.
- Advertisements and site notice: Advertisements announcing the proposed project, the availability of the BID, public meetings and the I&AP registration / comment period were placed in two widely distributed newspapers for two consecutive weeks. Site notices were placed on the boundaries of farm fences and on the notice boards of the Regional Council.

Over and above the issues raised were incorporated into the scoping report. These submissions were collated and responded to as indicated in the public participation section of the scoping report.

## 1.6.1.3 Compilation and Review of Draft Scoping Report (DSR)

The DSR was prepared in compliance with Section 8 of the EIA Regulations of 2012 and incorporated with comments received during the initial Public Participation Process. The DSR was distributed for a 14-day review and comment period.

#### 1.6.1.4 Final Scoping Report and Completion of the Scoping Phase

The Final Scoping Report (FSR) summarises the following: the legal and policy framework; approach to the EIA and process methodology; the project's need and desirability; proposed project activities; key characteristics of the receiving environment; and key issues of concern that will be further investigated and assessed in the next phase of the EIA.

The FSR complies with Section 8 of the EIA Regulations 2012. All written submissions received during the DSR review and comment period will be collated and responded to. The FSR was submitted to the competent authority. In terms of Section 32 of the Environmental Management Act, 2007 (No. 7 of 2007), the competent authority is then required to make a recommendation on the acceptance or rejection of the report to Ministry of Environment and Tourism (MET): Department of Environmental Affairs (DEA), who will make the final decision.



## 1.6.2 List of Specialist Studies Undertaken

Section 9(a) of the Environmental Regulations of 2012 requires a disclosure of all the tasks to be undertaken as part of the assessment process, including any specialist to be included if necessary.

The mineral exploration project has not commenced yet. This means that the proponent has not conducted any surface exploration activities (i.e. geophysical survey, geological mapping and geochemical sampling) to find anomalies and determine suitable targets which can be tested with drilling. As such, no field specific specialist studies were commissioned by the proponent as no specific target area has been delineated yet. Although specialist studies were deemed unnecessary for this environmental impact assessment due to low intensity and extent of the exploration activities at this stage, a heritage impact assessment study was undertaken for this project. Specialist studies conducted in the area, in previous years, have been reviewed as part of the scoping and assessment process of this project.

After the proponent successfully drills a delineated target, undertakes a feasibility study and confidently decides to proceed with mining, a full environmental impact assessment will be carried out with appropriate site-specific specialist studies on groundwater, air-quality, fauna, flora, archaeology and avifauna.

## 1.7 Need and Desirability

#### 1.7.1 Need of the Exploration Project

Mineral exploration companies play an important role in the development of a country's mineral resources. When minerals are mined, the company selling the product must pay a royalty to the government). The royalties are set by the government at a level that will encourage others to risk their capital in finding and developing these minerals, rather than the government risking taxpayer's money. This way the country can share in benefit of mineral resources without risking funds required for key everyday services to the community.

Namibia has a long tradition of mining. In 2018, mining contributed 14% of GDP and expanded 28%. In 2019, the mining industry contributed over 300 million dollars to government revenue. The whole industry contributed around 2.2 billion dollars to the national economy in the same period. However, a drop in diamond and uranium



production caused a contraction of 11,1%. Lower mineral commodity prices led to the declining expenditure on exploration. In 2019, the mining industry paid over 300 million dollars in wages and salaries and provided 16 324 direct jobs with 9 027 permanent employees. Temporary jobs figured out 800, while 6 515 were contractor jobs.

The exploration project may assist in helping Namibia attain some of the goals set out in National Development Plans such as the Fifth National Development Plan (NDP5) and the Harambee Prosperity Plan (HPP). During the exploration phase, the project will provide employment to at least 15 people from the surrounding towns and settlements. If the exploration project leads to the discovery of an economically viable mineral deposit, this may subsequently lead to the development of a mine within the area. A mine can significantly contribute to social-economic development around the surrounding community.

#### 1.7.2 Alternatives

During the application of the exploration licence, no alternative sites were considered. The proposed exploration site has shown the potential to host an orogenic gold deposit.

#### 1.7.2.1 Exploration Method Alternatives

Geochemical sampling and geological mapping methods will be used during the initial exploration period until a target is delineated. Thereafter, reverse circulation and diamond drilling methods will be employed to test the depth and extent of the mineralised rock units. If more modern, effective, and environmentally friendly exploration methods than the preferred ones are developed, such methods will be assessed and or considered.

#### 1.7.2.2 No-Go Alternatives

The no-go alternative will mean that the current land activities such as farming and important vegetation species will not be disturbed, that is, there will not be disturbance of the flora and fauna.

No-go alternative will result in the non-exploration of minerals and bring beneficiations to the receiving environment. However, the no-go alternative is not considered since it will lead to negative socio-economic impacts.



## 2 Summary of applicable legislation

All mineral rights, related to mineral exploration activities in Namibia, are regulated by the Ministry of Mines and Energy whereas the environmental regulations are regulated by the Ministry of Environment and Tourism. The acts that affect the implementation, operation and management of mineral exploration activities in Namibia are shown below.

## 2.1 Environmental Management Act of 2007

**Line Ministry:** Ministry of Environment and Tourism

The regulations that accompany this act lists several activities that may not be undertaken without an environmental clearance certificate issued in terms of the Act. The act further states that any clearance certificate issued before the commencement of the act (6 February 2012) remains in force for one year. If a person wishes to continue with activities covered by the act, he or she must apply for a new certificate in terms of the Environmental Management Act.

## 2.2 The Minerals Prospecting and Mining Act of 1992

Line Ministry: Ministry of Mines and Energy

The Minerals Prospecting and Mining Act No.33 of 1992 approves and regulates mineral rights in relation to exploration, reconnaissance, prospecting, small scale mining, mineral exploration, large-scale mining and transfers of mineral licences.

## 2.3 Water Resources Management Act of 2004

Line Ministry: Ministry of Agriculture, Water and Forestry

The act provides for the management, protection, development, usage and conservation of water resources; to provide for the regulation and monitoring of water resources and to provide for incidental matters.

## 2.4 Nature conservation ordinance, ordinance No. 4 of 1975

**Line Ministry:** Ministry of Environment and Tourism

The Nature Ordinance 4 of 1975 covers game parks and nature reserves, the hunting and protection of wild animals (including reptiles and wild birds), problem animals, fish,



and the protection of indigenous plants. It also establishes a nature conservation board. The basic set of regulations under the ordinance is contained in GN 240/1976 (OG 3556). The topics covered in the regulations include tariffs (game parks), regulations relating to game parks, swimming baths, use of boats in game parks, inland fisheries, keeping game and other wild animals in capturing. In addition, the ordinance also regulates game dealers, game skins, protected plants, birds kept in cages, trophy hunting of hunt-able game, hunting at night, export of game and game meat, sea birds, private game parks, nature reserves, regulations of wildlife associations and registers for coyote getters.

## 2.5 National Heritage Act, 2004 (Act No. 27 of 2004)

Line Ministry/Body: National Heritage Council

The National Heritage Act provides for the protection and conservation of places and objects of heritage significance and the registration of such places and objects; to establish a National Heritage Council; to establish a National Heritage Register; and to provide for incidental matters.

#### 2.6 Petroleum Products and Energy Act No. 13 of 1990

Line Ministry/Body: Ministry of Mines and Energy

The act regulates the importation and usage of petroleum products. The act reads as "To provide measures for the saving of petroleum products and an economy in the cost of the distribution thereof, and for the maintenance of a price thereof; for control of the furnishing of certain information regarding petroleum products; and for the rendering of services of a particular kind, or services of a particular standard; in connection with motor vehicles; for the establishment of the National Energy Fund and for the utilization thereof; for the establishment of the National Energy Council and the functions thereof; for the imposition of levies on fuel; and to provide for matters incidental thereof".

#### 2.7 Forest Act, No. 12 of 2001

Line Ministry/Body: Ministry of Agriculture, Water and Forestry



The act regulates the cutting down of trees and reads as follows "To provide for the establishment of a Forestry Council and the appointment of certain officials; to consolidate the laws relating to the management and use of forests and forest produce; to provide for the protection of the environment and control and management of forest trees; to repeal the preservation of Bees and Honey proclamation 1923, preservation of Trees and Forests Ordinance, 1952 and the Forest Act, 1968; and to deal with incidental matters".

The constitution defines the function of the Ombudsman and commits the government to sustainable utilization of Namibia's natural resources for the benefit of all Namibians and describes the duty to investigate complaints concerning the over-utilization of living natural resources for the benefit of all Namibians and describes the duties to investigate complaints concerning the over-utilization of living natural resources, the irrational exploitation of non-renewable resources, the degradation and the destruction of ecosystem and failure to protect the beauty and character of Namibia. Article 95 states that "the state shall actively promote and maintain the welfare of the people by adopting; inter-alia policies aimed at maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of natural resources on a sustainable basis for the benefit of all Namibians both present and future".

## 2.8 Atmospheric Pollution Prevention Ordinance 11 of 1976

Line Ministry/Body: Ministry of Health and Social Services

This ordinance provides for the prevention of air pollution and is affected by the Health Act 21 of 1988. Under this ordinance, the entire area of Namibia, with the exception of East Caprivi, is proclaimed as a controlled area for the purposes of section 4(1) (a) of the ordinance.

#### 2.9 Hazardous Substance Ordinance, No. 14 of 1974

Line Ministry/Body: Ministry of Safety and Security

The ordinance provides for the control of toxic substances. It covers manufacture, sale, use, disposal and dumping as well as import and export. Although the



environmental aspects are not explicitly stated, the ordinance provides for the importing, storage and handling.

## 2.10 Namibian Water Corporation (Act 12 of 1997)

Line Ministry/Body: Namibian Water Corporation

The act caters for water rehabilitation of prospecting and mineral exploration areas, environmental impact assessments and for minimising or preventing pollution.

## 2.11 Public and Environmental Health Act, 2015

Line Ministry/Body: Ministry of Health and Social Services

provide a framework for a structured uniform public and environmental health system in Namibia; and to provide for incidental matters.

## 2.12 Agricultural (Commercial) Land Reform Act 6 of 1995

Line Ministry/Body: Ministry of Lands, Resettlement and Rehabilitation

To provide for the acquisition of agricultural land by the State for the purposes of land reform and for the allocation of such land to Namibian citizens who do not own or otherwise have the use of any or of adequate agricultural land, and foremost to those Namibian citizens who have been socially, economically or educationally disadvantaged by past discriminatory laws or practices; to vest in the State a preferent right to purchase agricultural land for the purposes of the Act; to provide for the compulsory acquisition of certain agricultural land by the State for the purposes of the Act; to regulate the acquisition of agricultural land by foreign nationals; to establish a Lands Tribunal and determine its jurisdiction; and to provide for matters connected therewith.



## 3 Description of Proposed Mineral exploration Project

#### 3.1 Introduction

Dimension stone can be defined as natural rock material quarried for the purpose of obtaining blocks or slabs that meet specifications as to size (width, length, and thickness) and shape. Color, grain texture and pattern, and surface finish of the stone are normal requirements. Durability (essentially based on mineral composition and hardness and past performance), strength, and the ability of the stone to take a polish are other important selection criteria.

Dimension stone is an important building material used worldwide, and therefore a valuable natural resource. Namibia has numerous deposits of good quality dimension stone displaying a variety of attractive colors, patterns and textures. The main rock types quarried are marble, granite, dolerite, conglomerate, and sodalite.

## 3.2 Techniques for Mineral Exploration

#### 3.2.1 Target Generation

Target generation involves certain stages, such as mapping, geochemical survey and remote sensing. Mapping includes development of the geological, topographical (base), geochemical, and structural maps. Geological map focuses on identifying and mapping outcrops, describing mineralization and alteration zones, and making geological cross sections. In other words, it relies on the identification of rocks and minerals and the understanding of the environment in which they form. It aims to find what rock types occur at or close to the surface and how these rock types are related to each other, e.g., by defining their boundaries, ages, and structure. Topographical map, which is a base map, depicts the topographical features (contour, hill, stream, etc.). Geochemical map includes surface sample locations and results, including analyses of rock, silt, and soil samples. Geophysical map depicts the geology and results obtained from geophysical survey. Structural map shows the orientation data (strike, dip, type, etc.) of bedding planes, faults, folds, joints and other structural features. They are all gathered to be used for the interpretation in copper mineral exploration (Mentes, 2012).



## 3.2.1.1 Geochemical Survey

Geochemical survey is a kind of sampling method in mineral exploration and results in 'Assay' after laboratory works. Exploration geochemistry has evolved from its early origins using the chemistry of the environment surrounding a deposit in order to locate it. In mineral exploration studies, geochemical methods involve the geochemical analysis of geological materials, including rock, soil, and stream sediment or silt sediment. In addition to these surface samples, any materials obtained from drilling can be analyzed for the evaluation. This survey provides physical results to be worked on for the further interpretation and is used for identifying geochemical anomalies, which are used for geochemical mapping (Mentes, 2012). During the first phase, the type of sampling methods that will be applied are bulk sampling.

## 3.2.1.2 Remote Sensing

Remote Sensing is the collection of information about an object or area without being in physical contact with it. Data gathering systems used in remote sensing are photographs obtained from manned space flights or airborne cameras, and electronic scanner or sensors such as multispectral scanners in satellites or airplanes and TV cameras, all of which record data digitally. Aerial photography and satellites allow people to work with modern techniques. Aerial photography is used to sense the amount (quantity) of mineral in a particular area. The mineral exploration team collects information such as tracks, roads, fences, and habitation, as well as maps of outcrops, regolith, and vegetation cover across a region. Landsat image (satellite imagery) is used both for the visible light spectrum over mineral exploration (Mentes, 2012).

#### 3.2.2 Target Drilling

Target drilling is the process whereby rigs or some operated tools are used to make boreholes to intercept a rock unit. It can be done by contractors with more experienced operators. This method is used to obtain very detailed information about rock types, mineral content, and rock fabric, and the relationships between rock layers close to the surface and those at depth. Then, subsurface geology in an area is evaluated after the results are obtained. That indicates if the potentially economic resources are present or not.



#### 3.2.3 Resource Evaluation

It is an evaluation of tonnage (volume) and grade (concentration or weight percent) of the ore body. The volume is determined by using drill data to outline the deposit in the subsurface, and by using geometric models to calculate the volume. The grade is the average concentration determined from numerous assays of drill samples. The purpose of the resource evaluation is to understand the possibility to expand the known size of the deposit and mineralization. This step should give an information or idea about proceeding of mineral exploration activities. Resources at this work are determined during exploration and do not provide certain results of grade and tonnage. In order to get an exact size, quality of the commercial mineral, 'reserve definition', which is next step of mineral exploration studies, is used (Mentes, 2012).

#### 3.2.4 Resource Definition

Reserve definition is important to transform a mineral resource into an economic asset, which is an ore reserve and find the answer if it is valuable or not. 'Reserve' is more intensive, technical, and well characterized term with its exact quality and size relative to 'Resource'. Also, reserve estimation may be changed over time because of the assessments during and after the mining. The main purpose of this stage is the making decision on the techniques just before extraction as a result of the results. It includes technical, economic evaluation, geotechnical assessment, and engineering studies of the rocks surrounding the deposit to determine the potential parameters of proposed open pit or underground mining methods. At the end of this process, a feasibility study is published, and the deposit is supposed to either be uneconomic or economic.

#### 3.3 Labour Requirements

The proponent intends to employ about 5-15 personnel, including 3 management staff for the first phase of the project. The employees will be sourced from the local community including people from Karibib. All employees will undergo a safety induction, first aid training course and wildlife awareness program. The Labour Act of 2007 will always be adhered to.



## 4 Description of the Current Environment

#### 4.1 Introduction

This section aims to document the present state of the environment, the likely impact of changes being planned and the regular monitoring to attempt to detect changes in the environment. As such, this area represents a high fauna diversity.

Namibia has four very large and arid regions which set them apart in various ways from the rest of the country; Kunene and Erongo region in the west and Karas and Hardap in the south (Mendelsohn, et al., 2002). Kunene Region occupies the northwest corner of Namibia. The Skeleton Coast Park forms its entire western boundary with the Atlantic Ocean. The Kunene River with its Epupa Falls forms an international boundary with Angola to the north. Nationally, Kunene is bordered by Omusati Region and the western boundary of Etosha National Park. In the south it forms the southern boundary of most of Etosha National Park and borders Erongo and Erongo regions. The region is home to the Skeleton Coast Park and many conservancies. Erongo is one of the central regions in Namibia with a size of 105,185 square kilometres, with vegetation ranging from open savanna around Karibib, to lush vegetation and massive bright red sandstone cliffs.

There is generally an absence of fences in most parts of the Erongo Region. This makes livestock farming easier which means that both wild and domestic animals can move widely in many places, migrating from areas of poor grazing to other places with more abundant pastures.

#### 4.2 Climatic Conditions

#### 4.2.1 Temperature

In the proposed area, the hot season lasts for 5 months, from September to January, with an average daily high temperature above 30°C. The hottest month of the year in Karibib is November. The cool season lasts for 2 months, from June to July, with an average daily high temperature below 20°C. The coldest month of the year in Karibib is July.



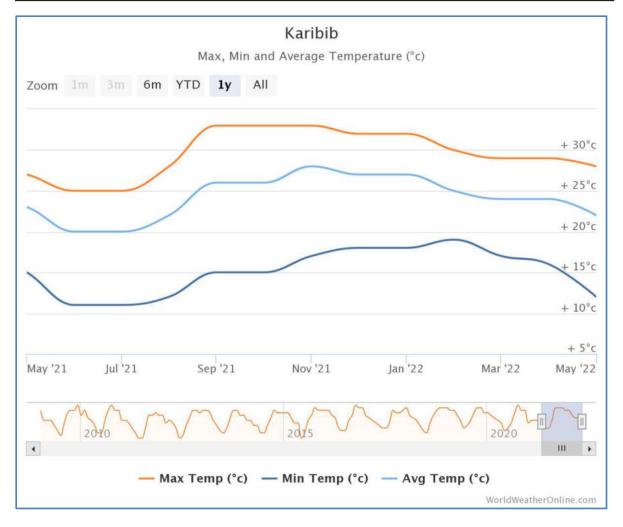


Figure 6 A graph showing the temperature patterns in Karibib, from www.worldweatheronline.com

## 4.2.2 Precipitation

In the proposed area the rainy period of the year lasts for 5 months, from December to April. The highest rainfall is usually experienced in February which may reach 50 mm with average rainfall days of 7. In January months, rain-fall may reach about 35 mm with average rainfall days. The graph below shows the rainfall patterns in the area.



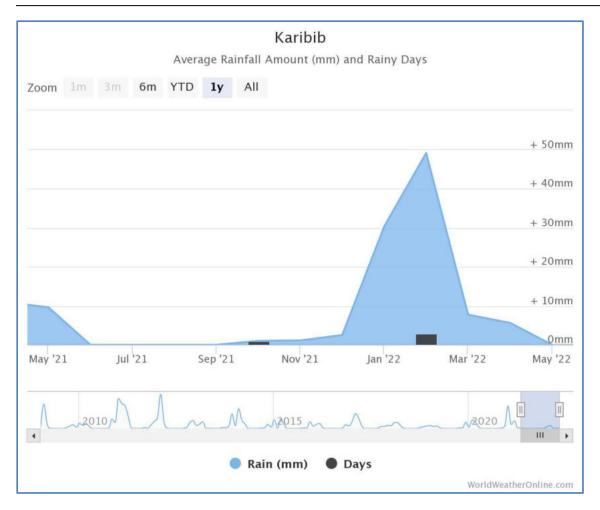


Figure 7 A graph showing rainfall patterns in Karibib, from www.worldweatheronline.com

## 4.2.3 Wind

Predominantly south easterly. Southerly, easterly and northerly airflow is common. The highest wind speeds are experienced in October (+/- 25 km/h).



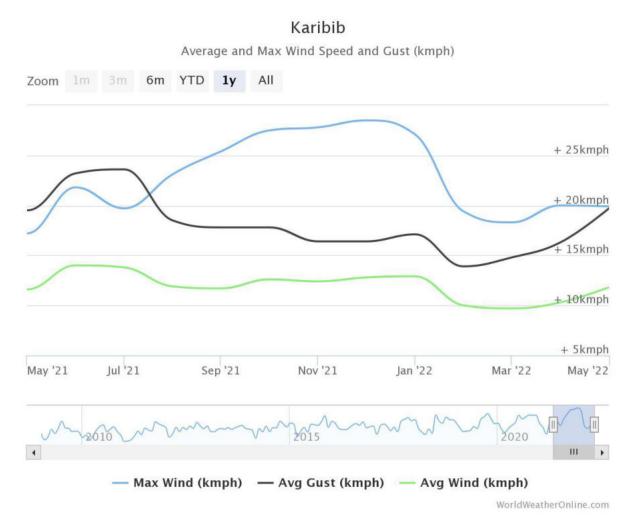


Figure 8 A graph showing windspeed patterns in Karibib, from www.worldweatheronline.com

#### 4.2.4 Humidity

The relative humidity during the least humid month of the year, i.e. September, is around 16-18% and the most humid month is February with 55-60% humidity. Namibia has a low humidity in general, and the lack of moisture in the air has a major impact on its climate by reducing cloud cover and rain and increases the rate of evaporation.



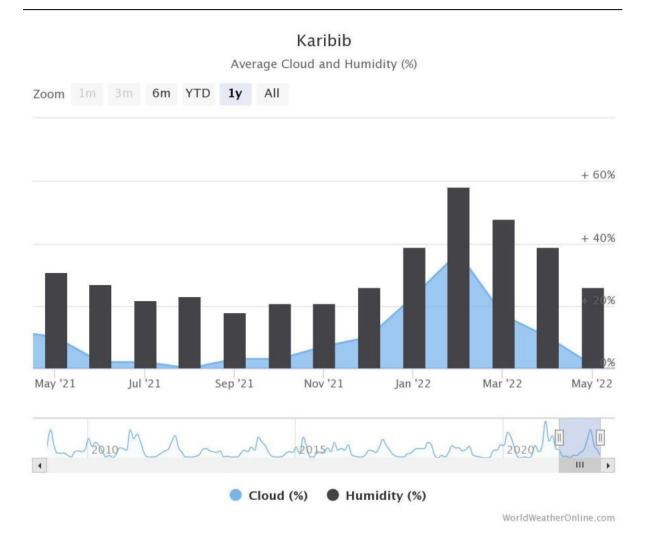


Figure 9 A graph showing the humidity patterns in Karibib, from www.worldweatheronline.com

## 4.2 Air Quality

Activities around the exploration licence area mainly consist of tourism and small-scale livestock farming. Besides other exploration activities, there are no other industries or operating mines in the area or mines in the area. Probable sources of air pollution in the area are emissions and dust from vehicles travelling on gravel roads, dust generated by cattle grazing and wind erosion from the exposed areas.

 $PM_{10}$  describes all particulate matter in the atmosphere with a diameter equal to or less than 10  $\mu$ m and are generally emitted from motor vehicles (diesel engines) and burning of wood.  $PM_{2.5}$  describes all particulate matter in the atmosphere with a diameter equal to or less than 2.5  $\mu$ m and are mostly related to combustion.  $NO_2$  and nitric oxide (NO) are formed simultaneously in combustion processes and other high temperature operations such as blast furnaces. Sources of  $SO_2$  include fossil fuel



combustion from industry and power plants. SO<sub>2</sub> is emitted when coal or other biomass fuels are burnt for energy.

Data from accuweather.com shows that the air quality in the area is generally excellent with an air quality index of 20 AQI. The ground-level ozone (O<sub>3</sub>) is about 20  $\mu$ g/m³ which is fair. The fine particle matter levels (PM <sub>2.5</sub>) are about 9  $\mu$ g/m³. The particle matter (PM<sub>10</sub>) is about 8  $\mu$ g/m³. The nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), and sulphur dioxide (SO<sub>2</sub>) levels in the area are recorded to be 1  $\mu$ g/m³.

## 4.3 Geology

#### 4.3.1 Geological setting

The mineral licence is hosted by rocks within the Southern Central Zone of the Damara Orogen. This terrane comprises mid Proterozoic granitic basement inliers, overlain by metamorphosed late Proterozoic arkoses, shelf carbonates, turbidites and minor volcanic rocks that have been intruded by numerous granites and pegmatites.

Most of the project area is underlain by meta-sedimentary rocks of the Nosib Group meta-arkoses (Etusis Formation) or the stratigraphically younger Swakop Group marine carbonates and meta-turbidites comprising the Arandis Formation (biotite schist, minor quartz schist calc-silicate rock and amphibolite), the Uis Formation (dominantly dolomitic and calcitic marbles with minor calc-silicate) and the overlying Kuiseb Formation (schistose quartz feldspar mica meta-greywacke and meta-pelite). Glaciogenic mixtites of the Chuos and Ghaub Formations have limited exposure in the project area. The Swakop Group sediments have been intruded by a series of syn-, late-syn- and post-tectonic granite and pegmatite bodies.

The project is straddled by the magnetically defined regional scale Abbabis Lineaments. These lineaments are interpreted to be important tectono-stratigraphic boundaries associated with changes in sedimentology, structure and type of granitic intrusion observed in the Damara Orogen and have known association and control with uranium and other forms of mineralization. The structural setting of the Project area is complex with sediments deformed during poly-phase deformation and metamorphosed to upper greenschist-amphibolite facies.



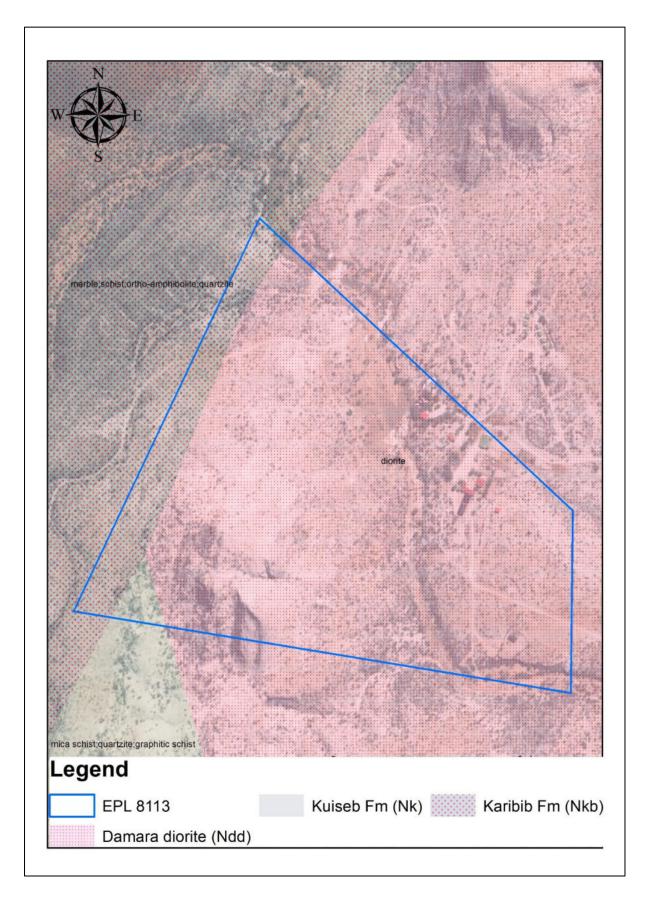
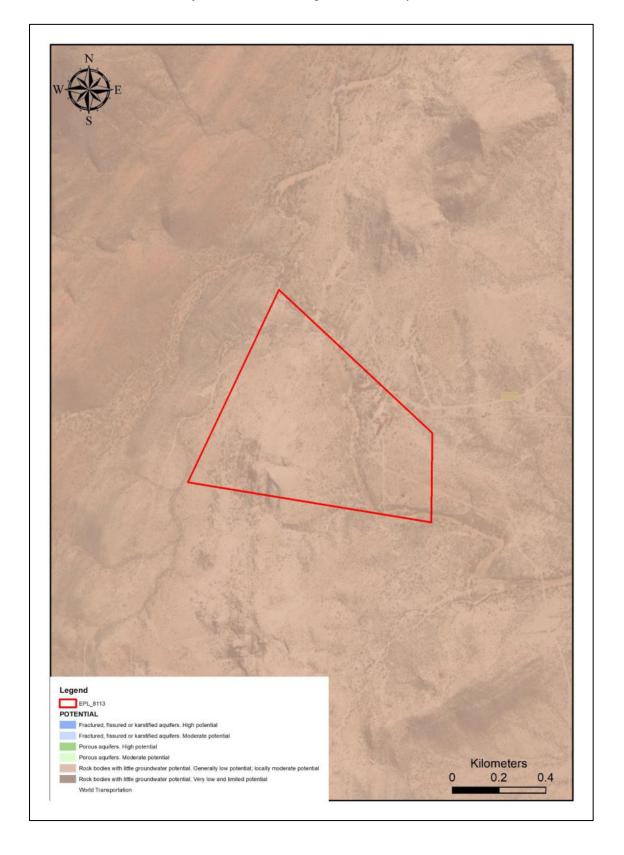


Figure 10 A geological map of the area



## 4.4 Hydrogeology and Water Resources

The area is underlain by rocks with little groundwater potential.





## 4.5 Flora

Rainfall in the Erongo Region is usually both low and extremely variable which means that years of abundant rain often followed by extreme dry conditions (Mendelsohn, et al., 2002). In form, vegetation is generally sparse, with few trees and a thin variety of grass. Plant cover varies in relation to rainfall and so the eastern parts of Erongo have more grass and trees than the Western, coastal areas (Christian, 2005). The surrounding area is characterised by high botanical diversity. Based on the literature review, all the vegetation that are found within the vicinity of the area are of "medium" to "high" sensitivity against external conditions. The growing season is very short due to the semi-arid climate.

Grass is dependable on rainfall, which in-turn causes livestock and other animals to suffer during periods of minimal rainfall (Burke, 2003). The mineral exploration area, which is semi-arid, contains diverse vegetation species which include a number of species endemic to Namibia. Table 1 below lists the different plant species which are most likely to occur within the project area.

Table 1 A table showing plant species which are likely to occur in the area

SCIENTIFIC NAME	COMMON NAME	STATUS IN NAMIBIA
Acacia erioloba	Camel thorn	Protected
Acacia mellifera	Black thorn	Secure
Acacia reficiens	False umbrella thorn	Secure
Acacia haematoxylon	Grey camel thorn	Protected
Acacia erubescens	Blue thorn	Secure
Acacia karroo	Sweet thorn	Secure
Acacia tortolis	Umbrella thorn	Secure
Acacia hereroensis	False hook-thorn	Secure
Commiphora tenuipetiolata	White-stem corkwood	Secure
Aloe littoralis		Protected
Ozoroa crassinervia	Namibian resin tree	Near endemic, protected
Boscia albitrunca	Shepherd's tree	Protected
Albizia anthelmintica	Worm-bark false-thorn	Protected
Ziziphus mucronata	Buffalo-thorn	Protected
Catophractes alexandri	Trumpet thorn	Secure
Combretum apiculatum	Red bush willow	Secure
Commiphora dinteri		Endemic
Commiphora glandulosa	Tall common corkwood	Secure
Commiphora glaucescens	Blue-leaved corkwood	Nearendemic
Croton gratissimus	Lavender fever-berry Secure	
Cyphostemma bainesii		Endemic, protected



Dichrostachys cinerea	Sickle bush	Secure
Diospyros lycioides	Blue bush	Secure
Dombeya rotundifolia	Common wild pear	Endemic
Ehretia alba		Secure
Elephantorrhiza suffruticosa		Secure
Euclea pseudebenus	Ebony tree	Protected
Euclea undulata	Common guarri	Secure
Euphorbia guerichiana	Western woody milk bush	Secure
Euphorbia virosa		Secure
Ficus cordata	Namaqua fig	Protected
Ficus ilicina	Laurel fig	Secure
Ficus sycomorus	Common cluster fig	Protected
Grewia bicolor	White raisin	Secure
Grewia flava	Velvet raisin	Secure
Grewia flavescens	Sand paper raisin	Secure
Gymnosporia senegalensis	Red spike-thorn	Secure
Ipomoea adenioides		Secure
Lycium bosciifolium		Secure
Lycium cinereum		Secure
Lycium eenii		Secure
Lycium hirsutum		Secure
Lycium villosum		Secure
Maerua juncea		Secure
Maerua schinzii	Ringwood tree	Protected
Manuleopsis dinteri		Endemic
Melianthus comosus		Secure
Obetia carruthersiana		Near endemic
Pechuel-Loeschea leubnitziae		Secure
Sterculia africana	African star-chestnut	Protected
Tarchonanthus camphoratus		Secure
Tetragonia schenckii		Secure
Vernonia cinerascens		Secure
Searsia (Rhus) ciliata		Secure
Searsia (Rhus) lancea	Karree	Protected
Searsia (Rhus) marlothii		Secure

The density of vegetation in the vicinity of the mineral exploration site is sparse. Every effort will be made to protect the existing trees and schrubs, as these are very important to the ambience and visual appeal of the mineral exploration site. A vegetation expert will be consulted throughout the lifecycle of the mineral exploration program. The protected plant species in the project area are shown in the table below.



Table 2 Table of plant species which are protected under the Forestry Act and likely to occur in the area.

SCIENTIFIC NAME	COMMON NAME
Acacia erioloba	Camel thorn
Acacia haematoxylon	Grey camel thorn
Albizia anthelmintica	Worm-bark false-thorn
Boscia albitrunca	Shepherd's tree
Euclea pseudebenus	Ebony tree
Ficus cordata	Namaqua fig
Ficus sycomorus	Common cluster fig
Maerua schinzii	Ringwood tree
Ozoroa crassinervia	Namibian resin tree
Searsia (Rhus lancea)	Karree
Sterculia Africana	African star-chestnut

#### 4.6 Fauna

#### 4.6.1 Introduction

The information is based on a detailed literature review and a site visit which was carried out. The purpose of the Fauna literature review is to identify all potential amphibians, reptiles, and mammals expected on the project area and the surrounding farms in the vicinity of the mineral exploration area. The proposed mineral exploration area supports numerous faunal species but there are no species that are exclusive to the study area.

Larger types of animals such as zebras, giraffes, lions and elephants are rare in this area. There are no species which are exclusively endemic to the exploration area. Based on literature review, development of a mineral exploration project in the area will not have a negative impact on any of the species in the project area.

#### 4.6.2 Amphibians

Based on the literature review, there are generally 14 types of amphibian species that occur in project area. Nine of these amphibian species occur abundantly, two occur rarely and six of them occur uncommonly. Griffin (1998) highlighted that amphibian species are declining throughout the world due to various factors such as climate



change and habitat destruction. There are approximately 4000 species of amphibians worldwide of which over 200 species are present in Southern Africa and 57 in Namibia (Griffin, 1998). However, this low figure may be due to the lack of detailed studies carried out on amphibians. The table below shows the different amphibian species that are likely to occur within the study area.

Table 3 A list of amphibian species which may occur in the project area

SCIENTIFIC NAME	COMMON NAME	STATUS	OCCURRENCE	REFERENCE
PLATANNAS				
Xenopus laevis	COMMON PLATANNA	SECURE	ABUNDANTLY	(Daudin, 1802)
TOADS				
Breviceps adspersus	BUSHVELD RAIN FROG	SECURE	ABUNDANTLY	Peters, 1882
Bufo dombensis	DOMBE DWARF TOAD	ENDEMIC & INADEQUETLY KNOWN	ABUNDANTLY	Bocage, 1895
Bufo poweri	MOTTLED TOAD	SECURE	ABUNDANTLY	Hewitt, 1935
FOSSORIAL FROGS	S			
Phrynomantis affinis	SPOTTED RUBBER FROG	AMBIGUOUS (RARE?)	RARELY	(Boulenger, 1901)
Phrynomantis bifasciatus	BANDED RUBBER FROG	SECURE	ABUNDANTLY	(Smith, 1848)
SAND FROGS, BUL	LFROGS, RIDGED FI	ROGS, CACOS, P	UDDLE FROGS e	tc.
Cacosternum boettgeri	COMMON CACO	SECURE	ABUNDANTLY	(Boulenger, 1882)
Hildebrandtia ornata	ORNATE FROG	SECURE	UNCOMMONLY	(Peters, 1878)
Phrynobatrachus mababiensis	MABABE PUDDLE FROG	SECURE	UNCOMMONLY	FitzSimons, 1932
Phrynobatrachus natalensis	SNORING PUDDLE FROG	SECURE	UNCOMMONLY	(A. Smith, 1849)
Pyxicephalus adspersus	GIANT BULLFROG	SECURE	ABUNDANTLY	Tschudi, 1838
Tomopterna krugerensis	KNOCKING SAND FROG	SECURE	RARELY	Passmore et al, 1975
Tomopterna tandyi	TANDY'S SAND FROG-	SECURE	ABUNDANTLY	Channing et al, 1996



TREE FROGS, REE	D FROGS & KASSIN	AS				
Kassina senegalensis	BUBBLING KASSINA	SECURE	ABUNDANTLY	(Dumèril 1841)	et	al,

#### 4.6.3 Mammals

Based on the literature review, there are generally about 68 species of mammals expected to occur within the immediate area. There are generally 25 species which rarely occur, 2 species that occur seasonally, 4 that occur occasionally, and 33 that occur abundantly within the project area. Considering the relative size of the mineral exploration area, the mammal fauna will not be affected by the mineral exploration activities of the proponent. Namibia is seemingly well endowed with mammal diversity with around 250 species know to be present within the country (Griffin, 1998). There are currently 14 mammal species which are considered to be endemic to Namibia, including 11 species of rodents and small carnivores which are not well known. Griffin (1998), points out that most of these endemic mammals are associated with the Namib and Escarpment with 60% of these appearing to be rock-dwelling species. The author, Griffin (1998) further highlights that the endemic mammal fauna is best characterized by the endemic rodent family Petromuridae (Dassie rat) and the rodent genera Gerbillurus and Petromyscus. The table below shows the mammal species which are likely to occur within the study area. A full list, of mammal species that are likely to occur within the area, is in the appendix section at the end.

Table 4 Mammal species which are likely to occur within the project area.

SCIENTIFIC NAME	COMMON NAME
Acinonyx jubatus	Cheetah
Antidorcas marsupialis	Springbok
Atelerix frontalis angolae	Southern African Hedgehog
Canis mesomelas	Black-backed Jackal
Caracal caracal	Caracal
Crocuta crocuta	Spotted Hyena
Cynictis penicillata	Yellow Mongoose
Equus zebra hartmannae	Hartmann's Mountain Zebra
Felis nigripes	Black-footed Cat
Felis silvestris/lybica	African Wild Cat
Galerella sanguinea	Slender Mongoose
Genetta genetta	Small Spotted Genet
Ictonyx striatus	Striped Polecat
Lepus capensis	Cape Hare Secure



Lepus saxatilis	Scrub Hare
· · · · · · · · · · · · · · · · · · ·	
Manis temminckii	Ground Pangolin
Mellivora capensis	Honey Badger/Ratel
Oreotragus oreotragus	Klipspringer
Oryx gazella	Gemsbok
Otocyon megalotis	Bat-eared Fox
Panthera pardus	Leopard
Parahyaena (Hyaena) brunnea	Brown Hyena
Phacochoerus africanus	Common Warthog
Proteles cristatus	Aardwolf
Raphicerus campestris	Steenbok
Suricata suricatta marjoriae	Suricate
Sylvicapra grimmia	Common Duiker
Tragelaphus strepsiceros	Greater Kudu
Vulpes chama	Cape Fox

# 4.6.4 Reptiles

The literature review showed that there are approximately 60 reptile species that are expected to occur in the site area. According to the Namibia Conservation Ordinance of 1975, there are four reptile species protected, namely:

Table 5 Protected reptile species in the project area

SCIENTIFIC NAME	COMMON NAME	STATUS
Psammobates Oculiferus	Kalahari Tent Tortoise	Protected
Python Natalis	Southern African Python	Protected
Geochelone Pardalis	Leopard Tortoise	Protected
Varanus Albigularis	Veld Leguaan	Protected

Griffin (1998) highlighted the presence of 261 species of reptiles which are present in Namibia. These reptiles make up 30% of the reptile species found on the continent. 55 species of Namibian Lizards are classified as endemic (Griffin, 1998). The author, Griffin (1998), describes that more than 60% of the reptiles found in Namibia are protected by the conservation Ordinance. Although mineral exploration activities do affect reptile habitat, the project will not have any significant impact on the reptile species within the proposed mineral exploration area. Namibia, with 129 species of lizards, has one of the continent's richest lizard Fauna. The table in the appendix shows the reptile species which are likely to occur within the vicinity of the mineral exploration area.



# 4.7 Avifauna (Birds)

Simmons et al (2003) points that although Namibia's Avifauna is comperatively sparse compared to the high rainfall equatorial areas elsewhere in Africa, approximately 658 species have already been recorded with a diverse unique group of arid endemics. There are approximately 650 species of birds that have been recorded in Namibia, although the country's avifauna is comparatively sparse compared to the high rainfall equatorial areas in Africa (Brown & Lawson, 1989). Brown et al (1989) mentions that 14 species of birds are endemic or near endemic to Namibia with the majority of Namibian endemics occurring in the Savannah of which ten species occur in a north-south belt of dry Savannah in Central Namibia. Simmons (2003) recorded 63 species of birds within the vicinity of the project area. 650 bird species are recorded in Namibia, of which 160 species are present in area, especially after good rains fall (Christian, 2005). These birds consist of raptors, chats, larks and karoid species. Christian (2005) recorded the presence of the following bird species in the vicinity of the area, which include:

Table 6 Bird scpecies which are likely to occur within the site area.

SCIENTIFIC NAME	COMMON NAME
Agapornis roseicollis	Rosy-faced Lovebird
Eupodotis rueppellii	Rüppell's Korhaan
Lanioturdus torquatus	White-tailed Shrike
Parus carpi	Carp's Tit
Phoeniculus damarensis	Violet Wood-Hoopoe
Poicephalus rueppellii	Rüppell's Parrot
Pternistis hartlaubi	Hartlaub's Spurfowl
Tockus damarensis	Damara Hornbil
Tockus monteiri	Monteiro's Hornbill

A full list of bird species within the area is shown in the appendix.

# 4.8 Archaeology and Heritage Sites

A separate archaeological study is attached to this report.



## 4.9 Socio-Economic Environment

## 4.9.1 Demographics of Karibib

Karibib is a town situated in the Erongo Region of Namibia. It is located in the western parts of the country and has a total population of approximately 4 000 inhabitants. This town is situated on the Khan River halfway between Windhoek and Swakopmund. The town of Karibib was established in 1909.

This town is well-known for its aragonite marble quarries and gold mining activities. In 2008 the Karibib Airport was used as a base for the Namibian Air Force and the town is connected to the TransNamib Railway Network.

#### 4.9.2 Social Economic Impact

Although a few people (including farmers) and animals might be negatively affected by dust and noise, the explorer will ensure that these aspects are properly mitigated. With the potential employment of 15 people, this means that 15 families will benefit from the project during the exploration phase. The project has great potential to improve livelihoods and contribute to sustainable development within the surrounding community. Community meetings will be held from time to time by the proponent wherever possible, with the purpose of effectively communicating with the local community and to avoid any unexpected social impacts.



# 5. Assessment of Impacts

The purpose of this assessments of impacts section is to identify and consider the most pertinent environmental impacts and to provide possible mitigation measures that are expected from the mineral exploration activities on EPL 8113. Two different phases are associated with the proposed development. Firstly, the target generation (mapping and sampling) phase, and secondly the drilling phase are being covered by this assessment. Should the mineral exploration activities cease in the future, an EIA will need to be conducted to deal with the associated changes to environment. Mitigation measures for the identified impacts are also provided in this Section.

The following assessment methodology was used to examine each impact identified:

Table 7 Assessment methodology used to examine the impacts identified

Evaluation Criteria	Symbol	Significance of Rating
Nature of impact:	P or N	Effect the proposed activity would have on the affected environment which is positive $(P)$ or negative $(N)$
Extent of impact:	0	On-Site (the site and it's immediate surrounds)
	L	Local (Mineral exploration Area)
	R	Regional (Erongo Region)
	N	National (Namibia)
	I	International
Duration of impact:	SD	Short Duration (0 to 5 years)
	MD	Medium Duration (5 to 15 years)
	LD	Long Duration (lifetime of the development)
Intensity of impact:	L	<b>Low</b> intensity where the natural, cultural and social functions and processes are not affected.
	M	<b>Medium</b> intensity where the affected environment is altered but natural, cultural and social functions and processes can continue.
	Н	<b>High</b> intensity where the affected environment is altered to the extent that natural, cultural and social functions and processes will temporarily or permanently cease.
Probability of impact:	LP	<b>Low probability</b> is when the possibility of the impact occurring is low.
	Р	<b>Probable</b> is when there is a distinct possibility that it will occur.
	HP	<b>Highly probable</b> is when the impact is most likely to occur.
	D	Definite where the impact will occur.
Significance of Impact: Further subdivided into impacts with mitigation (MM) measures and impacts with no mitigation measures (NMM).	L	Low Significance is when natural, cultural, social and economic functions and processes are not affected. If the impacts are adverse, mitigation is either easily achieved or little will be required, or both. If impacts are beneficial, alternative means of achieving this benefit are likely to be easier, cheaper, more effective and less time=consuming



M	<b>Medium Significance</b> is when the affected environment is altered but natural, cultural, social and economic functions and processes can continue. An impact exists but is not substantial in relation to other impacts that might take effect within the bounds of those that could occur. In the case of beneficial impacts, other means of achieving this benefit are about equal in time, cost and effort.
Н	High Significance is when the affected environment is altered to the extent that natural, cultural, social and economic functions and processes will temporarily or permanently cease. If impacts are adverse, there is no possible mitigation that could offset the impact, or mitigation is difficult, expensive, time consuming or a combination of these. In the case of beneficial impacts, the impact is of a Substantial order within the bounds of impacts that could occur.

#### 5.1. Overall socio-economic benefits and issues

#### 5.1.1. Socio-economic benefits

With the potential employment of 15 people, this means that 15 families will benefit from the project during the exploration phase. The project has great potential to improve livelihoods and contribute to sustainable development within the surrounding community. Community meetings will be held from time to time by the proponent wherever possible, with the purpose of effectively communicating with the local community and to avoid any unexpected social impacts.

#### 5.1.1.1. Potential Direct Benefits

**Direct capital investment:** The mineral exploration project will require a significant capital investment of at least N\$ 10 million. This will be used for mapping, sampling and drilling.

**Stimulation of skills transfer:** Due to the nature of mineral exploration projects, the proponent will implement ad-hoc training programme for some of its staff members. Training programmes will be well structured and staff members will permanently benefit from these training programmes.

**Job creation:** With the potential employment of 15 people, this means that 10 families will benefit from the project during the on-going phase. The project has a great potential to improve livelihoods and contribute to sustainable development within the surrounding community.



#### 5.1.1.2. Potential Indirect Benefits

- The data generated from the exploration programme will be made available to the Ministry of Mines and Energy for future research purposes.
- General enhancement of the health conditions and quality of life for a few people in the surrounding settlements.
- Of significance is the prospect of diversification of the surrounding economy, which is presently mainly focussed on small-scale farming and small-scale mining of semi-precious stones.

#### 5.1.1.3. General socio-economic concerns

Notwithstanding the above benefits there are a few concerns that could reduce or counteract the above benefits related to the project, as follows:

- As the movement of staff and contractors to and from the area increases, the risk of spread of HIV/AIDS increases.
- Increased influx of people to the area as people come in search of job opportunities during the target generation and drilling phase of the mineral exploration project; and
- Increased informal settlement and associated problems.

#### Table 8 Impact evaluation for socio-economy

Identified	Signif	gnificance Duration E		Extent Intensity		Probability	
Impact	NMM	MM					
Increased spread of HIV/AIDS	М	L	LD	N	M	LP	
Increased influx of people to the area	L	L	SD	L	L	Р	
Increased informal settlement in the area	М	L	MD	L	L	LP	

# 5.2. Mineral Exploration phases and associated issues

## 5.2.1. Mapping and Geochemical Sampling Phase of the Project

The following potential effects on the environment during the target generation phase of the mineral exploration project have been identified:



#### 5.2.1.1. Dust

Dust may be generated during this phase and might be aggravated during the winter months when strong winds occur. Dust will be generated by the vehicles moving in the area. Fall out dust settling on vegetation is likely to cause local disruptions in herbivorous and predatory complexes and should be minimised as far as possible.

#### 5.2.1.2. Noise

Noise will most likely be generated by vehicles during the target generation phase. It is recommended that vehicle movement be limited to normal daytime hours to allow nocturnal animals to roam freely at night.

## 5.2.1.3. Safety and Security

During mapping and sampling, small tools and equipment will be used on site. This increases the possibility of injuries and the responsible manager must ensure that all staff members are briefed about the potential risks of injuries on site. The manager is further advised to ensure that adequate emergency facilities, including first aid kits, are available on site. All Health and Safety standards specified in the Labour Act should be complied with.

Should a camp be necessary at a later stage, it should be in such a way that it does not pose a risk to the community members and wildlife that roam the area.

#### 5.2.1.4. Visual

The proposed exploration area is situated more than 1 km from any main road. As such, any visual impact that might be caused by the exploration team are minimal. In some parts of the area, the topography of the mineral exploration site is slightly elevated.

Table 9 Impact evaluation for the target generation phase of the project

Identified	Signif	icance	Duration	Extent	Intensity	Probability
Impact	NMM	ММ				
Dust	L	L	SD	L	L	Р
Noise	М	L	SD	L	М	D
Safety & Security	L	L	SD	0	L	Р
Visual	L	L	MD	0	L	LP



# 5.2.2. Drilling Phase of the Project

During the operation phase of the project, a few holes will be drilled into the orebody. To conveniently refuelling company vehicles without driving long distances, a small portable fuel storage tank will be brought on site.

#### **5.2.2.1. Air Quality**

In terms of air quality, emissions will be given off by 4x4 vehicles and the drill rig but not to an extent that warrants concern. Dust will also be produced by the drill rig and the movement of vehicles in the area.

## 5.2.2.2. Fire and Explosion Hazard

Hydrocarbons are volatile under certain conditions and their vapours in specific concentrations are flammable. If precautions are not taken to prevent their ignition, fire and subsequent safety risks may arise.

All fuel storage and handling facilities in Namibia must however comply with strict safety distances as prescribed by SANS 10089. SANS 10089 is adopted by the Ministry of Mines and Energy as the national standard.

It must further be assured that enough water is available for fire firefighting purposes. In addition to this, all personnel must be sensitised about responsible fire protection measures and good housekeeping such as the removal of flammable materials including rubbish, dry vegetation, and hydrocarbon-soaked soil from the vicinity of the exploration area. Regular inspections should be carried out to inspect and test firefighting equipment and pollution control materials at the drilling site.

All fire precautions and fire control at the site must be in accordance with SANS 10089-1:1999, or better. A holistic fire protection and prevention plan is needed.

Experience has shown that the best chance to rapidly put out a major fire, is in the first 5 minutes. It is important to recognise that a responsive fire prevention plan does not solely include the availability of firefighting equipment, but more importantly, it involves premeditated measures and activities to timeously prevent, curb and avoid conditions that may result in fires. An integrated fire prevention plan should be drafted before drilling.



#### 5.2.2.3. Generation of Waste

Solid waste be generated from contractors, staff members and other visitors to the area. Care should be taken when handling waste material.

The types of waste that could be generated during operation include hazardous industrial waste (e.g. lubricants), general industrial waste (e.g. scrap material), and domestic waste (e.g. packaging). The waste will be temporarily handled and stored on site before being removed for final disposal at permitted waste disposal facilities. A registered Waste Management Company would be contracted to remove all hazardous waste from the exploration site. Ablution facilities will use chemical toilets and/or sealed septic tanks and the sewerage taken to the Karibib periodically. No waste will be discharged on site.

## 5.2.2.4. Health and Safety

The drilling programme operations can cause serious health and safety risks to workers on site. Occupational exposures are normally related to the dermal contact with fuels and inhalation of fuel vapours during handling of such products. For this reason, adequate measures must be brought in place to ensure safety of staff on site, and includes:

- Proper training of operators;
- First aid treatment:
- Medical assistance;
- Emergency treatment;
- Prevention of inhalation of fumes;
- Protective clothing, footwear, gloves and belts; safety goggles and shields;
- Manuals and training regarding the correct handling of materials and packages should be in place and updated as new or updated material safety data sheets becomes available;
- And Monitoring should be carried out on a regular basis, including accident reports.

#### 5.2.2.5. Fauna

Mineral exploration activities may have minor disturbances on the habitat of a few



species but no significant impacts on the animals are expected. The proponent shall ensure that no animal shall be captured, killed or harmed by any of the employees in any way. Wildlife poaching will strongly be avoided as this is an offence and anyone caught infringing in this regard will face suspension from the project and will be liable for prosecution.

# 5.2.2.6. Vegetation

The natural vegetation is seemingly undisturbed in the project area except for grasses, which have been grazed by livestock and wild animals. Some vegetation species in the area may be adversely impacted by the project. The type of vegetation that might be affected by the project are:

- Bushes
- Ephemeral grasses
- Small trees

Some of the sensitive vegetation types in the area include:

- Shallow drainage line vegetation
- Scrublands surrounding the mineral exploration area

Certain species regarded as particularly important for conservation may yet be identified and made known via an Addendum to this report. If particularly important species are found, they will be located by GPS and their locations communicated to the Ministry of Environment and Tourism. Such locations will then be demarcated and completely avoided.

#### **5.2.2.7.** Avifauna

Birds or Nest sites will not be disturbed by any employee, tourist or contractor. Should the employees observe any bird nesting sites for vultures, they will be reported to the Ministry of Environment and Tourism and the site will be avoided.

#### 5.2.2.8. Alien Invasive Plants

Disturbance to the natural environment often encourages the establishment of alien



invasive weed species. Some of the plant species that could become invasive in the area are listed below:

- Prosopis glandulosa
- Lantana camara
- Cyperus esculentus
- Opuntia imbricate
- Cereus jamacara
- Melia azedarach

There are numerous ways in which invasive species can be introduced deliberately or unintentionally.

## 5.2.2.9 Heritage Impacts

Although no archaeological sites have been identified yet in the project area, appropriate measures will be undertaken upon discovering any new archaeological sites. All archaeological remains are protected under the National Heritage Act (2004) and will not be destroyed, disturbed or removed. The Act also requires that any archaeological finds be reported to the Heritage Council Windhoek.

Table 10 Impact evaluation for the operational phase of the project

Identified	Signif	icance	Duration	Extent	Intensity	Probability
Impact	NMM	MM				
Air Quality	М	L	LD	L	М	HP
Fire & Explosion Hazard	Н	М	SD	0	M	LP
Generation of waste	М	L	LD	0	L	D
Health and Safety	Н	М	MD	N	L	Р
Fauna	М	L	MD	L	М	D
Vegetation	М	L	MD	L	M	D
Avifauna	М	L	MD	L	М	LP
Alien Invasive Plants	М	L	MD	L	M	Р
Heritage	M	L	LD	0	Н	LP

#### **5.2.2.10 Groundwater Impacts**

Mineral exploration activities may affect the availability of water and the quality thereof. exploration works may affect the water availability for deep rooted trees in riverbeds. Surface water for animals may be affected by mineral exploration activities. In rare



instances, the quality of the groundwater for water consumption may be compromised by mineral exploration activities.



# 6. Environmental Management Plan

#### 6.1 Overview

This Environmental Management Plan is intended to give effect to the recommendations of the Environmental Impact Assessment. To achieve this goal, it is essential that all personnel involved on the mineral exploration are fully aware of the environmental issues and the means to avoid or minimize the potential impacts of activities on site. The proposed mineral exploration activities are summarized in Section 3 of the scoping report above. Legal and policy requirements are well known and understood by the proponent, its employees and contractors and will be strictly enforced by its management team. A general description of the environment is contained in Section 4, and more site-specific information on particularly sensitive areas is contained in Section 4 as well. Issues and concerns identified in the EIA will form a set of environmental specifications that will be implemented on site. It is the intention that these environmental specifications should form the basis for an agreement between the proponent and the Ministry of Environment and Tourism. By virtue of that agreement, these specifications will become binding on the proponent.

Environmental management requires a joint effort on the part of all parties involved. The proponent has assigned certain roles to ensure that all players fulfil their responsibilities in this regard.

# 6.2 Environmental Management Principles

The proponent will ensure that all parties involved in the project uphold the following broad aims:

- 1. All persons will be required to conduct all their activities in a manner that is environmentally and socially responsible. This includes all consultants, contractors, and sub-contractors, transport drivers, guests and anyone entering the exploration areas in connection with the mineral exploration project.
- 2. Health, Safety and Social Well Being
- Safeguard the health and safety of project personnel and the public against potential impacts of the project. This includes issues of road safety, precautions against natural dangers on site, and radiation hazards; and,



Promote good relationships with the local authorities and their staff.

# 3. Biophysical Environment

- Wise use and conservation of environmental resources, giving due consideration to the use of resources by present and future generations.
- Prevent or minimise environmental impacts.
- Prevent air, water, and soil pollution, Biodiversity conservation and Due respect for the purpose and sanctity of the area.

To achieve these aims, the following principles need to be upheld.

# A. Commitment and Accountability:

The proponent's senior executives and line managers will be held responsible and accountable for:

Health and safety of site personnel while on duty, including while travelling to and from site in company vehicles and environmental impacts caused by mineral exploration activities or by personnel engaged in the mineral exploration activities, including any recreational activities carried out by personnel in the area.

## B. Competence

The proponent will ensure a competent work force through appropriate selection, training, and awareness in all safety, health and environmental matters.

#### C. Risk Assessment, Prevention and Control

Identify, assess and prioritise potential environmental risks. Prevent or minimize priority risks through careful planning and design, allocation of financial resources, management and workplace procedures. Intervene promptly in the event of adverse impacts arising.

#### D. Performance and Evaluation



Set appropriate objectives and performance indicators. Comply with all laws, regulations, policies and the environmental specifications. Implement regular monitoring and reporting of compliance with these requirements.

#### E. Stakeholder Consultation

Create and maintain opportunities for constructive consultations with employees, authorities, other interested or affected parties. Seek to achieve open exchange of information and mutual understanding in matters of common concern.

#### F. Continual Improvement

Through continual evaluation, feedbacks, and innovation, seek to improve performance about social health and well-being and environmental management throughout the lifespan of the mineral exploration project.

# G. Financial Provisions for Mineral exploration

In line with Namibia's environmental rehabilitation policy, the proponent will make the necessary financial provision for compliance with the EMP.

## 6.3 Impacts on the Bio-physical Environment

#### 6.3.1 Impacts on Archaeological Sites

The **nature of impact** is outlined below:

- Potential damage to archaeological sites as a result of vehicle tracks, footprints and actions of contractors, employees and visitors of the mineral exploration site.
- As the mitigation measures below are fully enforced, any impact will be significantly reduced compared to with present situation.

## Mitigation Measures to be enforced:

- Buffer zones will be created around the sites.
- Adhere to practical guidelines provided by an archaeologist to reduce the archaeological impact of mineral exploration activities.



- All archaeological sites to be identified and protected before further exploration commences.
- Notices/information boards will be placed on sites.
- Training employees regarding the protection of these sites.

# **Methods for monitoring:**

 An archaeologist will inspect any identified archaeological sites before commencing with the mineral exploration activities.

#### 6.3.2 Impacts on Fauna

# The **nature of impact** is outlined below:

- Movement of vehicles in and out of the site.
- Noise produced by moving earth-moving equipment.

## **Mitigation Measures** to be enforced:

- Some habitat areas such as trees of the riverbeds and tunnels outcrops will be avoided wherever possible.
- A fauna survey will be conducted to determine the effect of fragmented habitat on game species should the need arise.
- No animals shall be killed, captured or harmed in any way.
- No foodstuff will be left lying around as these will attract animals which might result in human-animal conflict.
- Care will be taken to ensure that no litter is lying around as these may end up being ingested by wild animals
- No animals shall be fed. This allows animals to lose their natural fear of humans, which may result in dangerous encounters.

#### **Methods for monitoring:**

Regular monitoring of any unusual signs of animal habitat.



#### 6.3.3 Impacts on Avifauna

Birds or Nest sites will not be disturbed by any employee, visitor or contractor.

# 6.3.4 Impact on Vegetation

## The **nature of impact** is outlined below:

- Negative impacts on plants from trenching, compacting and removal of plants.
- Negative Impact from movement of vehicles and the movement of people around the site.
- Negative impacts from land-clearing and mineral exploration operations.

# **Mitigation Measures** to be enforced:

- Environmental considerations will always be adhered to before clearing roads, trenching and excavating.
- Paths and roads will be aligned to avoid root zones. Permeable materials will be used wherever possible.
- The movement of vehicles in riverbeds, rocky outcrops and vegetation sensitive areas will be avoided.
- The movement of vehicles will be restricted to certain tracks only.
- Areas with species of concern will be avoided.
- Ministry of Environment and Tourism will be informed of any protected species which will be transplanted in consultation with MET.

## 6.3.5 Impacts of Alien invasive Plants

#### The **nature of impact** is outlined below:

- Plant or seed material may adhere to car tyres or animals
- Seed or plant material may be imported to site in building materials if the source is contaminated.
- Seeds may blow from debris removed at sites.



# Mitigation Measures to be enforced:

- The explorer will ensure that debris is properly disposed of.
- Vehicle tyre inspections can be carried out although this may not be a practical mitigation measure.
- Eradicating alien plants by using an Area Management Plan

# **Methods for monitoring:**

Regular monitoring of any unusual signs of alien species.

# 6.3.6 Impacts on Socio-Economic

#### The **nature of impact** is outlined below:

- Impact from loss of grazing for domestic livestock in "exclusive use zone"
- Impacts on cultural and spiritual values.
- Demographic factors: Attraction of additional population that cannot benefit from the project.
- Perception of Health and Safety risks associated with mineral exploration.

## **Mitigation Measures** to be enforced:

- The population change can be mitigated by employing people from the local community and encouraging the contractors to employ local individuals.
- The perception of risks will be mitigated by putting up safety signs wherever possible and ensuring that all employees and visitors to the site undergo a safety induction course.

#### **Methods for monitoring:**

Public meetings will be held by the proponent whenever necessary.

#### 6.3.7 Visual Impacts

The **nature of impact** is outlined below:



Tracks and damaged vegetation caused by the mineral exploration vehicles.

# Mitigation Measures to be enforced:

• Environmental considerations will be adhered to at all times before clearing roads, trenching and excavating.

#### **Methods for monitoring:**

Employees will be trained on the importance of minimising visual impacts.

#### 6.3.8 Use of Natural Resources

Water and electricity are very scarce in Namibia. During the exploration, best international practices will be considered as a minimum standard for operation. The bulk of the power supply to the exploration site will be sourced from the proponent's own generator. The proponent will maximise water recycling opportunities wherever possible.

#### 6.3.9 Generation of Solid Waste

Correct management of solid waste will involve a commitment to the full waste life cycle by all the employees and contractors of the site. The Proponent's goal is to avoid the generation of solid waste in the first place and if not possible, to minimise the volumes generated by looking at technologies that promote longevity and recycling of products. Ideally, the proponent should transport solid waste to a registered site for disposal. However, it is not certain if such facilities are available in the area or if they have the capacity to handle large increases in volume. Appropriate on-site facilities will be designed to store large volumes of waste.

#### 6.3.10 Noise

The **nature of impact** is outlined below:

- Movement of people, and vehicles.
- Noise may be generated from an airborne geophysical survey which may be carried out at a later stage.

## Mitigation Measures to be enforced:



 Disturbance to fauna that roam the area will be minimized by training the employees on ways to minimise noise.

# 6.3.11 Air Quality

## The **nature of impact** is outlined below:

• Dust from movement of people, vehicles and earth-moving machinery. Emissions from vehicles and drill rigs as well.

# **Mitigation Measures** to be enforced:

- All staff on should be equipped with dosimeters that measure exposure levels to radiation.
- All staff must be made aware of the health risk and obliged to wear dust masks.

# 6.4 Summary of Environmental Management Plan during construction, operation and decommissioning phases

	Construction/Initial Phase		
Environmental Impact	Proposed mitigation measures	Responsibility	Monitoring plan
Air pollution	<ul> <li>Control speed and operation of construction vehicles.</li> <li>Prohibit idling of vehicles.</li> <li>Maintenance of vehicles and equipment.</li> <li>Sensitize field exploration workers and contractors.</li> <li>Workers should be provided with dust masks if working in sensitive areas.</li> </ul>	Site Manager	Amount of dust produced.     Level of Landscaping carried out.
Noise pollution	<ul> <li>Maintain equipment and vehicles.</li> <li>Field work should only be carried out only during daytime i.e. 08h00 to 17h00.</li> <li>Workers should wear earmuffs if working in noisy section.</li> <li>Management to ensure that noise is kept within reasonable levels.</li> </ul>	Management	Amount of noise
Solid waste	<ul> <li>Any debris should be collected by a waste collection company</li> <li>If trenches are dug, waste should be re-used or backfilled.</li> <li>The site should have waste receptacles with bulk storage facilities at convenient points to prevent littering during exploration.</li> </ul>	-	Presence of well- Maintained receptacles and central collection point.



Oil leaks and spills	<ul> <li>Vehicles and equipment should be well maintained to prevent oil leaks.</li> <li>Contractor should have a designated area where</li> </ul>	Contractor	No oil spills and leaks on the
	<ul><li>maintenance is carried out and that is protected from rainwater.</li><li>All oil products should be handled carefully.</li></ul>		site
First aid	A well-stocked first aid kit shall be maintained by qualified personnel	Management	Contents of the first aid kit.
Visual	Environmental considerations will be adhered to at all times before clearing roads, trenching and excavating.	Management	Employees will be trained on the importance of minimising visual impacts.
Archaeological Sites	<ul> <li>Buffer zones will be created around the sites.</li> <li>Adhere to practical guidelines provided by an archaeologist to reduce the archaeological impact of mineral exploration activities.</li> <li>All archaeological sites to be identified and protected before further exploration commences.</li> </ul>	Management	Register of all archaeological sites identified.
Occupation al Health and Safety	<ul> <li>Provide Personal Protective Equipment Train workers on personal safety and how to handle equipment and machines.</li> <li>A well-stocked first aid kit shall be maintained by qualified personnel.</li> <li>Report any accidents / incidences and treat and Compensate affected workers.</li> <li>Provide sufficient and suitable sanitary conveniences which should be kept clean.</li> </ul>	Contractor     Management	Workers using Protective Equipment.     Presence of Well stocked First Aid Box.     Clean sanitary facilities.
Fauna	<ul> <li>Some habitat areas such as trees of the riverbeds and tunnels outcrops will be avoided wherever possible.</li> <li>A fauna survey will be conducted to determine the effect of fragmented habitat on game species should the need arise.</li> <li>No animals shall be killed, captured or harmed in any way.</li> <li>No foodstuff will be left lying around as these will attract animals which might result in human-animal conflict.</li> </ul>	Management	Regular monitoring of any unusual signs of animal habitat.
Alien Invasive Plants	<ul> <li>The explorer will ensure that debris is properly disposed off.</li> <li>Vehicle tyre inspections can be carried out although this may not be a practical mitigation measure.</li> <li>Eradicating alien plants by using an Area Management Plan</li> </ul>	Management     Contractor	Regular monitoring of any unusual signs of alien species.
Loss of vegetation	<ul> <li>Environmental considerations will be adhered to at all times before clearing roads, trenching and excavating.</li> <li>Paths and roads will be aligned to avoid root zones. Permeable materials will be used wherever possible.</li> <li>The movement of vehicles in riverbeds, rocky outcrops and vegetation sensitive areas will be avoided.</li> <li>The movement of vehicles will be restricted to certain tracks only.</li> </ul>	Contractor     Management	Warning signs on site     restored vegetation
	Operational Phase		



Environmental/	Proposed mitigation measures	Responsibility	Monitoring plan
Social Impact			
Noise pollution	<ul> <li>Maintain vehicles and drilling equipment.</li> <li>Exploration drilling should be carried out only during daytime.</li> <li>Workers to wear earmuffs if working in noisy section</li> <li>Management to ensure that noise is kept within reasonable levels.</li> </ul>		Amount of noise
Visual	Environmental considerations will be adhered to at all times before clearing roads, trenching and excavating.	Management	Employees will be trained on the importance of minimising visual impacts.
Fauna	<ul> <li>Some habitat areas such as trees of the riverbeds and tunnels outcrops will be avoided wherever possible.</li> <li>A fauna survey will be conducted to determine the effect of fragmented habitat on game species should the need arise.</li> <li>No animals shall be killed, captured or harmed in any way.</li> <li>No foodstuff will be left lying around as these will attract animals which might result in human-animal conflict.</li> </ul>	Management	<ul> <li>Regular monitoring of any unusual signs of animal habitat.</li> </ul>
Alien Invasive Plants	<ul> <li>The explorer will ensure that debris is properly disposed of.</li> <li>Vehicle tyre inspections can be carried out although this may not be a practical mitigation measure.</li> <li>Eradicating alien plants by using an Area Management Plan</li> </ul>	Management     Contractor	Regular monitoring of any unusual signs of alien species.
Loss of vegetation	<ul> <li>Environmental considerations will be adhered to at all times before clearing roads, trenching and excavating.</li> <li>Paths and roads will be aligned to avoid root zones. Permeable materials will be used wherever possible.</li> <li>The movement of vehicles in riverbeds, rocky outcrops and vegetation sensitive areas will be avoided.</li> <li>The movement of vehicles will be restricted to certain tracks only.</li> </ul>		<ul> <li>Warning signs on site</li> <li>restored vegetation</li> </ul>
Solid waste	<ul> <li>Minimize solid waste generated on site.</li> <li>Recycle waste especially waste from trenching.</li> <li>Debris should be collected by waste collection company.</li> <li>Excavation waste should be re-used or backfilled.</li> </ul>	Contractor     Management	Amount of waste on Site     Presence of well-     Maintained receptacles and central collection point.
Oil leaks and spills	<ul> <li>Machinery should be well maintained to prevent oil leaks.</li> <li>Contractor should have a designated area where maintenance is carried out and that is protected from rainwater.</li> <li>All oil products should be stored in a site store and handled carefully.</li> </ul>		No oil spills and leaks on the site.



Archaeological Sites	<ul> <li>Buffer zones will be created around the sites.</li> <li>Adhere to practical guidelines provided by an archaeologist to reduce the archaeological impact of mineral exploration activities.</li> <li>All archaeological sites to be identified and protected before further exploration commences.</li> </ul>	Management	Update     Register of all     archaeologic     al sites     identified.
First aid	A well-stocked first aid kit shall be maintained by qualified personnel	Management	<ul> <li>Contents of the first aid kit.</li> </ul>
Fire preparedness	<ul> <li>Firefighting drills carried out regularly.</li> <li>Firefighting emergency response plan.</li> <li>Ensure all firefighting equipment are regularly maintained, serviced and inspected.</li> <li>Fire hazard signs and directions to emergency exit, route to follow and assembly point in case of any fire incidence.</li> </ul>		<ul> <li>Number of fire drills carried.</li> <li>Proof of inspection on firefighting equipment.</li> <li>Fire Signs put up in strategic places.</li> <li>Availability of firefighting equipment.</li> </ul>
Environment Health and Safety	<ul> <li>Train workers on personal safety and disaster preparedness.</li> <li>A well-stocked first aid kit shall be maintained by qualified personnel.</li> <li>Report any accidents / incidences and treat and compensate affected workers.</li> <li>Provide sufficient and suitable sanitary conveniences which should be kept clean.</li> <li>Conduct Annual Health and Safety Audits.</li> </ul>	Management	<ul> <li>Provide sanitary facilities.</li> <li>Copies of Annual Audit</li> </ul>
	Decommissioning Phase		
Environmental/ Social Impact	Proposed mitigation measures	Responsibility	Monitoring plan/indicator
Noise & Air pollution	<ul> <li>Maintain plant equipment.</li> <li>Decommissioning works to be carried out only during daytime.</li> <li>Workers working in noisy section to wear earmuffs.</li> <li>Workers should be provided with dust masks.</li> </ul>	Contractor     Management	Amount of noise
Disturbed Physical environment	Undertake a complete environmental restoration programme and introducing appropriate vegetation	Management	
Solid waste	<ul> <li>Solid waste should be collected by a contracted waste collection company</li> <li>Excavation waste should be re-used or backfilled.</li> </ul>	Contractor     Management	Amount of waste on     Site.     Presence of well-maintained receptacles and central collection point.



Occupational Health and Safety	<ul> <li>handle equipment and machines.</li> <li>A well-stocked first aid kit shall be maintained by qualified personnel.</li> </ul>	Workers using Protective Equipment.     Presence of a First Aid Box.
	<ul> <li>Demarcate area under decommissioning.</li> </ul>	

# 6.5 Monitoring, Auditing and Reporting

# 6.5.1 Inspections and Audits

During the life of the project, performance against the EMP commitments will need to be monitored, and corrective action taken where necessary, in order to ensure compliance with the EMP and relevant enviro-legal requirements.

#### 6.5.1.1 Internal Inspections/Audits

The following internal compliance monitoring programme will be implemented:

- 1. Project kick-off and close-out audits will be conducted on all contractors. This applies to all phases, including drilling contract work during operations:
  - Prior to a contractor beginning work, an audit will be conducted by the applicable phase site manager to ensure that the EMP commitments are included in Contractors' standard operating procedures (SOPs) and method statements.
  - Following completion of a Contractors work, a final close-out audit of the contractor's performance against the EMP commitments will be conducted by the applicable phase site manager.
- 2. Monthly internal EMP performance audits will be conducted during the construction/initial and decommissioning phases.
- 3. Ad hoc internal inspections can be implemented by the applicable phase exploration manager at his/her discretion, or in follow-up to recommendations from previous inspection/audit findings.

#### 6.5.1.2 External Audits

 At the close of each project phase, and annually during the operational phase, an independently conducted audit of EMP performance will be conducted.



- Specialist monitoring/auditing may be required where specialist expertise are required or in order to respond to grievances or authorities directives.
- Officials from the DEA may at any time conduct a compliance and/or performance inspection of mineral exploration operations. The proponent will be provided with a written report of the findings of the inspection. These audits assist with the continual improvement of the exploration project and the proponent will use such feedback to help improve its overall operations.

#### 6.5.1.3 Documentation

Records of all inspections/audits and monitoring reports will be kept in line with legislation. Actions will be issued on inspection/audit findings. These will be tracked and closed out.

#### 6.5.1.4 Reporting

Environmental compliance reports will be submitted to the Ministry of Environment and Tourism on a bi-annual basis.

#### 6.5.2 Environmental Management System Framework

In order implement Environmental Management Practices, an Environmental Management System (EMS) will be established and implemented by the proponent and their Contractors. This subchapter establishes the framework for the compilation of a project EMS. The applicable exploration manager will maintain a paper based and/or electronic system of all environmental management documentation. These will be divided into the following main categories:

#### 6.5.2.1 Policy and Performance Standards

A draft environmental policy and associated objective, goals and commitments has been included in the EMP. The mineral explorer may adapt these as necessary.

# 6.5.2.2 Enviro-Legal Documentation

A copy of the approved environmental assessment and EMP documentation will always be available by the proponent. Copies of the Environment Clearance Certificate and all other associated authorisations and permits will also be kept with



the exploration team. In addition, a register of the legislation and regulations applicable to the project will be maintained and updated as necessary.

## 6.5.2.3 Impact Aspect Register

A register of all project aspects that could impact the environment, including an assessment of these impacts and relevant management measures, is to be maintained. This Draft EMP identifies the foreseeable project aspects and related potential impacts of the proposed project, and as such forms the basis for the Aspect-Impact Register; with the Project Activity. It is however noted that during the life of the project additional project aspects and related impacts may arise which would need to be captured in the Aspect-Impact Register. In this regard, the impact identification principles set forth in the scoping report can be used to update the Register. This method can be modified as required by the applicable exploration manager as necessary during the life of the project.

#### 6.5.2.3 Procedures and Method Statements

In order to affect the commitments contained in this EMP, procedures and method statements will be drafted by the relevant responsible mineral exploration staff and Contractors. These include, but may not be limited:

- Standard operating procedures for environmental action plan and management programme execution.
- Incident and emergency response procedures.
- Auditing, monitoring and reporting procedures, and
- Method statements for EMP compliance for ad hoc activities not directly addressed in the EMP action plans.

All procedures are to be version controlled and signed off by the applicable exploration manager. In addition, knowledge of procedures by relevant staff responsible for the execution thereof must be demonstrable and training records maintained.

#### 6.5.2.4 Register of Roles and Responsibilities

During project planning and risk assessments, relevant roles and responsibilities will be determined. These must be documented in a register of all environmental



commitment roles and responsibilities. The register is to include relevant contact details and must be updated as required.

#### 6.5.2.5 Site Map

An up to date map of the exploration site indicating all project activities is to be maintained. In addition to the project layout, the following detail must be depicted:

- Materials handling and storage;
- Waste management areas (collection, storage, transfer, etc.);
- Sensitive areas;
- Incident and emergency equipment locations; and Location of responsible parties.

# 6.5.2.6 Environmental Management Schedule

A schedule of environmental management actions is to be maintained by the applicable phase site managers and/or relevant Contractors. A master schedule of all such activities is to be kept up to date by the exploration manager. Scheduled environmental actions can include, but are not limited to:

- Environmental risk assessment;
- Environmental management meetings;
- Soil handling, management and rehabilitation;
- Waste collection
- Incident and emergency response equipment evaluations and maintenance
- Environmental training;
- Stakeholder engagement; Environmental inspections; and
- Auditing, monitoring and reporting.



# 6.5.2.7 Change Management

The EMS must have a procedure in place for change management. In this regard, updating and revision of environmental documentation, of procedures and method statements, actions plants etc. will be conducted as necessary in order to account for the following scenarios:

- Changes to standard operating procedures (SOPs);
- Changes in scope;
- Ad hoc actions;
- Changes in project phase; and
- Changes in responsibilities or roles

All documentation will be version controlled and require sign off by the applicable phase site managers.

#### 6.6 Closure Plan

The closure vision for the proposed project is to establish a safe, stable and non-polluting post-prospecting landscape that can facilitate integrated, self-sustaining and value generating opportunities, thereby leave a lasting positive legacy. The aim of the closure plan is to:

- Creating a safe, physically stable rehabilitated landscape that limits long-term erosion potential and environmental degradation.
- Sustaining long term catchment yield and water quality.
- Focusing on establishing a functional post-prospecting landscape that enables self-sustaining agricultural practices where possible.
- To encourage, where appropriate, the re-instatement of terrestrial and aquatic wetland biodiversity

#### 6.6.1 Alternatives Considered

Considering that this is an exploration project, the proposed project is not complex, and the risks associated with prospecting are understood and can be mitigated at



closure. Alternative options for closure are limited. There are only two options that have been considered as activity alternatives for the closure plan:

- Preferred Alternative: Closure or Backfill of boreholes with overburden removed during drilling.
- Alternative 2: To Leave boreholes open, in-order to allow for groundwater recharge by surface run-off.

#### 6.6.2 Preferred Alternative: Rehabilitation/ Backfill of boreholes

Rehabilitation is the restoration of a disturbed area that has been degraded as a result of activities such as mining, road construction or waste disposal, to a land use in conformity with the original land use before the activity started. This also includes aesthetical considerations, so that a disturbed area will not be visibly different to the natural environment. This also involves maintaining physical, chemical and biological ecosystem processes in degraded environments, hence the preferred option of backfilling the boreholes with the overburden removed during development and cover with growth medium to establish vegetation. This option has several advantages as discussed below:

#### Advantages:

- The site will be aesthetically acceptable;
- The site will blend in with the environment;
- The site will be a suitable habitat for fauna and flora again.
- The site will be safe and pollution free;
- Revegetating the site will ensure that the site in non-erodible.

Opting for alternative 1, which is to leave boreholes without backfilling poses a risk in that, these boreholes may fill in with water, which may become attractive to wildlife and communities leading to drowning and the risk of being trapped in the declines. To mitigate these risks, it is necessary to backfill. Treatment technologies should be used to prevent decanting.



# 6.6.3 Closure Assumptions

This closure plan has been developed based on limited available information including environmental data. Some of the information currently available may need to be supplemented during the operational period. Therefore, several assumptions were made about general conditions, and closure and rehabilitation of the facilities at the site to develop the proposed closure actions. As additional information is collected during operations, these assumptions will be reviewed and revised as appropriate.

The assumptions used to prepare this plan include the following:

- The closure period will commence once the last planned weight of minerals has been extracted from the site for laboratory testing.
- The proposed prospecting sites will be adhered to minimise the potential impacts.
- Vegetation establishment will be in line with a project area's indigenous vegetation.
- Water management infrastructure developed for the operational phase will be retained for closure /end of the life of the project as necessary.
- There are limited opportunities for any infrastructure to be built on site and if any infrastructure is built, it will be of limited benefit to the community.
   Therefore, all buildings will be demolished.
- All hazardous and domestic waste will be transported offsite for disposal in licensed landfills.
- No roads are anticipated to be constructed to access the site; existing roads
  will be used as far as possible. Where access tracks have been developed in
  cases where there are no roads, these will be rehabilitated and closed as part
  of normal closure actions.

#### 6.6.4 Closure and Rehabilitation Activities

The rehabilitation actions intended to be undertaken at the end of the life of the proposed prospecting activities are described below.



#### 6.6.4.1 Infrastructure

All infrastructures will be decommissioned, and the footprints rehabilitated for the establishment of vegetation. Material inventories will be managed near the end of prospecting activities to minimize any surplus materials at closure. Where practicable, equipment and materials with value not needed for post-closure operations will be sold and or removed from the site. Equipment with scrap or salvage value will be removed from the site and sold to recyclers.

A soil contamination investigation will be conducted on completion of demolition activities. The purpose of this is to identify areas of possible contamination and design and implement appropriate remedial measures to ensure that the soil contaminants are removed. Closure actions will include:

- All power and water services to be disconnected and certified as safe prior to commencement of any decommissioning works;
- All remaining inert equipment and decommissioning waste will be disposed to the nearest licensed general waste disposal facility;
- Salvageable equipment will be removed and transported offsite prior and during decommissioning;
- All tanks, pipes and sumps containing hydrocarbons to be flushed or emptied prior to removal to ensure no hydrocarbon/chemical residue remains;

#### 6.6.4.2 Boreholes

Closure of boreholes will entail backfilling with overburden stripped ahead of prospecting activities. All overburden should be replaced into the void and the final surface reshaped to simulate surrounding topography while ensuring that the surface is free draining.

Once backfilling is complete a growth medium cover will be placed, and vegetation will be established. There may be a requirement to include sacrificial erosion protection measures on the surface while vegetation is being established.



#### 6.6.4.3 Roads

Existing roads will be used as far as possible. Closure actions concerning roads and parking areas will include:

- Removal of all signage, fencing, shade structures, traffic barriers, etc.
- All 'hard top' surfaces to be ripped along with any concrete structures.
- All potentially contaminated soils are to be identified and demarcated for later remediation; and
- All haul routes that have been treated with saline dust suppression water need to be treated, with the upper surface ripped and removed to designated contaminant disposal areas.

#### 6.6.4.4 Remediation of Contaminated Areas

All soil, contaminated with hydrocarbons, will be identified, excavated, if possible, to at least 200 mm below the contaminated zone and then treated.

- All tanks, pipes and sumps containing hydrocarbons will be flushed or emptied.
- Removed soils will be managed as determined by the nature and extent of the contamination.
- Liquid storage tanks will be emptied, the structure removed/demolished and sub-surface holes filled; and
- All equipment in which chemicals have been stored or transported will be cleaned and disposed of in a suitable disposal facility.

#### 6.6.4.5 Vegetation

Successful revegetation will help control erosion of soil resources, maintain soil productivity and reduce sediment loading in streams utilizing non-invasive plants that fit the criteria of the habitat (e.g. soils, water availability, slope and other appropriate environmental factors). Invasive species will be avoided, and the area will be managed to control the spread of these species.

To counter the effects of erosion, naturally occurring grassland species will be planted on slopes. These species will provide soil holding capacity and reduce runoff velocity.



The flatter areas will be re-vegetated with the objective of creating a sustainable ecosystem. The occurrence of protected plant species will need to be determined before vegetation is removed and the required permits will be obtained for either destruction or relocation.

### 6.6.4.6 Waste Management

Waste management activities will include:

- Hazardous waste will be managed handled, classified and disposed.
- Non-hazardous will be disposed in the nearby licensed landfill site;
- Scrap and waste steel will be sold to recyclers.
- It may be necessary to fence temporary salvage yards for security reasons, particularly where these are located close to public roads.



## 7. Public Participation Process

The public participation process commenced with newspaper advertisements in two widely distributed newspapers for two consecutive weeks as shown in Appendix B.

Known interested and affected parties were notified directly via mail and fax.

The registered interested and affected are indicated in the table below:

Table 11 Registered IAP's from various organs of state.

Name	Position	Organization
Teofillus Nghitila	Executive Director	Ministry of Environment and Tourism
Timoteus Mufeti	Environmental Commissioner	Ministry of Environment and Tourism
Maria Amakali	Director: Water Resources Management	Ministry of Agriculture, Water and Land Reform
E. Shivolo	Mining Commissioner	Min. of M&E - Mining Commissioner

#### Registered IAP's and Summary of Issues Raised

Name	Farm	email	Tel	Comments	Response
Michael Noelle	Etusis	mnoelle@englinglaw.com.na	064- 550826	We as Etusis and Habis is not happy about all the mining as you  Are destroying nature and is taking grazing fields away from our wildlife.  The papers you send is also not clear for Viewing.  For further negotiations please work FRO the next person.	Thank you for your email. Your comments are well received and we will note them.



#### 8. Conclusion

The scoping report is prepared for the Environmental Impact Assessment for mineral exploration on an area which is located about 27 km southwest of Karibib, accessible along the C32 road. Environmental scoping is a critical step in the preparation of an EIA for the proposed mineral exploration activities

Basically, mineral exploration is relatively unsophisticated and rudimentary. The methods that will be employed are mainly target generation, target drilling, resource evaluation and mineral resource definition.

With the potential employment of 15 people, this means that 15 families will benefit from the project during the exploration phase. The project has great potential to improve livelihoods and contribute to sustainable development within the surrounding community.

At this stage, electricity requirements for the project are minimal. The bulk of the power supply to the exploration site will be sourced from the proponent's own generator.

The potential negative impacts associated with the proposed mineral exploration project are expected to be low to medium in significance. Provided that the relevant mitigation measures are successfully implemented by the proponent, there are no environmental reasons why the proposed project should not be approved. The project will have significant positive economic impacts that would benefit the local, regional and national economy of Namibia.

Several other potential impacts have been addressed in Section 5 and 6 of this EIA, and will be managed through the implementation of the EMP.

The EMP contains a set of Environmental Specifications that will form part of all contracts between the proponent and contractors such as lubrication companies. The requirements of the EMP will be enforced on site by the Management team, and periodic environmental audits will be undertaken and submitted to MET.

This EIA has been subject to a few limitations, which are explained as follows: -

• the time available in which to secure an environmental contract with the authorities; and,



The limited botanical work done to date did not raise any concerns but will be monitored on an on-going basis. If any "special" species of plants are found, these will be located by GPS. An addendum will then be added to the EMP to indicate localities that should be avoided, or to implement other appropriate measures about any special plants.



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# Appendix A

Eidolon helvum  STRAW-COLORED FRUIT BAT  Nycteris thebaica  COMMON SLIT-FACED BAT  SECURE  Taphozous mauritianus  RÜPPELL'S HORSESHOE BAT  Rhinolophus fumigatus  RÜPPELL'S HORSESHOE BAT  Rhinolophus darlingi  DARLING'S HORSESHOE BAT  Rhinolophus denti  DENT'S HORSESHOE BAT  SECURE  Rhinolophus denti  DENT'S HORSESHOE BAT  SECURE  Rhinolophus denti  DENT'S HORSESHOE BAT  SECURE  RHipposideros commersoni  BAT  COMMERSON'S LEAF-NOSED  BAT  SECURE  SUNDEVALL'S LEAF-NOSED  BAT  SECURE  MIDAS FREE-TAILED BAT  SECURE  MIDAS FREE-TAILED BAT  SECURE  Miniopterus inflatus  GREATER LONG-FINGERED  BAT  SECURE  Miniopterus schreibersi  Neoromicia capensis  ALOE SEROTINE BAT  SECURE  Neoromicia zuluensis  ALOE SEROTINE BAT  SECURE  Nycticeinops schlieffenii  SCHLIEFFEN'S BAT  SECURE  Netlerix frontalis  Atelerix frontalis  AFRICAN YELLOW BAT  AFRICAN HEDGEHOG  Crocidura fuscomurina  TINY MUSK SHREW  SECURE  Crocidura fuscomurina  TINY MUSK SHREW  SECURE  Crocidura hirta  LESSER RED MUSK SHREW  SECURE  Crocidura hirta  LESSER RED MUSK SHREW  SECURE  MINKNOWN,  RARE?  ARRE?  ARRE	SEASONAL ABUNDANTLY SEASONAL OCCASIONALLY OCCASIONALLY OCCASIONALLY ABUNDANTLY RARELY ABUNDANTLY RARELY ABUNDANTLY ABUNDANTLY ABUNDANTLY ABUNDANTLY ABUNDANTLY ABUNDANTLY ABUNDANTLY ABUNDANTLY
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Tadarida aegyptiaca         EGYPTIAN FREE-TAILED BAT         SECURE           Miniopterus inflatus         GREATER LONG-FINGERED BAT         SECURE           Miniopterus schreibersi         SCHREIBERS' LONG-FINGERED BAT         SECURE           Neoromicia capensis         CAPE SEROTINE BAT         SECURE           Neoromicia zuluensis         ALOE SEROTINE BAT         SECURE           Nycticeinops schlieffenii         SCHLIEFFEN'S BAT         SECURE           Scotophilus dingani         AFRICAN YELLOW BAT         SECURE           Scotophilus dingani         AFRICAN YELLOW BAT         SECURE           Atelerix frontalis         SOUTHERN AFRICAN HEDGEHOG         UNKNOWN, RARE?           Crocidura fuscomurina         TINY MUSK SHREW         SECURE           Crocidura hirta         LESSER RED MUSK SHREW         SECURE           Galago moholi         SOUTHERN AFRICAN BABOON         UNKNOWN, RARE?           Papio ursinus         CHACMA BABOON         SECURE           Lepus victoriae         SECURE           Xerus inaurus         CAPE GROUND SQUIRREL         SECURE           Funisciurus congicus         STRIPED TREE SQUIRREL         SECURE           Saccostomus campestris         POUCHED MOUSE         SECURE           Tatera leucogaster         BUSHVELD GERBIL </td <td>ABUNDANTLY  RARELY  ABUNDANTLY  ABUNDANTLY  RARELY  RARELY  ABUNDANTLY  RARELY  RARELY  RARELY</td>	ABUNDANTLY  RARELY  ABUNDANTLY  ABUNDANTLY  RARELY  RARELY  ABUNDANTLY  RARELY  RARELY  RARELY
Miniopterus inflatus  GREATER LONG-FINGERED BAT  Miniopterus schreibersi  Neoromicia capensis  CAPE SEROTINE BAT  SECURE  Neoromicia zuluensis  ALOE SEROTINE BAT  SECURE  Nycticeinops schlieffenii  SCHLIEFFEN'S BAT  SECURE  Secure  Nycticeinops schlieffenii  SCHLIEFFEN'S BAT  SECURE  Secure  Atelerix frontalis  AFRICAN YELLOW BAT  SECURE  SOUTHERN AFRICAN HEDGEHOG  Crocidura fuscomurina  TINY MUSK SHREW  SECURE  Crocidura hirta  LESSER RED MUSK SHREW  SECURE  Galago moholi  SOUTHERN AFRICAN BUSHBABY  Papio ursinus  CHACMA BABOON  SECURE  Xerus inaurus  CAPE GROUND SQUIRREL  SECURE  Funisciurus congicus  STRIPED TREE SQUIRREL  SECURE  Tatera leucogaster  BUSHVELD GERBIL  SECURE  Tatera brantsii  HIGHVELD GERBIL  SECURE  SECURE  Secure  Mus indutus  KALAHARI PYGMY MOUSE  SECURE  Rhabdomys pumilio  SECURE	RARELY  ABUNDANTLY  ABUNDANTLY  RARELY  RARELY  ABUNDANTLY  RARELY  RARELY
Miniopterus inniatus  Miniopterus schreibersi  Miniopterus schreibersi  Neoromicia capensis  CAPE SEROTINE BAT  Neoromicia zuluensis  ALOE SEROTINE BAT  SECURE  Nycticeinops schlieffenii  SCHLIEFFEN'S BAT  SECURE  Scotophilus dingani  AFRICAN YELLOW BAT  Atelerix frontalis  Crocidura fuscomurina  TINY MUSK SHREW  SECURE  Crocidura hirta  LESSER RED MUSK SHREW  SECURE  Galago moholi  SOUTHERN AFRICAN  BUSHBABY  Papio ursinus  CHACMA BABOON  SECURE  Xerus inaurus  CAPE GROUND SQUIRREL  SECURE  Funisciurus congicus  STRIPED TREE SQUIRREL  SECURE  Tatera leucogaster  Tatera leucogaster  Tatera brantsii  HIGHVELD GERBIL  Desmodillus auricularis  Gerbillurus paeba  PYGMY GERBIL  SECURE  Malacothrix typica  Malacothrix typica  Malacothrix typica  Malacothrix punilio  STRIPED MOUSE  SECURE  Malacomys punilio  STRIPED MOUSE  SECURE  Malacomys punilio  STRIPED MOUSE  SECURE  Malacomys punilio  STRIPED MOUSE  SECURE  Mus indutus  KALAHARI PYGMY MOUSE  SECURE  Rhabdomys punilio	ABUNDANTLY ABUNDANTLY RARELY RARELY ABUNDANTLY  RARELY RARELY
Neoromicia capensis  Neoromicia capensis  CAPE SEROTINE BAT  SECURE  Neoromicia zuluensis  ALOE SEROTINE BAT  SECURE  Nycticeinops schlieffenii  SCHLIEFFEN'S BAT  SECURE  Scotophilus dingani  AFRICAN YELLOW BAT  SECURE  Atelerix frontalis  Crocidura fuscomurina  TINY MUSK SHREW  SECURE  Galago moholi  SOUTHERN AFRICAN HEDGEHOG  Crocidura hirta  LESSER RED MUSK SHREW  SECURE  SOUTHERN AFRICAN BUSHBABY  Papio ursinus  CHACMA BABOON  SECURE  Lepus victoriae  Xerus inaurus  CAPE GROUND SQUIRREL  SECURE  Funisciurus congicus  STRIPED TREE SQUIRREL  SECURE  Tatera leucogaster  BUSHVELD GERBIL  Desmodillus auricularis  SHORT-TAILED GERBIL  SECURE  Mus indutus  KALAHARI PYGMY MOUSE  SECURE  Rhabdomys pumilio  STRIPED MOUSE  SECURE	ABUNDANTLY RARELY RARELY ABUNDANTLY RARELY RARELY
Neoromicia zuluensis         ALOE SEROTINE BAT         SECURE           Nycticeinops schlieffenii         SCHLIEFFEN'S BAT         SECURE           Scotophilus dingani         AFRICAN YELLOW BAT         SECURE           Atelerix frontalis         SOUTHERN AFRICAN HEDGEHOG         UNKNOWN, RARE?           Crocidura fuscomurina         TINY MUSK SHREW         SECURE           Crocidura hirta         LESSER RED MUSK SHREW         SECURE           Galago moholi         SOUTHERN AFRICAN BUSK SHREW         UNKNOWN, RARE?           Papio ursinus         CHACMA BABOON         SECURE           Lepus victoriae         SECURE           Xerus inaurus         CAPE GROUND SQUIRREL         SECURE           Funisciurus congicus         STRIPED TREE SQUIRREL         SECURE           Saccostomus campestris         POUCHED MOUSE         SECURE           Tatera leucogaster         BUSHVELD GERBIL         SECURE           Tatera brantsii         HIGHVELD GERBIL         SECURE           Desmodillus auricularis         SHORT-TAILED GERBIL         SECURE           Steatomys pratensis         FAT MOUSE         SECURE           Malacothrix typica         LARGE-EARED MOUSE         SECURE           Mus indutus         KALAHARI PYGMY MOUSE         SECURE      <	RARELY RARELY ABUNDANTLY RARELY RARELY
Nycticeinops schlieffenii         SCHLIEFFEN' S BAT         SECURE           Scotophilus dingani         AFRICAN YELLOW BAT         SECURE           Atelerix frontalis         SOUTHERN AFRICAN HEDGEHOG         UNKNOWN, RARE?           Crocidura fuscomurina         TINY MUSK SHREW         SECURE           Crocidura hirta         LESSER RED MUSK SHREW         SECURE           Galago moholi         SOUTHERN AFRICAN BUNKNOWN, RARE?         UNKNOWN, RARE?           Papio ursinus         CHACMA BABOON         SECURE           Lepus victoriae         SECURE           Xerus inaurus         CAPE GROUND SQUIRREL         SECURE           Funisciurus congicus         STRIPED TREE SQUIRREL         SECURE           Saccostomus campestris         POUCHED MOUSE         SECURE           Tatera leucogaster         BUSHVELD GERBIL         SECURE           Tatera brantsii         HIGHVELD GERBIL         SECURE           Desmodillus auricularis         SHORT-TAILED GERBIL         SECURE           Gerbillurus paeba         PYGMY GERBIL         SECURE           Steatomys pratensis         FAT MOUSE         SECURE           Malacothrix typica         LARGE-EARED MOUSE         SECURE           Mus indutus         KALAHARI PYGMY MOUSE         SECURE <tr< td=""><td>RARELY ABUNDANTLY RARELY RARELY</td></tr<>	RARELY ABUNDANTLY RARELY RARELY
Accotophilus dingani AFRICAN YELLOW BAT SECURE  Atelerix frontalis SOUTHERN AFRICAN HEDGEHOG RARE?  Crocidura fuscomurina TINY MUSK SHREW SECURE  Crocidura hirta LESSER RED MUSK SHREW SECURE  Galago moholi SOUTHERN AFRICAN BUSHBABY RARE?  Papio ursinus CHACMA BABOON SECURE  Lepus victoriae  Xerus inaurus CAPE GROUND SQUIRREL Funisciurus congicus STRIPED TREE SQUIRREL SECURE  Tatera leucogaster BUSHVELD GERBIL SECURE  Tatera brantsii HIGHVELD GERBIL SECURE  Gerbillurus paeba PYGMY GERBIL SECURE  Malacothrix typica LARGE-EARED MOUSE SECURE  Rhabdomys pumilio STRIPED MOUSE SECURE  RECURE  SECURE	ABUNDANTLY  RARELY  RARELY
Atelerix frontalis  SOUTHERN AFRICAN HEDGEHOG  Crocidura fuscomurina  TINY MUSK SHREW  SECURE  Crocidura hirta  LESSER RED MUSK SHREW  SECURE  SOUTHERN AFRICAN BUSHBABY  Papio ursinus  CHACMA BABOON  SECURE  Lepus victoriae  Xerus inaurus  CAPE GROUND SQUIRREL  Funisciurus congicus  STRIPED TREE SQUIRREL  SECURE  Tatera leucogaster  Tatera leucogaster  Tatera brantsii  HIGHVELD GERBIL  Desmodillus auricularis  Gerbillurus paeba  PYGMY GERBIL  SECURE  Malacothrix typica  KALAHARI PYGMY MOUSE  SECURE  Rhabdomys pumilio  SECURE  SECURE  SECURE  UNKNOWN, RARE?  SECURE	RARELY RARELY
Atelerix Irontalis  HEDGEHOG  Crocidura fuscomurina  TINY MUSK SHREW  SECURE  Crocidura hirta  LESSER RED MUSK SHREW  SECURE  SOUTHERN AFRICAN  BUSHBABY  Papio ursinus  CHACMA BABOON  SECURE  Lepus victoriae  Xerus inaurus  CAPE GROUND SQUIRREL  Funisciurus congicus  STRIPED TREE SQUIRREL  SECURE  Tatera leucogaster  Tatera leucogaster  BUSHVELD GERBIL  Desmodillus auricularis  SHORT-TAILED GERBIL  SECURE  SECURE  SECURE  SECURE  SECURE  Tatera brantsii  HIGHVELD GERBIL  SECURE  Gerbillurus paeba  PYGMY GERBIL  SECURE  SECURE  SECURE  SECURE  SECURE  SECURE  Malacothrix typica  LARGE-EARED MOUSE  SECURE  Mus indutus  KALAHARI PYGMY MOUSE  SECURE  Rhabdomys pumilio  STRIPED MOUSE  SECURE  SECURE	RARELY
Crocidura hirta  LESSER RED MUSK SHREW  Galago moholi  BUSHBABY  Papio ursinus  CHACMA BABOON  SECURE  Lepus victoriae  Lepus victoriae  Xerus inaurus  CAPE GROUND SQUIRREL  Funisciurus congicus  STRIPED TREE SQUIRREL  SECURE  Saccostomus campestris  POUCHED MOUSE  SECURE  Tatera leucogaster  Tatera brantsii  HIGHVELD GERBIL  Desmodillus auricularis  SHORT-TAILED GERBIL  SECURE  SECURE  Gerbillurus paeba  PYGMY GERBIL  SECURE  SECURE  SECURE  SECURE  SECURE  SECURE  SECURE  SECURE  Desmodirius auricularis  SHORT-TAILED GERBIL  SECURE  Malacothrix typica  LARGE-EARED MOUSE  SECURE  Mus indutus  KALAHARI PYGMY MOUSE  SECURE  Rhabdomys pumilio  STRIPED MOUSE  SECURE	
SOUTHERN AFRICAN BUSHBABY Papio ursinus CHACMA BABOON SECURE  Lepus victoriae SECURE  Xerus inaurus CAPE GROUND SQUIRREL Funisciurus congicus STRIPED TREE SQUIRREL SECURE  Saccostomus campestris POUCHED MOUSE SECURE  Tatera leucogaster BUSHVELD GERBIL SECURE  Tatera brantsii HIGHVELD GERBIL SECURE  Desmodillus auricularis SHORT-TAILED GERBIL SECURE  Gerbillurus paeba PYGMY GERBIL SECURE  SECURE  SECURE  SECURE  Malacothrix typica LARGE-EARED MOUSE SECURE  Mus indutus KALAHARI PYGMY MOUSE SECURE  Rhabdomys pumilio STRIPED MOUSE SECURE  SECURE	ABUNDANTLY
BUSHBABY Papio ursinus CHACMA BABOON SECURE  Lepus victoriae  Xerus inaurus CAPE GROUND SQUIRREL Funisciurus congicus STRIPED TREE SQUIRREL SECURE Funisciurus campestris POUCHED MOUSE SECURE Tatera leucogaster BUSHVELD GERBIL SECURE Tatera brantsii HIGHVELD GERBIL Desmodillus auricularis SHORT-TAILED GERBIL SECURE Gerbillurus paeba PYGMY GERBIL SECURE Steatomys pratensis FAT MOUSE SECURE Malacothrix typica LARGE-EARED MOUSE SECURE Mus indutus KALAHARI PYGMY MOUSE SECURE Rhabdomys pumilio STRIPED MOUSE SECURE SECURE	
Lepus victoriae  Xerus inaurus  CAPE GROUND SQUIRREL  Funisciurus congicus  STRIPED TREE SQUIRREL  SECURE  Saccostomus campestris  POUCHED MOUSE  SECURE  Tatera leucogaster  BUSHVELD GERBIL  SECURE  Tatera brantsii  HIGHVELD GERBIL  SECURE  Desmodillus auricularis  SHORT-TAILED GERBIL  SECURE  Gerbillurus paeba  PYGMY GERBIL  SECURE  SECURE  SECURE  SECURE  SECURE  Malacothrix typica  LARGE-EARED MOUSE  SECURE  Mus indutus  KALAHARI PYGMY MOUSE  SECURE  Rhabdomys pumilio  STRIPED MOUSE  SECURE	ABUNDANTLY
Xerus inaurus CAPE GROUND SQUIRREL Funisciurus congicus STRIPED TREE SQUIRREL SECURE Saccostomus campestris POUCHED MOUSE SECURE Tatera leucogaster BUSHVELD GERBIL SECURE Tatera brantsii HIGHVELD GERBIL SECURE Desmodillus auricularis SHORT-TAILED GERBIL SECURE Gerbillurus paeba PYGMY GERBIL SECURE Steatomys pratensis FAT MOUSE Malacothrix typica LARGE-EARED MOUSE SECURE Mus indutus KALAHARI PYGMY MOUSE SECURE Rhabdomys pumilio STRIPED MOUSE SECURE	ABUNDANTLY
Xerus inaurus CAPE GROUND SQUIRREL Funisciurus congicus STRIPED TREE SQUIRREL SECURE Saccostomus campestris POUCHED MOUSE SECURE Tatera leucogaster BUSHVELD GERBIL SECURE Tatera brantsii HIGHVELD GERBIL SECURE Desmodillus auricularis SHORT-TAILED GERBIL SECURE Gerbillurus paeba PYGMY GERBIL SECURE Steatomys pratensis FAT MOUSE Malacothrix typica LARGE-EARED MOUSE SECURE Mus indutus KALAHARI PYGMY MOUSE SECURE Rhabdomys pumilio STRIPED MOUSE SECURE	
Funisciurus congicus  STRIPED TREE SQUIRREL  Saccostomus campestris  POUCHED MOUSE  SECURE  Tatera leucogaster  BUSHVELD GERBIL  SECURE  Tatera brantsii  HIGHVELD GERBIL  SECURE  Desmodillus auricularis  SHORT-TAILED GERBIL  SECURE  Gerbillurus paeba  PYGMY GERBIL  SECURE  SECURE  Steatomys pratensis  FAT MOUSE  SECURE  Malacothrix typica  LARGE-EARED MOUSE  Mus indutus  KALAHARI PYGMY MOUSE  SECURE  Rhabdomys pumilio  STRIPED MOUSE  SECURE  SECURE	ABUNDANTLY
Saccostomus campestris       POUCHED MOUSE       SECURE         Tatera leucogaster       BUSHVELD GERBIL       SECURE         Tatera brantsii       HIGHVELD GERBIL       SECURE         Desmodillus auricularis       SHORT-TAILED GERBIL       SECURE         Gerbillurus paeba       PYGMY GERBIL       SECURE         Steatomys pratensis       FAT MOUSE       SECURE         Malacothrix typica       LARGE-EARED MOUSE       SECURE         Mus indutus       KALAHARI PYGMY MOUSE       SECURE         Lemniscomys rosalia       SINGLE-STRIPED MOUSE       SECURE         Rhabdomys pumilio       STRIPED MOUSE       SECURE	ABUNDANTLY
Tatera leucogaster       BUSHVELD GERBIL       SECURE         Tatera brantsii       HIGHVELD GERBIL       SECURE         Desmodillus auricularis       SHORT-TAILED GERBIL       SECURE         Gerbillurus paeba       PYGMY GERBIL       SECURE         Steatomys pratensis       FAT MOUSE       SECURE         Malacothrix typica       LARGE-EARED MOUSE       SECURE         Mus indutus       KALAHARI PYGMY MOUSE       SECURE         Lemniscomys rosalia       SINGLE-STRIPED MOUSE       SECURE         Rhabdomys pumilio       STRIPED MOUSE       SECURE	RARELY
Tatera brantsii       HIGHVELD GERBIL       SECURE         Desmodillus auricularis       SHORT-TAILED GERBIL       SECURE         Gerbillurus paeba       PYGMY GERBIL       SECURE         Steatomys pratensis       FAT MOUSE       SECURE         Malacothrix typica       LARGE-EARED MOUSE       SECURE         Mus indutus       KALAHARI PYGMY MOUSE       SECURE         Lemniscomys rosalia       SINGLE-STRIPED MOUSE       SECURE         Rhabdomys pumilio       STRIPED MOUSE       SECURE	ABUNDANTLY
Desmodillus auricularis       SHORT-TAILED GERBIL       SECURE         Gerbillurus paeba       PYGMY GERBIL       SECURE         Steatomys pratensis       FAT MOUSE       SECURE         Malacothrix typica       LARGE-EARED MOUSE       SECURE         Mus indutus       KALAHARI PYGMY MOUSE       SECURE         Lemniscomys rosalia       SINGLE-STRIPED MOUSE       SECURE         Rhabdomys pumilio       STRIPED MOUSE       SECURE	ABUNDANTLY
Gerbillurus paeba       PYGMY GERBIL       SECURE         Steatomys pratensis       FAT MOUSE       SECURE         Malacothrix typica       LARGE-EARED MOUSE       SECURE         Mus indutus       KALAHARI PYGMY MOUSE       SECURE         Lemniscomys rosalia       SINGLE-STRIPED MOUSE       SECURE         Rhabdomys pumilio       STRIPED MOUSE       SECURE	ABUNDANTLY
Steatomys pratensis       FAT MOUSE       SECURE         Malacothrix typica       LARGE-EARED MOUSE       SECURE         Mus indutus       KALAHARI PYGMY MOUSE       SECURE         Lemniscomys rosalia       SINGLE-STRIPED MOUSE       SECURE         Rhabdomys pumilio       STRIPED MOUSE       SECURE	RARELY
Malacothrix typica       LARGE-EARED MOUSE       SECURE         Mus indutus       KALAHARI PYGMY MOUSE       SECURE         Lemniscomys rosalia       SINGLE-STRIPED MOUSE       SECURE         Rhabdomys pumilio       STRIPED MOUSE       SECURE	ABUNDANTLY
Mus indutus       KALAHARI PYGMY MOUSE       SECURE         Lemniscomys rosalia       SINGLE-STRIPED MOUSE       SECURE         Rhabdomys pumilio       STRIPED MOUSE       SECURE	ABUNDANTLY
Lemniscomys rosalia     SINGLE-STRIPED MOUSE     SECURE       Rhabdomys pumilio     STRIPED MOUSE     SECURE	RARELY
Rhabdomys pumilio STRIPED MOUSE SECURE	ABUNDANTLY
	RARELY
	ABUNDANTLY
Thallomys paedulcus TREE RAT SECURE	ABUNDANTLY
Thallomys nigricauda BLACK-TAILED TREE RAT SECURE	ABUNDANTLY
Aethomys namaquensis NAMAQUA ROCK RAT SECURE	RARELY
Aethomys chrysophilus RED VELD RAT SECURE	ABUNDANTLY
Zelotomys woosnami WOOSNAM'S DESERT RAT RARE	RARELY
Mastomys natalensis NATAL MULTIMAMMATE MOUSE SECURE	
Mastomys coucha MULTIMAMMATE MOUSE SECURE	ABUNDANTLY
Graphiurus murinus WOODLAND DORMOUSE SECURE	ABUNDANTLY ABUNDANTLY
Pedetes capensis SPRINGHARE SECURE	
Hystrix africaeaustralis SOUTHERN AFRICAN PORCUPINE SECURE	ABUNDANTLY
Cryptomys damarensis DAMARA MOLE RAT SECURE	ABUNDANTLY ABUNDANTLY
Felis lybica AFRICAN WILD CAT ENDANGERED & SUPERFICIAL	ABUNDANTLY ABUNDANTLY ABUNDANTLY



Felis nigripes	SMALL - SPOTTED CAT	INDETERMINATE; PERIPHERAL;	
Leptailurus serval	SERVAL	RARE? AMBIGUOUS &	RARELY
Caracal caracal	CARACAL	SUPERFICIAL	RARELY
		SECURE SECURE? &	ABUNDANTLY
Panthera pardus	LEOPARD	SUPERFICIAL AMBIGUOUS(END	RARELY
Panthera leo	LION	AMBIGOOOS(END ANGERED) & SUPERFICIAL	EXTINCT
Acinonyx jubatus	СНЕЕТАН	INADEQUATELY KNOWN (ENDANGERED?) & SUPERFICIAL	ABUNDANTLY
Civettictis civetta	CIVET	AMBIGUOUS, RARE? & SUPERFICIAL	RARELY
Genetta maculata	SMALL-SPOTTED GENET	SECURE – SP (taxonomy)	ABUNDANTLY
Galarella sanguineus	SLENDER MONGOOSE	SECURE	ABUNDANTLY
Helogale parvula	DWARF MONGOOSE	SECURE	ABUNDANTLY
Mungos mungo	BANDED MONGOOSE	SECURE	ABUNDANTLY
Cynictis penicillata	YELLOW MONGOOSE	SECURE	ABUNDANTLY
Crocuta crocuta	SPOTTED HYAENA	SECURE? &	
Orocula crocula	SIGITEDITIALINA	SUPERFICIAL	EXTINCT
Parahyaena brunnea	BROWN HYAENA	INADEQUATELY KNOWN (ENDANGERED?) & SUPERFICIAL	OCCASIONALLY
Proteles cristatus	AARDWOLF	INADEQUATELY KNOWN (ENDANGERED?) & SUPERFICIAL	ABUNDANTLY
Canis mesomelas	BLACK-BACKED JACKAL	SECURE	ABUNDANTLY
Lycaon pictus	WILD DOG	ENDANGERED & SUPERFICIAL	EXTINCT
Otocyon megalotis	BAT-EARED FOX	ENDANGERED? & SUPERFICIAL- SP (taxonomy)	RARELY
Vulpes chama	CAPE FOX	ENDANGERED?	RARELY
Ictonyx striatus	STRIPED POLECAT	SECURE	ABUNDANTLY
Mellivora capensis	HONEY BADGER	SECURE	RARELY
Poecilogale albinucha	AFRICAN STRIPED WEASEL	AMBIGUOUS(RAR	RARELY
Manis temminckii	SAVANNA PANGOLIN	ENDANGERED & SUPERFICIAL	RARELY
Phacochoerus africanus	SOUTHERN WARTHOG	SECURE	ABUNDANTLY
Giraffa camelopardalis	GIRAFFE	ENDANGERED? & SUPERFICIAL	EXTINCT
Alcelaphus buselaphus	RED HARTEBEEST	SECURE ?	ABUNDANTLY
Antidorcas marsupialis	SPRINGBOK	SECURE	
Connochaetes taurinus	BLUE WILDEBEEST	INADEQUATELY KNOWN (ENDANGERED?) & SUPERFICIAL	ABUNDANTLY
Hippotragus equinus	ROAN	ENDANGERED & SUPERFICIAL	ABUNDANTLY
Madoqua damarensis	DAMARA DIK-DIK	INADEQUATELY KNOWN	RARELY
Oryx gazella	GEMSBOK	SECURE	ABUNDANTLY
Raphicerus campestris	STEENBOK	SECURE	ABUNDANTLY
Sylvicapra grimmia	COMMON DUIKER	SECURE	ABUNDANTLY
Syncerus caffer	BUFFALO	INSUFFFICIENTLY KNOWN & SUPERFICIAL	ABUNDANTLY
Tragelaphus oryx	ELAND	INADEQUATELY KNOWN & SUPERFICIAL	ABUNDANTLY
Tragelaphus strepsiceros	GREATER KUDU	SECURE	ABUNDANTLY



Equus burchelli	PLAINS ZEBRA	INADEQUATELY KNOWN & SUPERFICIAL	EXTINCT
Ceratotherium simum	WHITE RHINOCEROS	EXTINCT & REINTRODUCED (non topotypical stock)	EXTINCT
Diceros bicornis	BLACK RHINOCEROS	ENDANGERED & SUPERFICIAL	EXTINCT
Loxodonta africana	AFRICAN ELEPHANT	ENDANGERED & SUPERFICIAL	EXTINCT
Orycteropus afer	AARDVARK	SECURE ?	ABUNDANTLY
Elephantulus intufi	BUSHVELD SENGI	ENDEMIC AND SECURE	ABUNDANTLY

# Reptile species which are likely to occur within the exploration area:

SCIENTIFIC NAME	COMMON NAME	STATUS	OCCURRENCE
Pelomedusa subrufa	HELMETED TERRAPIN	SECURE	ABUNDANTLY
Geochelone pardalis	LEOPARD TORTOISE	ENDANGERED & SUPERFICIAL	ABUNDANTLY
Psammobates oculiferus	KALAHARI TORTOISE	ENDANGERED	ABUNDANTLY
Lygodactylus bradfieldi	NAMIBIAN DWARF GECKO	ENDEMIC & SECURE	ABUNDANTLY
Colopus wahlbergii	KALAHARI GROUND GECKO	SECURE	RARELY
Pachydactylus turneri	TROPICAL BUTTON-SCALE GECKO	SECURE	ABUNDANTLY
Pachydactylus capensis	CAPE GECKO	SECURE	UNCOMMONLY
Pachydactylus punctatus	SPECKLED GECKO	SECURE	ABUNDANTLY
Ptenopus garrulus	COMMON BARKING GECKO	SECURE	ABUNDANTLY
Agama aculeata	COMMON GROUND AGAMA	SECURE	ABUNDANTLY
Chamaeleo dilepis	FLAP-NECK CHAMELEON	SECURE	ABUNDANTLY
Acontias occidentalis	WESTERN LEGLESS SKINK	SECURE	ABUNDANTLY
Lygosoma sundevalli	COMMON WRITHING SKINK	SECURE	ABUNDANTLY
Trachylepis capensis	CAPE SKINK	SECURE	UNCOMMONLY
Trachylepis punctulata	EASTERN VARIEGATED SKINK	SECURE	ABUNDANTLY
Trachylepis wahlbergii	WAHLBERG'S STRIPED SKINK	SECURE	ABUNDANTLY
Trachylepis varia	COMMON VARIABLE SKINK	SECURE	ABUNDANTLY
Heliobolis lugubris	BUSHVELD LIZARD	SECURE	ABUNDANTLY
Ichnotropis capensis	CAPE ROUGH-SCALED LIZARD	SECURE	ABUNDANTLY
Ichnotropis squamulosa	COMMON ROUGH-SCALED LIZARD	SECURE	ABUNDANTLY
Nucras holubi	HOLUB'S SANDVELD LIZARD	SECURE	UNCOMMONLY
Nucras intertexta	SPOTTED SANDVELD LIZARD	SECURE	UNCOMMONLY
Pedioplanis lineoocellata	OCELLATED SAND LIZARD	SECURE	ABUNDANTLY
Pedioplanis namaquensis	NAMAQUA SAND LIZARD	SECURE	ABUNDANTLY
Gerrhosaurus auritus	KALAHARI PLATED LIZARD	SECURE	UNCOMMONLY
Gerrhosaurus nigrolineatus	BLACK-LINED PLATED LIZARD	SECURE	ABUNDANTLY
Varanus albigularis	VELD LEGUAAN (MONITOR)	ENDANGERED & SUPERFICIAL	ABUNDANTLY
Dalophia pistillum	BLUNT-TAILED WORM LIZARD	SECURE ?	MARGINALLY
Monopeltis anchietae	ANGOLAN SPADE-SNOUTED WORM LIZARD	SECURE	ABUNDANTLY
Monopeltis infuscata	DUSKY SPADE-SNOUTED WORM LIZARD	SECURE	ABUNDANTLY
Monopeltis leonhardi	KALAHARI SPADE-SNOUTED WORM LIZARD	SECURE	MARGINALLY
Monopeltis mauricei	SLENDER SPADE-SNOUTED WORM LIZARD	SECURE	MARGINALLY
Zygaspis quadrifrons	KALAHARI ROUND-HEADED WORM LIZARD	SECURE	ABUNDANTLY
Leptotyphlops labialis	DAMARA WORM SNAKE	ENDEMIC & SECURE	MARGINALLY
Leptotyphlops scutifrons	PETERS= WORM SNAKE	SECURE	ABUNDANTLY
Rhinotyphlops schlegelii	SCHLEGEL'S BLIND SNAKE	SECURE	ABUNDANTLY
Rhinotyphlops boylei	KALAHARI BLIND SNAKE	SECURE	RARELY



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Python natalensis	SOUTHERN AFRICAN PYTHON	ENDANGERED & SUPERFICIAL	ABUNDANTLY
Amblyodipsas polylepis	COMMON PURPLE-GLOSSED SNAKE	INADEQUETLY KNOWN; RARE?	RARELY
Amblyodipsas ventrimaculata	KALAHARI PURPLE-GLOSSED SNAKE	SECURE	MARGINALLY
Aparallactus capensis	CAPE CENTIPEDE EATER	INADEQUETLY KNOWN ; RARE?	RARELY
Atractaspis bibronii	SOUTHERN STILLETO SNAKE	SECURE	ABUNDANTLY
Xenocalamus bicolor	VARIABLE QUILL-SNOUTED SNAKE	SECURE	ABUNDANTLY
Xenocalamus mechowii	ELONGATED QUILL-SNOUTED SNAKE	SECURE	MARGINALLY
Crotaphopeltis hotamboeia	WHITE-LIPPED SNAKE	INADEQUETLY KNOWN	RARELY
Dasypeltis scabra	RHOMBIC EGG EATER	SECURE	ABUNDANTLY
Dispholidus typus	BOOMSLANG	SECURE	ABUNDANTLY
Lamprophis fuliginosus	BROWN HOUSE SNAKE	SECURE	ABUNDANTLY
Lycophidion capense	CAPE WOLF SNAKE	SECURE	ABUNDANTLY
Mehelya capensis	CAPE FILE SNAKE	SECURE	UNCOMMONLY
Mehelya nyassae	BLACK FILE SNAKE	INADEQUETLY KNOWN	RARELY
Mehelya vernayi	ANGOLAN FILE SNAKE	INADEQUETLY KNOWN	UNCOMMONLY
Philothamnus angolensis	ANGOLAN GREEN SNAKE	SECURE	UNCOMMONLY
Philothamnus semivariegatus	SPOTTED BUSH SNAKE	SECURE	ABUNDANTLY
Prosymna angolensis	ANGOLA SHOVEL-SNOUT	SECURE	MARGINALLY
Prosymna bivittata	TWIN-STRIPED SHOVELSNOUT	SECURE	MARGINALLY
Psammophis angolensis	DWARF WHIP SNAKE	SECURE	ABUNDANTLY
Psammophis jallae	JALLA'S SAND SNAKE	INADEQUETLY KNOWN	RARELY
Psammophis leopardinus	LEOPARD WHIP SNAKE	ENDEMIC & SECURE	UNCOMMONLY
Psammophis mossambicus	OLIVE WHIP SNAKE	SECURE	ABUNDANTLY
Psammophis notostictus	KAROO WHIP SNAKE	SECURE	MARGINALLY
Psammophis subtaeniatus	WESTERN STRIPED-BELLIED SAND SNAKE	SECURE	ABUNDANTLY
Psammophis trigrammus	WESTERN WHIP SNAKE	ENDEMIC & SECURE	ABUNDANTLY
Psammophis trinasalis	KALAHARI SAND SNAKE	SECURE	UNCOMMONLY
Psammophylax tritaeniatus	STRIPED SKAAPSTEKER	SECURE	ABUNDANTLY
Pseudaspis cana	MOLE SNAKE	SECURE	ABUNDANTLY
Telescopus semiannulatus	SOUTHERN TIGER SNAKE	SECURE	ABUNDANTLY
Thelotornis capensis	VINE SNAKE	SECURE	UNCOMMONLY
Aspidelaps lubricus	CORAL SNAKE	SECURE	UNCOMMONLY
Aspidelaps scutatus	SHIELD-NOSE SNAKE	SECURE	ABUNDANTLY
Dendroaspis polylepis	BLACK MAMBA	SECURE	ABUNDANTLY
Elapsoidea semiannulata	ANGOLA GARTER SNAKE	SECURE	UNCOMMONLY
Elapsoidea sundevallii	KALAHARI GARTER SNAKE	SECURE	UNCOMMONLY
Naja anchietae	ANGOLAN COBRA	SECURE	ABUNDANTLY
Naja mossambica	MOZAMBIQUE SPITTING COBRA	SECURE	RARELY
Naja nigricincta	ZEBRA SNAKE	ENDEMIC & SECURE	ABUNDANTLY
Bitis caudalis	HORNED ADDER	SECURE	UNCOMMONLY
Bitis arietans	PUFF ADDER	SECURE	ABUNDANTLY

# Bird species which are likely to occur within the project area:

SCIENTIFIC NAME	COMMON NAME	STATUS IN NAMIBIA
Accipiter badius	Little Banded Goshawk	Secure
Accipiter ovampensis	Ovambo Sparrowhawk	Secure
Actophilornis africanus	African Jacana	Secure
Agapornis roseicollis	Rosyfaced Lovebird	Secure
Anastomus lamelligerus	Openbilled Stork	Secure
Anthus cinnamomeus	Richard's Pipit	Secure
Apus affinis	Little Swift	Secure
Apus apus	European Swift	Secure



Apus caffer	Whiterumped Swift	Secure
Apus melba	Alpine Swift	Secure
Aquila nipalensis	Steppe Eagle	Secure -
Aquila rapax	Tawny Eagle	Endangered
Aquila wahlbergi	Wahlberg's Eagle	Secure
Ardeotis kori	Kori Bustard	Secure
Batis molitor	Chinspot Batis	Secure
Batis pririt	Pririt Batis	Secure
Bubalornis niger	Redbilled Buffalo Weaver	Secure
Burhinus capensis	Spotted Dikkop	Secure
Buteo buteo	Steppe Buzzard	Secure -
Calamonastes fasciolatus	Barred Warbler	Secure
Calendulauda sabota	Sabota Lark	Secure
Camaroptera brevicaudata	Greybacked Camaroptera	Secure
Caprimulgus pectoralis	Fierynecked Nightjar	Secure
Caprimulgus rufigena	Rufouscheeked Nightjar	Secure
Ceryle rudis	Pied Kingfisher	Secure
Chrysococcyx caprius	Diederik Cuckoo	Secure
Chrysococcyx klaas	Klaas's Cuckoo	Secure
Ciconia abdimii	Abdim's Stork	Secure
Cinnyris mariquensis	Marico Sunbird	Secure
Circaetus pectoralis	Blackbreasted Snake Eagle	Secure
Cisticola chiniana	Rattling Cisticola	Secure
Cisticola rufilatus	Tinkling Cisticola	Secure
Clamator glandarius	Great Spotted Cuckoo	Secure
Coracias caudata	Lilacbreasted Roller	Secure
Coracias garrulus	European Roller	Secure -
Coracias naevia	Purple Roller	Secure
Corvinella melanoleuca	Longtailed Shrike	Secure
Corvus capensis	Black Crow	Secure
Corythaixoides concolor	Grey Lourie	Secure
Creatophora cinerea	Wattled Starling	Secure
Crithagra flaviventris	Yellow Canary	Secure
Cuculus clamosus	Black Cuckoo	Secure
Cuculus gularis	African Cuckoo	Secure
Cursorius temminckii	Temminck's Courser	Secure
Cypsiurus parvus	Palm Swift	Secure
Delichon urbicum	House Martin	Secure -
Dicrurus adsimilis	Forktailed Drongo	Secure
Elanus caeruleus	Blackshouldered Kite	Secure
Emberiza flaviventris	Goldenbreasted Bunting	Secure
Emberiza tahapisis	Rock Bunting Yellowbellied Eremomela	Secure
Eremomela icteropygialis Eremopterix verticalis		Secure Secure
Erythropygia leucophrys	Greybacked Finchlark Whitebrowed Robin	Secure
Erythropygia paena	Kalahari Robin	Secure
Estrilda erythronotos	Blackcheeked Waxbill	Secure
Eupodotis afraoides	Whitequilled Korhaan	Secure
Eupodotis ruficrista	Redcrested Korhaan	Secure
Eurocephalus anguitimens	Whitecrowned Shrike	Secure
Falco biarmicus	Lanner Falcon	Secure
Falco chicquera	Rednecked Falcon	Secure
Falco subbuteo	Hobby Falcon	Secure -
Falco tinnunculus	Rock Kestrel	Secure
Falco vespertinus	Western Redfooted Kestrel	Secure
Francolinus adspersus	Redbilled Francolin	Secure
Francolinus sephaena	Crested Francolin	Secure
Francolinus swainsonii	Swainson's Francolin	Secure
Gallinago nigripennis	Ethiopian Snipe	Secure
Gyps africanus	Whitebacked Vulture	Near Threatened
Hieraaetus pennatus	Booted Eagle	Endangered
Hirundo abyssinica	Lesser Striped Swallow	Secure



Hirundo cucullata	Greater Striped Swallow	Secure
Hirundo fuligula	Rock Martin	Secure
Hirundo rustica	European Swallow	Secure -
Hirundo semirufa	Redbreasted Swallow	Secure
Lamprotornis australis	Burchell's Starling	Secure
Lamprotornis nitens	Glossy Starling	Secure
Laniarius atrococcineus	Crimsonbreasted Shrike	Secure
Lanius collaris	Fiscal Shrike	Secure
Lanius collurio	Redbacked Shrike	Secure -
Lanius minor	Lesser Grey Shrike	Secure -
Melaenornis infuscatus	Chat Flycatcher	Secure
Melaenornis mariquensis	Marico Flycatcher	Secure
Melierax canorus	Pale Chanting Goshawk	Secure
Merops apiaster	European Bee-Eater	Secure -
Merops hirundineus	Swallowtailed Bee-Eater	Secure
Micronisus gabar	Gabar Goshawk	Secure
Milvus migrans	Black Kite	Secure -
Milvus parasitus	Yellowbilled Kite	Secure
Mirafra passerina	Monotonous Lark	Secure
Monticola brevipes	Shorttoed Rock Thrush	Secure
Muscicapa striata	Spotted Flycatcher	Secure -
Nectarinia fusca	Dusky Sunbird	Secure
Nectarinia talatala	Whitebellied Sunbird	Secure
Nilaus afer	Brubru	Secure
Numida meleagris	Helmeted Guineafowl	Secure
Oena capensis	Namagua Dove	Secure
Onychognathus nabouroup	Palewinged Starling	Secure
Parisoma subcaeruleum	Titbabbler	Secure
Parus cinerascens	Ashy Tit	Secure
Passer diffusus	Southern Grey-headed Sparrow	Secure
Passer motitensis	Great Sparrow	Secure
Plocepasser mahali	Whitebrowed Sparrowweaver	Secure
Plocepasser mahali Ploceus velatus	Whitebrowed Sparrowweaver  Masked Weaver	Secure Secure
Ploceus velatus	Masked Weaver	Secure
Ploceus velatus Polemaetus bellicosus	Masked Weaver Martial Eagle	Secure Endangered
Ploceus velatus	Masked Weaver Martial Eagle Pygmy Falcon	Secure Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia	Secure Endangered Secure Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus	Masked Weaver Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush	Secure Endangered Secure Secure Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse	Secure Endangered Secure Secure Secure Secure Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse	Secure Endangered Secure Secure Secure Secure Secure Secure Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul	Secure Endangered Secure Secure Secure Secure Secure Secure Secure Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul Melba Finch	Secure Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba Quelea quelea	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul Melba Finch Redbilled Quelea	Secure Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba Quelea quelea Rhinopomastus cyanomelas	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul Melba Finch Redbilled Quelea Scimitarbilled Woodhoopoe	Secure Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba Quelea quelea Rhinopomastus cyanomelas Rhinoptilus chalcopterus	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul Melba Finch Redbilled Quelea Scimitarbilled Woodhoopoe Bronzewinged Courser	Secure Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba Quelea quelea Rhinopomastus cyanomelas Rhinoptilus chalcopterus Scopus umbretta	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul Melba Finch Redbilled Quelea Scimitarbilled Woodhoopoe Bronzewinged Courser Hamerkop	Secure Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba Quelea quelea Rhinopomastus cyanomelas Rhinoptilus chalcopterus Scopus umbretta Serinus atrogularis	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul Melba Finch Redbilled Quelea Scimitarbilled Woodhoopoe Bronzewinged Courser Hamerkop Blackthroated Canary	Secure Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba Quelea quelea Rhinopomastus cyanomelas Rhinoptilus chalcopterus Scopus umbretta Serinus atrogularis Smutsornis africanus	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul Melba Finch Redbilled Quelea Scimitarbilled Woodhoopoe Bronzewinged Courser Hamerkop Blackthroated Canary Doublebanded Courser	Secure Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba Quelea quelea Rhinopomastus cyanomelas Rhinoptilus chalcopterus Scopus umbretta Serinus atrogularis Smutsornis africanus Sporopipes squamifrons	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul Melba Finch Redbilled Quelea Scimitarbilled Woodhoopoe Bronzewinged Courser Hamerkop Blackthroated Canary Doublebanded Courser Scalyfeathered Finch	Secure Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba Quelea quelea Rhinopomastus cyanomelas Rhinoptilus chalcopterus Scopus umbretta Serinus atrogularis Smutsornis africanus Sporopipes squamifrons Streptopelia capicola	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul Melba Finch Redbilled Quelea Scimitarbilled Woodhoopoe Bronzewinged Courser Hamerkop Blackthroated Canary Doublebanded Courser Scalyfeathered Finch Cape Turtle Dove	Secure Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba Quelea quelea Rhinopomastus cyanomelas Rhinoptilus chalcopterus Scopus umbretta Serinus atrogularis Smutsornis africanus Sporopipes squamifrons Streptopelia capicola Streptopelia senegalensis	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul Melba Finch Redbilled Quelea Scimitarbilled Woodhoopoe Bronzewinged Courser Hamerkop Blackthroated Canary Doublebanded Courser Scalyfeathered Finch Cape Turtle Dove Laughing Dove	Secure Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba Quelea quelea Rhinopomastus cyanomelas Rhinoptilus chalcopterus Scopus umbretta Serinus atrogularis Smutsornis africanus Sporopipes squamifrons Streptopelia capicola Streptopelia senegalensis Struthio camelus	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul Melba Finch Redbilled Quelea Scimitarbilled Woodhoopoe Bronzewinged Courser Hamerkop Blackthroated Canary Doublebanded Courser Scalyfeathered Finch Cape Turtle Dove Laughing Dove Ostrich	Secure Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba Quelea quelea Rhinopomastus cyanomelas Rhinoptilus chalcopterus Scopus umbretta Serinus atrogularis Smutsornis africanus Sporopipes squamifrons Streptopelia capicola Streptopelia senegalensis Struthio camelus Sylvietta rufescens	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul Melba Finch Redbilled Quelea Scimitarbilled Woodhoopoe Bronzewinged Courser Hamerkop Blackthroated Canary Doublebanded Courser Scalyfeathered Finch Cape Turtle Dove Laughing Dove Ostrich Longbilled Crombec	Secure Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba Quelea quelea Rhinopomastus cyanomelas Rhinoptilus chalcopterus Scopus umbretta Serinus atrogularis Smutsornis africanus Sporopipes squamifrons Streptopelia capicola Streptopelia senegalensis Struthio camelus Sylvietta rufescens Tchagra australis	Masked Weaver  Martial Eagle  Pygmy Falcon  Blackchested Prinia  Groundscraper Thrush  Doublebanded Sandgrouse  Namaqua Sandgrouse  Redeyed Bulbul  Melba Finch  Redbilled Quelea  Scimitarbilled Woodhoopoe  Bronzewinged Courser  Hamerkop  Blackthroated Canary  Doublebanded Courser  Scalyfeathered Finch  Cape Turtle Dove  Laughing Dove  Ostrich  Longbilled Crombec  Threestreaked Tchagra	Secure Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba Quelea quelea Rhinopomastus cyanomelas Rhinoptilus chalcopterus Scopus umbretta Serinus atrogularis Smutsornis africanus Sporopipes squamifrons Streptopelia capicola Streptopelia senegalensis Struthio camelus Sylvietta rufescens Tchagra australis Terathopius ecaudatus	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul Melba Finch Redbilled Quelea Scimitarbilled Woodhoopoe Bronzewinged Courser Hamerkop Blackthroated Canary Doublebanded Courser Scalyfeathered Finch Cape Turtle Dove Laughing Dove Ostrich Longbilled Crombec Threestreaked Tchagra Bateleur	Secure  Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba Quelea quelea Rhinopomastus cyanomelas Rhinoptilus chalcopterus Scopus umbretta Serinus atrogularis Smutsornis africanus Sporopipes squamifrons Streptopelia capicola Streptopelia senegalensis Struthio camelus Sylvietta rufescens Tchagra australis Terathopius ecaudatus Thripias namaquus	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul Melba Finch Redbilled Quelea Scimitarbilled Woodhoopoe Bronzewinged Courser Hamerkop Blackthroated Canary Doublebanded Courser Scalyfeathered Finch Cape Turtle Dove Laughing Dove Ostrich Longbilled Crombec Threestreaked Tchagra Bateleur Bearded Woodpecker	Secure  Endangered Secure
Ploceus velatus Polemaetus bellicosus Polihierax semitorquatus Prinia flavicans Psophocichla litsitsirupa Pterocles bicinctus Pterocles namaqua Pycnonotus nigricans Pytilia melba Quelea quelea Rhinopomastus cyanomelas Rhinoptilus chalcopterus Scopus umbretta Serinus atrogularis Smutsornis africanus Sporopipes squamifrons Streptopelia capicola Streptopelia senegalensis Struthio camelus Sylvietta rufescens Tchagra australis Terathopius ecaudatus Thripias namaquus Tockus erythrorhynchus	Masked Weaver  Martial Eagle Pygmy Falcon Blackchested Prinia Groundscraper Thrush Doublebanded Sandgrouse Namaqua Sandgrouse Redeyed Bulbul Melba Finch Redbilled Quelea Scimitarbilled Woodhoopoe Bronzewinged Courser Hamerkop Blackthroated Canary Doublebanded Courser Scalyfeathered Finch Cape Turtle Dove Laughing Dove Ostrich Longbilled Crombec Threestreaked Tchagra Bateleur Bearded Woodpecker Redbilled Hornbill	Secure Endangered Secure
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Upupa epops	Hoopoe	Secure
Uraeginthus angolensis	Blue Waxbill	Secure
Uraeginthus granatinus	Violeteared Waxbill	Secure
Urocolius indicus	Redfaced Mousebird	Secure
Vanellus armatus	Blacksmith Plover	Secure
Vanellus coronatus	Crowned Plover	Secure
Vanellus senegallus	Wattled Plover	Secure
Vidua regia	Shafttailed Whydah	Secure
Zosterops senegalensis	Yellow White-Eye	Secure



**Appendix B: Proof of Advertisements, Letters and Notices** 



# Appendix of CV's



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Studio print 28054  Number of items	Received by	TOHO!	Date-stamp
No compensation one year after the	will be considered unless enquiry regedate of posting.	arding this postal article is made within	100

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- To avoid disappointment of an advertisement not appearing on the date you wish, please book timeously · Classifieds smalls and
- notices: 12:00, two working days prior to placing
- Cancellations and alterations 16:00, two days before date of publication in writing only

#### Notices (VAT Inclusive) Legal Notice N\$460.00 Lost Land Title N\$402.50

Liquor License N\$402.50 Name Change N\$402.50 Birthdays from N\$200.00 Death Notices from N\$200.00 Tombstone Unveiling from N\$200.00 Thank You Messages

from N\$200.00 Terms and Conditions Apply.

THE ALIENS ACT, 1937 NOTICE OF INTENTION OF CHANGE OF SURNAME

I,(1) LISIAS NAMAMBO LINUS residing at IIPANDA YAAMTI ETAYI CONSTITUENCY, OMUSATI REGION and carrying on business / employed a (2) N/A intend applying to the Minister of Home Affairs for authority under section 9 of the Aliens Act, 1937, to assume the surname NAMAMBO for the reasons that (3) FOR THE FACT THAT I IDENTIFY THE PACT THAT I IDENTIFY
THE NAME CHANGE FROM
SOUTH AFRICAN IDENTITY
CARD THAT IS WRONG.
THE NAMIBIAN CARD IS
CORRECT. | previously
bore the name(s) LISIAS
NAMAMBO LINUS (4) | intend NAMAMBO LINUS (4) I intend also applying for authority to change the surname of my wife and minor child(ren)(5) N/A Any person who objects to my/our assumption of the said surname of NAMAMBO should her objection, in writing, with a statement of his/her reasons therefor, with the magistrate of

KATUTURA- WINDHOEK 05 MAY 2022

Jumping castle,

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#### Auction



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jozohongo Nguvauva
Joram Rukambe

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· CHANGE OF SURNAME ·

THE ALIENS ACT. 1937 NOTICE OF INTENTION OF CHANGE OF SURNAME

I,(1) EUFEMIA AMBATA IIPINGE residing at KASIKILI - OUTAPI and carrying on business / employed a (2) VET-TRAINER intend applying to the Minister of Home Affairs for authority under section 9 of the Aliens Act, 1937, to assume the surname IIPINGE for the reasons that (3) I INTED TO CHANGE THE SURNAME from TOBIA TO IIPINGE. I previously bore the name(s) ALFRED TOBIAS(4) I intend also applying for authority to change the surname of my wife and minor child(ren) (5) ALFRED SHIGWEDHA TOBIAS to. N/A. Any person who objects to my/ our assumption of the said surname of IIPINGE should as soon as my be lodge his/her objection, in writing, with a statement of his/her reasons therefor.

> WINDHOEK 10 MAY 2022

LAUNCHING

TO LET BRAND NEW 2 BED UNITS

FIRST MONTH

21 MAY 202

# Notices

· CHANGE OF SURNAME ·

THE ALIENS ACT, 1937 NOTICE OF INTENTION OF CHANGE OF SURNAME

I,(1) DAVID AUGUST residing at WINDHOEK, NGAZI STREET OTJOMUSE, EXT 8, ERF 3155 and carrying on business / employed a (2) N/A intend applying to the Minister a of the Alexandra accountly other section in the surmane AUGUST TO AUGUSTU (NAME: DAVID HAFEM SURNAME: AUGUSTU for the reasons that (3) THE NAME WAS WRITTEN WRONG (AS A SURNAME; AND ALSO SURNAME SPELLED WRONGLY. 1 Previously bore the name(s) DAVID HAFEM) my wife and minor child(ren)(5) DAVID HAFENI AUGUST to: AUGUSTU AUGUSTU should as soon as my be lodge his/her objection, in writing, with a statement of his/her reasons therefor

windhoek



- CHANGE OF SURNAME -

REPUBLIC OF NAMIBIA
MINISTRY OF TRADE &
NOTISTRY LIQUOR ACT, 1998
NOTISTRY LIQUOR ACT, 1998
NOTISTRY LIQUOR ACT, 1998
AT THE LIQUOR ACT, 1998
(regulations 14, 26 & 33)
totics is given that an application
terms of the Liquor Act, 1998
particulars of which appear
elow will be made to the Regiona
LiquorLicensing Committee,
Region:
ERONGO
1. Name and postal address of

 Name and postal address of applicant, WILLEM MATTHIAS THOMAS, P O BOX 95135, SOWETO MARKET, KATUTURA, WINDHOEK usiness to which applicant relat //GUBASEN BOTTLE STORE

towhich Application relates:
OTJIMBINGWE SETTLEMENT
KARIBIB DISTRICT 

Application will be lodged: KARIBIB MAGISTRATE COURT

Date on which application was be Lodged: 01 JUNE 2022 ate of meeting of Committee application will be heard: 13 JULY 2022

Any objection or written submission in terms of section 28 of the Act in relation to the applicant must be sent or delivered to the Secretary of the Committee to reach the Secretary on the Committee to reach the Secretary not less than 21 days before the date of the meeting of the Committee at which the application will be heard.

#### Notices

CALL FOR PUBLIC PARTICIPATION ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL **EXPLORATION ON EPL** 

This notice serves to inform all interested and affected parties that an application for the environmental clearance the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations (GN 30 of 2012) 30 of 2012).

Project: The license area is located about 27 km southwest of Karibib, accessible along the C32 roads. The proponent intends to explore for Dimension

Proponent: Coutada Granite Mining cc

All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before 09/06/2022. Contact details for registration and further information:

Impala Environmental Consulting Mr. S. Andjamba Email: eia@impalac.com, Tel: 0856630598



#### NOTICE TO **CREDITORS IN** DECEASED ESTATE

All persons having All persons having claims against the estate mentioned below are hereby called upon to lodge their claims with the executors processed within 30 days concerned, within 30 days calculated from the date of publication hereof

Estate Number: E924/2022 Full name of deceased: TERESIA IPINGE; Date of Birth: 23 August 1950; **Identity Number** 50082310017; Last Address Luderitz, Karas Region.

Date of Death:

Probart & Verdoes, 17 Hampie Plichta Avenue, Keetmanshoop; P.O. Box 90 Keetmanshoop; Fax Number: 063 223 989.

· CHANGE OF SURNAME ·

THE ALIENS ACT, 1937

(1) CABRAL BERNARDO PALMIRA ng at KEHEMU RUNDU and carrying on business / employed a (2) NIA intend applying to the Minister of Home Affairs for authority under section 9 of the Alliens Act, 1937, to assume the surname GABRAL for the reasons tha (3) PALMIRA IS MY FIRST NAME. previously bore the name(s) CABRAL BERNARDO PALMIRA (4) I intend DERMANUU PALMIKA (4) 1 infend also applying for authority to change the surname of my wife and minor chid(ren) (5) MiA Any person who objects to my/our assumption of the said surname of GABRAL should as soon as my be todge his/her objection, in writing, with a statement of his/her reasons therefore, with the magistrate of KATUTURA

WINDHOEK 17 MAY 2022

#### Notices

CALL FOR PUBLIC PARTICIPATION **ENVIRONMENTAL** IMPACT ASSESSMENT FOR MINERAL EXPLORATION ON EPL

This notice serves to inform all interested and affected parties that an application for the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations

Project: The license area is located about 27 km southwest of Karibib, accessible along the C32 roads. The proponent intends to explore for

Proponent: Mangetti Mining

All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before 09/06/2022. Contact details for registration and further information:

Impala Environmental Consulting Mr. S. Andiamba eia@impalac.com, Tel: 0856630598



#### CALL FOR PUBLIC PARTICIPATION **ENVIRONMENTAL** IMPACT ASSESSMENT FOR MINERAL **EXPLORATION ON EPL**

8264 This notice serves to inform all interested and affected parties that an application for the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations (GN 30 of 2012).

Project: The license area is located about 74 km northwest of Omaruru, accessible along the C32 roads. The proponent intends to explore for Dimension

Proponent: Mangetti Mining

All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before 09/06/2022. Contact details for registration and further information:

Impala Environmental Consulting Mr. S. Andjamba Email: eia@impalac.com, Tel: 0856630598



#### Notices

CALL FOR PUBLIC PARTICIPATION ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL **EXPLORATION ON EPL** 8489

This notice serves to inform all interested and affected parties that an application for the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations (GN 30 of 2012).

Project: The license area is located about 102 km northwest of Bethanie, accessible along the C27 road. The proponent intends to explore for Base and Rare Metals. Exploration methods may include geological mapping, geophysical surveys, sampling, and drilling.

Proponent: Gava Investments

parties are hereby invited to register and submit their comments regarding the proposed project on or before 10/06/2022. Contact details for registration and further information:

Impala Environmental Consulting Mr. S. Andjamba Email: eia@impalac.com, Tel: 0856630598



#### CALL FOR PUBLIC PARTICIPATION ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL EXPLORATION ON EPL 8491

This notice serves to inform parties that an application for the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations (GN 30 of 2012)

Project: The license area is located about 117 km northwest of Bethanie, accessible along the C27 road. The proponent intends to explore for Base and Rare Metals. Exploration methods may include geological mapping, geophysical surveys, sampling, and drilling.

Proponent: Gaya Investments

All interested and affected parties are hereby invited to register and submit their comments regarding the propo on or before 10/06/2022. Contact details for registration and further information:

Impala Environmental Consulting Mr. S. Andjamba Email: eia@impalac.com, Tel: 0856630598 IMPALA ENVIRONMENTAL

#### Notices

PORTION 124 (A PORTION OF PORTION 2 (SONNLEITEN)) OF THE FARM ONDEKAREMBA NO 78: ESTABLISHMENT OF THE TOWNSHIP, **GREY THORN** NATURE ESTATE MUNICIPALITY OF WINDHOEK

Notice is hereby given in terms of Section 107(1) of the Urban and Regional Planning Act, 2018(Act No. 5 of 2018), that an application will be made to the City of Windhoek for:

 Rezoning of Portion
 A Portion of Portion
 (Sonnleiten) of the Farm
 Ondekaremba No. 78 from "Agricultural" to "Undetermined Agnouturar to Undetermined for the Establishment of the Township - Grey Thorn Nature Estate situated on Portion A of Portion 124 ( A Portion of Portion 2 (Sonnleiten)) of the Farm Ondekaremba No. 78.

The proposed new zoning makes provision for the establishment of the proposed township under the Kappsfarm Town Planning Scheme

- Subdivision of Portion 124 of the Farm Ondekaremba No. 78 into Portion A and Remainder.
- 3.) Need and Desirability for Township Establishment on Portion A of Portion 124 of the Farm Ondekaremba No. 78,
- 4.) Township Establishment on Township Establishment on Portion A of Portion 124 of the Farm Ondekaremba No. 78 comprising of 346 plots and remainder as streets to be known as Grey Thorn Nature

The proposed development will be for the purpose of a Nature Estate and will comprise of 346 plots including Public Open Spaces and Streets. The plots will vary in size from 1Ha to 1.2Ha.

The application is lying open for inspection at the City of Windhoek and at the office of

Any person who wishes to Any person who wishes to object to the application or who desires to be heard in the matter may lodge their objections at any of the above mentioned offices within 14 days of the first placement of this notice and no later than the 8th of the 2022. 8th of June 2022.

PLANTEK TOWN AND REGIONAL PLANNERS P. O BOX 9807



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Fax: (061) 220 584

Email: classifieds@nepc.com.na

Services

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(VAT Inclusive)
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Lost Land Tile N\$402.50
Liquor License N\$402.50
Name Change N\$402.50
Birthdays from N\$200.00
Death Notices from N\$200.00
Tombistione Unveiling from
N\$200.00
Thank You Messages from
N\$200.00

Terms and Conditions Apply.

#### Notices

REPUBLIC OF NAMIBIA MINISTRY OF INDUSTRIALISATIO AND TRADE, LIQUOR ACT, 1998 STRIALISATION

AND TRADE, LIQUOR ACT, 1998.
NOTICE OF APPLICATION TO A
COMMITTEE IN TERMS OF THE
LIQUOR ACT, 1998
(regulations 14, 26 & 33)
Notice is given that an application
in terms of the Liquor Act, 1998.
particulars of which appear below,
will be made to the Regional Liquor
Licensing Committee, Region:
///KHARAS
1. Name and postal address of

RICHARD NARIB P.O. BOX 17 KARASBURG ss to which applicant relates
CLUB BASEMENT

ERF NR 480, WESTERKIM KARASHBURG

Nature and details of application AMENDEMENT FOR TRADING HOURS FROM 02H00 – 04H00 5. Clerk of the court with whom Application will be lodged: KARASBURG MAGISTRATE

ate on which application will be Lodged: 27 MAY 2022 ate of meeting of Committee at sich application will be beart

application will b 13 JULY 2022 ns of section 28 of the Act in relation

terms of section 28 of the Act in relation to the applicant must be sent or delivered to the Secretary of the Committee to reach the Secretary not less than 21 days before the date of the meeting of the Committee at which the application will be heard.

REPUBLIC OF NAMIBIA

REPUBLIC OF NAMIBIA
MINISTRY OF INDUSTRIALISATION
AND TRADE, LIQUOR ACT, 1998
NOTICE OF APPLICATION TO A
COMMITTEE IN TERMS OF THE
LIQUOR ACT, 1998
(regulations 14, 26 & 33)
Notice is given that an application
in terms of the Liquor Act, 1998
particulars of which appear below,
will be made to the Regional Liquor
Licensing Committee. Region:
ZMMBEZI
1. Name and postal address of

address of applicant, KABENDE KABENDE, P.O. BOX 751 NGWEZE

Name of business or propose ness to which applicant relate BEZI BAR

PLOT 4, KATIMA FARM,

 Nature and details of application: RESTAURANT LIQUOR LICENCE
 Clerk of the court with whom KATIMA MULILO MAGISTRATE

Lodged: 31 MAY 2022 ste of meeting application will b 08 JUNE 2022

of section 28 of the Act in relati

#### **Notices**

PORTION 124 (A PORTION OF PORTION 2 (SONNLEITEN)) OF THE FARM ONDEKAREMBA NO. 78: ESTABLISHMENT OF THE TOWNSHIP, **GREY THORN** NATURE ESTATE -MUNICIPALITY OF WINDHOEK

Notice is hereby given in terms of Section 107(1) of the Urban and Regional Planning Act, 2018(Act No. 5 of 2018), that an application will be made to the City of Windhoek for

 Rezoning of Portion
 Are a Portion of Portion
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 Ondekaremba No. 78 from
 "Agricultural" to "Undetermined"
 for the Establishment of the
 Tournship. Grey Thom Township - Grey Thorn Nature Estate situated on Portion A of Portion 124 ( A Portion of Portion 2 (Sonnleiten)) of the Farm Ondekaremba No. 78.

The proposed new zoning makes provision for the establishment of the proposed township under the Kappsfarm Town Planning Scheme

2 ) Subdivision of Portion 124 of the Farm Ondekaremba No. 78 into Portion A and Remainder.

3.) Need and Desirability for Township Establishment on Portion A of Portion 124 of the Farm Ondekaremba No. 78,

4.) Township Establishment on Portion A of Portion 124 of the Farm Ondekaremba No. 78 comprising of 346 plots and remainder as streets to be known as Grey Thorn Nature

be for the purpose of a Nature Estate and will comprise of 346 plots including Public Open Spaces and Streets. The plots will vary in size from 1Ha to

The application is lying open for inspection at the City of Windhoek and at the office of Plantek Town and Regional Planners, 97 Amasoniet Street.

Any person who wishes to object to the application or who desires to be heard in who desires to be heard in the matter may lodge their objections at any of the above mentioned offices within 14 days of the first placement of this notice and no later than the 8th of June 2022.

PLANTEK TOWN AND REGIONAL PLANNERS P. O BOX 9807



#### **Notices**

CALL FOR PUBLIC PARTICIPATION ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL EXPLORATION ON EPL 8113

This notice serves to inform all interested and affected parties that an application for the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations (GN 30 of 2012).

Project: The license area is located about 27 km southwest of Karibib, accessible along the C32 roads. The proponent intends to explore for Dimension

Proponent: Coutada Granite Mining cc

All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before 09/06/2022. Contact details for registration and further information:

Impala Environmental Consulting Mr. S. Andjamba Email: eia@impalac.com, Tel: 0856630598



IN THE HIGH COURT OF NAMIBIA (Main division) CASE NO.: I 2866/2016

In the matter between:

JOSEFAT SHILULA and PAULUS F SHIKONGO DEFENDANT

> NOTICE OF SALE IN EXECUTION

In execution of a judgment against the above Defendant granted by the above Honourable Court granted on 9 June 2017, the following movable property will be sold by public auction on the 31st of May 2022 at 11h00 by the Deputy Sheriff for the district or Rundu in front of the Rundu Magis-trates Court, Rundu, Republic of Namibia

1X TOYOTA PICK UP WHITE, N7989 RU, ENGINE NO ITR6986794, VINAHTCW 12G504034796

TERMS OF AUCTION: GOODS TO BE SOLD ON AUCTION TO THE HIGHEST BIDDER AS "VOETSTOOTS

DATED at WINDHOEK on this 12th day of MAY 2022.

KWALA AND COMPANY INCORPORATED
LEGAL PRACTITIONERS FOR PLAINTIFF CNR PETTENKOFFER & FOUCHE STREETS WINDHOEK

#### **Notices**

CALL FOR PUBLIC PARTICIPATION ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL EXPLORATION ON EPL 8114

This notice serves to inform all interested and affected parties that an application for the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations (GN 30 of 2012).

Project: The license area is located about 27 km southwest of Karibib, accessible along the C32 roads. The proponent intends to explore for

Proponent: Mangetti Mining

All interested and affected All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before 09/06/2022. Contact details for registration and further information:

Impala Environmental Consulting Mr. S. Andjamba Email: eia@impalac.com, Tel: 0856630598



CALL FOR PUBLIC PARTICIPATION **ENVIRONMENTAL** IMPACT ASSESSMENT FOR MINERAL EXPLORATION ON EPI

This notice serves to all interested and affected parties that an application for the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations (GN 30 of 2012). parties that an application for

Project: The license area is located about 74 km northwest of Omaruru, accessible along the C32 roads. The proponent intends to explore for Dimension

Proponent: Mangetti Mining Investment cc

All interested and affected All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before 09/06/2022. Contact details for registration and further information:

Impala Environmental Consulting
Mr. S. Andjamba
Email: eia@impalac.com, Tel:
0856630598



#### **Notices**

CALL FOR PUBLIC PARTICIPATION ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL **EXPLORATION ON EPL** 

This notice serves to inform all interested and affected all interested and affected parties that an application for the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations (GN 30 of 2012). 30 of 2012).

Project: The license area is located about 102 km northwest of Bethanie, accessible along the C27 road. The proponent intends to explore for Base and Rare Metals. Exploration methods may include geological mapping, geophysical surveys, sampling, and drilling.

CC All interested and affected an interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before 10/06/2022. Contact details for registration and further information:

Impala Environmental Consulting Mr. S. Andjamba Email: eia@impalac.com, Tel: 0856630598



CALL FOR PUBLIC
PARTICIPATION
ENVIRONMENTAL IMPACT
ASSESSMENT FOR
MINERAL EXPLORATION ON EPL 8491

This notice serves to inform all interested and affected all interested and affected parties that an application for the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the ental Regulations (GN 30 of 2012).

Project: The license area is located about 117 km northwest of Bethanie, accessible along the C27 road. The proponent intends to explore for Base and Rare Metals. Exploration methods may include geological mapoing, ecophysical surveys. mapping, geophysical surveys, sampling, and drilling.

Proponent: Gaya Investments

All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before 10/06/2022. Contact details for registration and further information

Impala Environmental Consulting Mr. S. Andjamba Email: eia@impalac.com, Tel: 0856630598



#### **Notices**

NOTICE OF **ENVIRONMENTAL IMPACT** ASSESSMENT (EIA): ENVIRONMENTAL CLEARANCE CERTIFICATE FOR THE PROPOSED PROSPECTING & **EXPLORATION ACTIVITIES** ON THE EXCLUSIVE PROSPECTING LICENSES (EPLs) No. 8416 AND 8417 LOCATED SOUTH-WEST OF GROOTFONTEIN, OTJOZONDJUPA REGION

Under the Environmental Management Act No. 7 of 2007 and its 2012 EIA Regulations, the proposed prospecting & exploration activities on the EPLs No. 8416 and 8417 require an Environmental Clearance Certificate (ECC) from the Department of Environmenta Affairs & Forestry (DEAF) before commencement. The public is hereby notified, that an application for an ECC will be submitted to the Environmental that

#### **Brief Project Description:**

Commissioner

The proposed prospecting and exploration activities (the project) on Exclusive Prospecting Licenses (EPLs) No.8416 and 8417. Upon issuance of the ECC, the project activities will entail non-invasive techniques (mapping surveying). and surface and invasive techniques (exploration. trenching and drilling).

The project activities are aimed to explore Base and Rare Metals, Industrial Minerals, and Precious Metals only

Proponent: Okufula Rare Minerals CC Environmental Consultant: Excel Dynamic Solutions (Pty) Ltd

Members of the public are invited to register as Interested and Affected Interested and Affected Parties (I&APs) to comment/ raise concerns or receive further information on the Environmental Assessment process.

A Public Consultation Meeting will be held. Date: To be confirmed and communicated with I&APs Time: To be confirmed and communicated with I&APs Venue: To be confirmed a communicated with I&APs

Registered Interested and Affected Parties (I&APs) requests and comments should be forwarded to Excel Dynamic Solutions (Pty) Ltd on the contact details below. before or on 31 May 2022.

Contact: Mr. Mandume Leonard / Mr. Silas David Email: public@edsnamibia. Tel: + 264 61 259 530

#### **Notices**

"NOTICE OF **ENVIRONMENTAL** SCOPING ASSESSMENT PROCESS: THE PROPOSED MINERAL **PROSPECTING** & EXPLORATION **ACTIVITIES ON** FIVE (5) EXCLUSIVE PROSPECTING LICENSES (EPLs) NO. 8655, 8656, 8664 8671 & 8672 LOCATED NORTHEAST OF **GOBABIS IN THE OMAHEKE REGION** 

Under the Environmental Management Act No. 7 of 2007 and its 2012 Environmental Impact Assessment (EIA) Regulations, the public is hereby notified that an application for an Environmental Clearance Certificate (ECC) will be Environmental Clearance Certificate (ECC) will be submitted to the Environmental Commissioner. The proposed project (exploration) is a listed activity that cannot be undertaken without an ECC from the Department of Environmental Affairs and Executive. Forestry

Project Type & Location: The prospecting and exploration of Base & Rare Metals and Precious Metals on five (5) Exclusive Prospecting Licenses (EPLs) No. 8655, 8656, 8664, 8671 & 8672. The 8656, 8664, 8671 & 8672. The EPLs are bordering each other and located about 170km northeast of Gobabis, and north of Helena and Talismanis Settlements in the Omaheke Settlements in the Omaheke Region. Upon approval of the Environmental Assessment Study and issuance of the ECC, the exploration activities will commence with non-invasive techniques (mapping & surface surveying), and invasive techniques such as sampling trenching and as sampling, trenching, and drilling.

The Project Proponent: Noronex Exploration a Mining Company (Pty) Ltd

Environmental Consultant: Excel Dynamic Solutions Pty Ltd (EDS Namibia)

The Public is therefore invited The Public is therefore invited to register as Interested and Affected Parties (I&APs) to be able to submit comments, suggestions, raise concerns on the proposed activities and or receive further information, or the further information on the Environmental Assessment Environmental Assessment process (including planned Public Consultation Meetings). Registration requests and comments should reach EDS before end of business on Friday, 10 June 2022.

Please note that Public Consultation Meetings will be held, and the specific details, i.e., dates, time as well as venues will be communicated with all the registered Interested and Affected Parties (I&APs) in the course. due course.

Contact Person: Ms. Fredrika Shagama Shagama
Tel.: +264 (0) 61 259 530
Email: fshagama@
edsnamibia.com"

public@edsnamibia.com



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#### **CLASSIFIEDS**

#### **CALL FOR PUBLIC PARTICIPATION**

# ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL EXPLORATION ON EPL 8113 & EPL 8114

This notice serves to inform all interested and affected parties that an application for the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations (GN 30 of 2012).

**Project:** The license areas are located about 27 km southwest of Karibib, accessible along the C32 roads. The proponent intends to explore for Dimension stone.

Proponents: Coutada Granite Mining cc & Mangetti Mining Investment cc

All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before **09/06/2022**. Contact details for registration and further information:

Impala Environmental Consulting

Mr. S. Andjamba

Email: eia@impalac.com, Tel: 0856630598



#### **CALL FOR PUBLIC PARTICIPATION**

#### ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL EXPLORATION ON EPL 8264

This notice serves to inform all interested and affected parties that an application for the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations (GN 30 of 2012).

**Project:** The license area is located about 74 km northwest of Omaruru, accessible along the C32 roads. The proponent intends to explore for Dimension stone.

Proponent: Mangetti Mining Investment cc

All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before **09/06/2022**. Contact details for registration and further information:

Impala Environmental Consulting

Mr. S. Andjamba

Email: eia@impalac.com, Tel: 0856630598



#### CALL FOR PUBLIC PARTICIPATION

# ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL EXPLORATION ON EPL 8489 & EPL 8491

This notice serves to inform all interested and affected parties that an application for the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations (GN 30 of 2012).

**Project:** The licenses are located about 100-120 km northwest of Bethanie, accessible along the C27 road. The proponent intends to explore for Base and Rare Metals. Exploration methods may include geological mapping, geophysical surveys, sampling, and drilling.

Proponent: Gaya Investments CC

All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before **10/06/2022**. Contact details for registration and further information:

Impala Environmental Consulting

Mr. S. Andjamba

Email: eia@impalac.com, Tel: 0856630598



# NOTICE FOR ENVIRONMENTAL IMPACT ASSESSMENT

Healthy Earth Environmental Consultants CC (HEEC) hereby gives notice to all potentially Interested and Affected Parties (I&APs) that an application will be made to the Environmental Commissioner in terms of the Environmental Management Act (No 7 of 2007) and Environmental Impact Assessment Regulations (GN 30 of February 2012) for the following:

#### PROJECT NAMES:

- (a) Environmental Impact Assessment (EIA) for the establishment and operation of a borrow pit at Ondangwa Number 1 to obtain raw materials for the bitumen standard road construction activities at Extension 26 within the Ondangwa Townland boundaries.
- (b) Environmental Impact Assessment (EIA) for the establishment and operation of a borrow pit near north of the cemetery at Ondangwa Number 1 to obtain raw materials for the bitumen standard road construction activities at Extension 26 within the Ondangwa Townland boundaries.

#### PROJECTS LOCATION:

(a) The proposed borrow pit will be situated at Ondangwa Number 1, Ondangwa, (GPS: S17'50'43.70" / E15'55'12.20"), in Oshana Region.
(b) The proposed borrow pit will be situated near north of the cemetery at Ondangwa Number 1, Ondangwa (GPS: S17'54'23.16" / E15'56'42.42"), in Oshana Region.

#### PROJECT DESCRIPTION:

a) The project involves conducting an Environmental Impact Assessments (EIAs) for the establishment and operation of a borrow pit at Ondangwa No.1 to obtain raw materials for the bitumen standard road construction activities at Extension 26 within the Ondangwa Townlands.

b) The project involves conducting an Environmental Impact Assessment (EIA) for the establishment and operation of a borrow pit near north of the cemelery at Ondangwa No.1 to obtain raw materials for the bitumen standard road construction activities at Extension 26 within the Ondangwa Townlands.

#### PROJECT INVOLVEMENT:

Proponent: Ondangwa Town Council

Environmental Assessment Practitioner (EAP): Healthy Earth Environmental Consultants CC (HEEC)



REGISTRATION OF I&APs AND SUBMISSION OF COMMENTS: In line with Namibia's Environmental Management Act (No. 7 of 2007) and EIA regulations (GN 30 of 6 February 2012), all I&APs are hereby invited to register and submit their comments, concerns or questions in writing via: Email; askheec@gmail.com on or before Tuesday 11<sup>th</sup> May 2022.

Public meeting will be held as follows: Date: Friday, 27<sup>th</sup> May 2022 Meeting venue: Ondangwa No.1 Meeting place Time: 10h00 a.m. Mobile: 0816720258



#### **CALL FOR PUBLIC PARTICIPATION**

# ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL EXPLORATION ON EPL 8113 & EPL 8114

This notice serves to inform all interested and affected parties that an application for the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations (GN 30 of 2012).

**Project:** The license areas are located about 27 km southwest of Karibib, accessible along the C32 roads. The proponent intends to explore for Dimension stone.

Proponents: Coutada Granite Mining cc & Mangetti Mining Investment cc

All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before **09/06/2022**. Contact details for registration and further information:

Impala Environmental Consulting Mr. S. Andjamba

Email: eia@impalac.com, Tel: 0856630598

IMPALA ENVIRONMENTAL

#### **CALL FOR PUBLIC PARTICIPATION**

#### ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL EXPLORATION ON EPL 8264

This notice serves to inform all interested and affected parties that an application for the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations (GN 30 of 2012).

**Project:** The license area is located about 74 km northwest of Omaruru, accessible along the C32 roads. The proponent intends to explore for Dimension stone.

Proponent: Mangetti Mining Investment cc

All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before **09/06/2022**. Contact details for registration and further information:

Impala Environmental Consulting Mr. S. Andjamba

Email: eia@impalac.com, Tel: 0856630598



#### **CALL FOR PUBLIC PARTICIPATION**

# ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL EXPLORATION ON EPL 8489 & EPL 8491

This notice serves to inform all interested and affected parties that an application for the environmental clearance certificate will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations (GN 30 of 2012).

**Project:** The licenses are located about 100-120 km northwest of Bethanie, accessible along the C27 road. The proponent intends to explore for Base and Rare Metals. Exploration methods may include geological mapping, geophysical surveys, sampling, and drilling.

Proponent: Gaya Investments CC

All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before 10/06/2022. Contact details for registration and further information:

Impala Environmental Consulting Mr. S. Andjamba

Email: eia@impalac.com, Tel: 0856630598



#### NOTICE FOR ENVIRONMENTAL IMPACT ASSESSMENT

Healthy Earth Environmental Consultants CC (HEEC) hereby gives notice to all potentially Interested and Affected Parties (I&APs) that an application will be made to the Environmental Commissioner in terms of the Environmental Management Act (No 7 of 2007) and Environmental Impact Assessment Regulations (GN 30 of 6 February 2012) for the following:

#### PROJECT NAMES:

- (a) Environmental Impact Assessment (EIA) for the establishment and operation of a borrow pit at Ondangwa Number 1 to obtain raw materials for the bitumen standard road construction activities at Extension 26 within the Ondangwa Townland boundaries.
- (b) Environmental Impact Assessment (EIA) for the establishment and operation of a borrow pit near north of the cemetery at Ondangwa Number 1 to obtain raw materials for the bitumen standard road construction activities at Extension 26 within the Ondangwa Townland boundaries.

#### PROJECTS LOCATION:

(a) The proposed borrow pit will be situated at Ondangwa Number 1, Ondangwa, (GPS: S17"50"43.70" / E15"56"12.20"), in Oshana Region
(b) The proposed borrow pit will be situated near north of the cemetery at Ondangwa Number 1, Ondangwa (GPS: S17"54"23.16" / E15"56"42.42"), in Oshana Region.

#### PROJECT DESCRIPTION:

- a) The project involves conducting an Environmental Impact Assessments (EIAs) for the establishment and operation of a borrow pit at Ondangwa No.1 to obtain raw materials for the bitumen standard road construction activities at Extension 26 within the Ondangwa Townlands.
- b) The project involves conducting an Environmental Impact Assessment (EIA) for the establishment and operation of a borrow pit near north of the cemetery at Ondangwa No.1 to obtain raw materials for the bitumen standard road construction activities at Extension 26 within the Ondangwa Townlands.

#### PROJECT INVOLVEMENT:

Proponent: Ondangwa Town Council

Environmental Assessment Practitioner (EAP): Healthy Earth Environmental Consultants CC (HEEC)



REGISTRATION OF I&APs AND SUBMISSION OF COMMENTS: In line with Namibia's Environmental Management Act (No. 7 of 2007) and EIA regulations (GN 30 of 6 February 2012), all I&APs are hereby invited to register and submit their comments, concerns or questions in writing via: Email; askheec@gmail.com on or before Tuesday 31 May 2022.

Public meeting will be held as follows: Date: Friday, 27<sup>th</sup> May 2022 Meeting venue: Ondangwa No.1 Meeting place Time: 10h0 a.m. Mobile: 0815720258





10 June 2022

Farm Etusis P.O Box 5 Karibib Namibia

Dear Sir/Madam

#### RE: Notification Letter for Public Participation Process

Our organisation is in the process of preparing an application for the environmental clearance certificate that will be launched with the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Regulations (GN 30 of 2012) for the anticipated activity:

Project Name: Mineral Exploration on EPL 8113 & 8114

Project Location: The license areas are located about 27 km southwest of Karibib, accessible

along the C32 roads and covers farms Etusis.

Name of Proponent: Coutada Granite Mining cc & Mangetti Mining Investment cc Project Description: The proponent intends to explore for Dimension stone (marble).

We hereby kindly request your input or comments as a farm owner/manager on the abovementioned project. Kindly contact us via email/telephone on or before **15/07/2022** for any questions. We have attached a background document. Thank you for your time and consideration.

Yours Sincerely,

Mr. Ndaluka Amutenya

HERITAGE IMPACT ASSESSMENT
For Mineral Exploration (Marble) on EPL 8113 and 8114
Client: Mangetti Mining Investment cc

**AUTHOR:** Mr. John Shihepo

**CONTACT:** +264817317004

# **PROFESSIONAL QUALIFICATIONS**:

BA in History and Geography

Master of Arts in History and Archaeology

SIGNATURE:

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# 1. Executive Summary

The dimension stone exploration project was assessed for sites of archaeological significance. No significant archaeological features or artefacts older than 50 years were identified in the EPLs footprint.

There are no fatal flaws in terms of the archaeological component to the project; however, management measures as made in section 8 of this report would need to be considered to avoid damage to the local heritage.

If during exploration any possible finds such as stone tool scatters, artefacts or bone and fossil remains are made, the operations must be stopped, and an archaeologist must be contacted for an assessment of the find.

## 2. Background Information

Kind of study	Specialist Heritage Impact
	Assessment
Type of development	Mineral Exploration for Marble on
	EPLs 8113 & 8114 (133 Ha in total)
Client:	Mangetti Mining Investment cc
Environmental Coordinator:	Impala Environmental Consulting

The report forms part of the Heritage Impact Assessment (HIA) for the dimension stone exploration project.

The aim of the study is to identify archaeological sites, document, and assess their importance within local, regional and national context. It serves to assess the impact of the project on non-renewable heritage resources, and to submit appropriate recommendations about the responsible cultural resources management measures that might be required to assist the company in managing the discovered heritage resources in a responsible manner. It is also conducted to protect, preserve, and develop such resources within the framework provided by the National Heritage Act (Act 27 of 2004).

The report outlines the approach and methodology utilized before and during the field survey, which includes: Phase 1, a desktop study that includes collection from various sources and consultations; Phase 2, the physical surveying of the area on foot; Phase 3, reporting the outcome of the study.

During the survey, no heritage sites were identified within the area. Possible impacts were identified, and mitigation measures are proposed in the following report.

#### 2.1 Terms of Reference

#### **Desktop study**

Conducting a brief desktop study where information on the area is collected to provide a background setting of the archaeology that can be expected in the area. Literature was gathered from the Namibia Scientific Society library, the National Museum, the University of Namibia's library and online documents.

#### Field study

Conduct a field study to a) systematically survey the proposed project area to locate, identify, record, photograph and describe sites of archaeological, historical or cultural interest; b) record GPS points identified as significant areas; c) determine the levels of significance of the various types of heritage resources recorded in the project area.

#### Reporting

Report on the identification of anticipated and cumulative impacts the operational units of the proposed project activity may have on the identified heritage resources for all 3 phases of the project, i.e., commencement, operation and decommissioning phases. Alternatives have been considered, should any significant sites be impacted adversely by the proposed project. Ensure that all studies and results comply with Heritage legislation.

To assist the company in managing the discovered heritage resources in a responsible manner, and to protect, preserve, and develop them within the framework provided by the National Heritage Act (Act 27 of 2004).

# 2.2 Archaeological Legislation and Best Practice

The overall purpose of a heritage specialist input is to:

- » Identify any heritage resources, which may be affected;
- » Assess the nature and degree of significance of such resources;
- » Establish heritage informants/constraints to guide the development process through establishing thresholds of impact significance;
- » Assess the negative and positive impact of the development on these resources;
- » Make recommendations for the appropriate heritage management of these impacts.

The HIA, as a specialist sub-section of the EIA, is required under Sections 54(7) and 54(8) of the National Heritage Act (Act 27 of 2004).

**Phase 1** HIAs are primarily concerned with the location and identification of sites situated within a proposed development area. Identified sites should be assessed according to their significance. Relevant conservation or **Phase 2** mitigation recommendations should be made.

Conservation or **Phase 2** mitigation recommendations are to be used as guidelines in the developer's decision-making process.

**Phase 2** archaeological projects are primarily based on salvage/mitigation excavations preceding development destruction or impact on a site. **Phase 2** excavations can only be conducted with consent given by the NHC.

Human remains older than 50 years are protected by the Act, with reference to Section 1(a). Rock art older than 50 years, in the form of paintings, engravings, or other representations on rocks, are also represented by section 1(a) of the act.

# 2.3 Description of Study Area

#### 2.3.1 Location Data

The license areas are located about 27 km southwest of Karibib, accessible along the C32 roads. The coordinates for the centre of one of the EPLs are 15°44'14.767"E and 22°10'39.333"S. The project area is located within the Central-western Plains. The licence is contained within a semi-arid climatic region whereby days are mostly warm with very hot days during the summer months, while nights are generally cool.

# 2.3.2 Location Maps

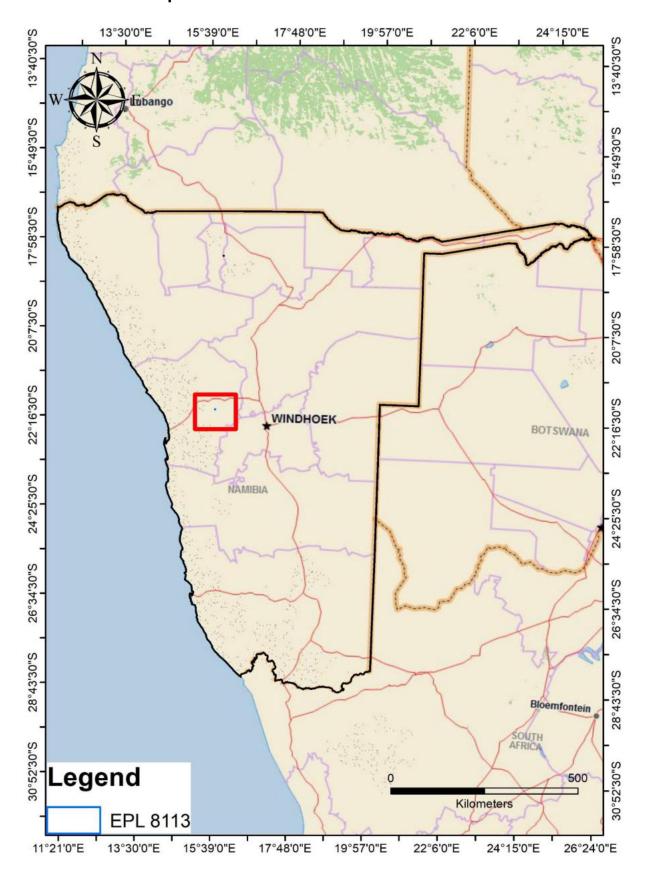


Figure 1 Locality map showing the EPLs

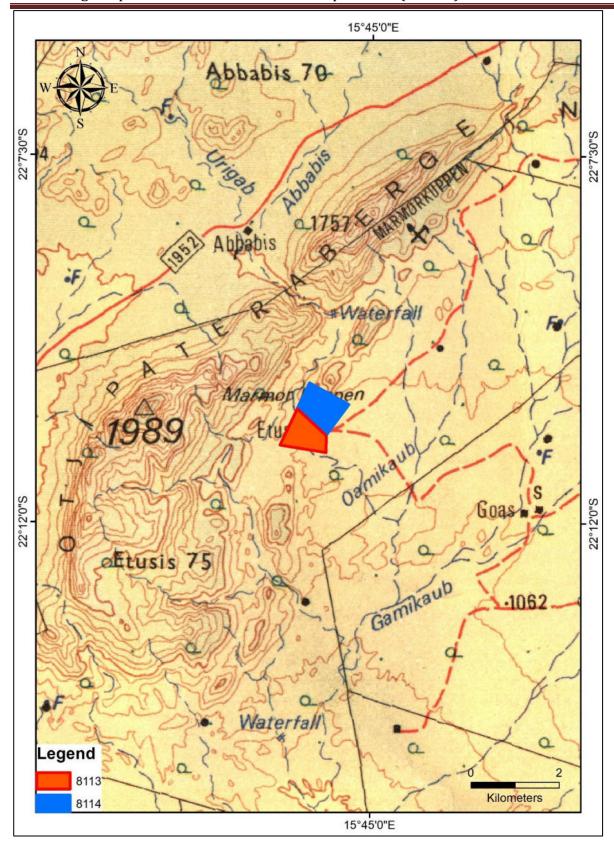


Figure 2 Locality map showing the EPLs (red).

# 3. Approach and Methodology

The aim of the study is to cover archaeological databases to compile a background of the archaeology that can be expected in the study area followed by field verification; this was accomplished by means of the following phases.

## 3.1 Phase 1 – Desktop Study

The first phase comprised a desktop study scanning of existing records for archaeological sites, historical sites, graves, architecture (structures older than 50 years) of the area.

#### 3.1.1 Literature Search

Utilising information from the museum, library at the Geological Survey of Namibia and previous archaeological reports done in the area. The aim of this is to extract data and information on the area in question.

#### 3.1.2 Consultation

The EIA Public Participation process was conducted by the EAP, in line with the procedure outlined in the Environmental Impact Assessments Regulations of 2012. The EIA Public Participation Process invited comments from the affected farmer and any registered bodies on any matter related to the project including heritage concerns that may arise as a result of the project. The farm belongs to a German Citizen but the farm owner indicated that there are small rock paintings on the northern part of the farm which is 12 km away from the project area.

## 3.1.3 Google Earth and Mapping Survey

Google Earth and 1:50 000 maps of the area were utilised to identify possible places where sites of heritage significance might be located.

# 3.2 Phase 2 - Physical Surveying

Due to the nature of cultural remains, the majority of which occurs below surface, a field survey of the study area was conducted. The study area was surveyed by means of a foot survey by the author. Although sites of interest were inspected around the EPLs, no sites were discovered inside the proposed project area.

#### 3.3 Restrictions

Since most cultural remains may occur below surface, the possibility exists that some features or artefacts may not have been discovered/ recorded during the survey. The

varied ground visibility of parts of the study area is due to high vegetation, and the possible occurrence of unmarked graves and other cultural material cannot be excluded. Only the surface footprint area was surveyed and not the entire farms. Although the heritage team surveyed the area as thoroughly as possible, it is incumbent upon the developer to stop operations and inform the relevant heritage agency should further culturally remains, such as stone tool scatters, artefacts, bones or fossils, be exposed during the process of development.

## 4. Nature of the Development

The exploration method of the project that will be adopted by the explorer, comprises a diamond wire saw and drilling method. The operation's cycle is composed of primary cuts to isolate a large block from the main rock mass, secondary cuts to produce slices which are then tilted into a horizontal position for final cutting into individual blocks as detailed below. The exploration scheme is described below:

- Horizontal cutting by a diamond wire saw;
- Vertical stringing hole drilled by a vertical hole drill;
- Two vertical planes sawed with a diamond wire saw;
- A cushion layer (made up of the crushed stone and soil formed by a front-end loader on the working bench);
- Tilting down of the rectangular stone by a hydraulic jack and cushion;
- Rough blocks cut by a diamond wire saw;
- Separating and reshaping with a diamond wire saw;
- Loading of rough blocks by a large capacity fork loader; and
- Cleaning conducted by a front-end loader at the working surface.

# 5. Historical and Archaeological Background

Namibia has four clusters of sensitive historical and archaeological landscapes, namely: Inselbergens and Outcrops, Saddles, Drainage and Coastlines, and Pans (Nankela, 2017). The exploration area lies within the Inselbergens cluster. This Cluster is made up of prominent geological features such as faults, shearzones, anticlines, antiforms, and homogeneous rock formations.

Modern humans and their ancestors have lived in Namibia for more than one million years, and there are fossil remains of lineal hominin ancestors as early as the Miocene Epoch. Namibia has a relatively complete sequence covering the mid-Pleistocene to Recent Holocene period, represented by thousands of archaeological sites mainly concentrated in the central highlands, escarpment, and Namib Desert. The Recent Holocene archaeological sequence in Namibia, i.e., the last 5 000 years, is of particular importance because it provides the background evidence for the development and recent history of the indigenous peoples of Namibia before the advent of written historical records during the colonial era (Kinahan, 2017).

Archaeological record with evidence of human occupation which dates to 8 000 years ago in the Erongo Region. The Erongo Region has an archaeological record spanning more than one million years, including evidence of significant human evolutionary and technological advances, as well as specific adaptations to extreme aridity and environmental uncertainty. While the late Pleistocene component of the archaeological record is much reduced as a result of natural processes of deterioration, the Holocene evidence (post-dating the Last Glacial Maximum) presents an extremely comprehensive and well-preserved record.

# 6. Heritage Site Significance and Mitigation Measures

The presence and distribution of heritage resources define a 'heritage landscape'. In this landscape, every site is relevant. In addition, because heritage resources are non-renewable, heritage surveys need to investigate an entire project area, or a representative sample, depending on the nature of the project. In the case of the dimension stone exploration project, the local extent of its impact necessitates a representative sample and only the footprint of the areas demarcated for development were surveyed. In all initial investigations, however, the specialists are responsible only for the identification of resources visible on the surface. This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The following criteria were used to establish site significance:

• The unique nature of a site;

- The integrity of the archaeological/cultural heritage deposits;
- The wider historic, archaeological and geographic context of the site;
- The location of the site in relation to other similar sites or features;
- The depth of the archaeological deposit (when it can be determined/is known);
- The preservation condition of the sites;

## 6.1 Field Rating of Sites

The author has followed the method developed by Quaternary Research Services (QRS). QRS has adopted the practice of identifying the specific research value of archaeological sites documented during field surveys. This means that the evaluation is focused on the likely research benefits of more detailed investigations on sites of high significance, or local site clusters of potential research importance (Kinahan, 2011). The immediate benefits in terms of sequence resolution or yield of comparative material and present this in the form of an expected research dividend are evaluated. Similarly, the consequences of damage or destruction are also evaluated as an expected loss of research dividend. These estimates form part of the proposal for mitigation of impacts.

## 6.1.1 Vulnerability and Significance Ranking of Archaeological Finds

The evaluation and ranking of site significance and vulnerability is an essential component of archaeological impact assessment. QRS has developed an approach to significance and vulnerability estimation that combines accepted international practice with the results of more than 100 field surveys carried out in Namibia and elsewhere (Kinahan, 2011). Standard procedure involves an estimate of the archaeological value and the risk of damage, using ordinal scales of zero to five (Kinahan, 2011). These separate values can be combined as a significance and vulnerability index, e.g. 3/2, 4/0. The same data are used in the preparation of archaeological sensitivity maps and predictive models which form the empirical basis of our time and cost estimates for archaeological field surveys.

It is important to realize however, that such estimates have a degree of subjectivity. For this reason, the estimate significance with specific reference to the value of the site as a component of the Namibian archaeological record, while the estimation of

vulnerability refers primarily to the potential consequences of the development project under consideration.

### 6.1.2 Significance Ranking

The following is the summary of the significance ranking used:

Significance	Description
0	No archaeological significance
1	Disturbed or secondary context, without diagnostic material
2	Isolated minor finds in undisturbed primary context, with diagnostic material
3	Archaeological site forming part of an identifiable local distribution or group
4	Multi-component site, or central site with high research potential
5	Major archaeological site containing unique evidence of high regional significance.

## 6.1.3 Vulnerability

The following is the summary of the vulnerability ranking used:

Significance	Description
0	Not vulnerable.
1	No threat posed by current or proposed development activities.
2	Low or indirect threat from possible consequences of development
	(e.g. soil erosion.
3	Probable threat from inadvertent disturbance due to proximity of
	development.
4	High likelihood of partial disturbance or destruction due to proximity
	of development.
5	Direct and certain threat of major disturbance or total destruction.

# 7. Assessment – Description of Sites

It is important to note that the entire farm was not surveyed but only the sites where dimension stone exploration is likely to take place. During the survey no sites of heritage significance were identified inside the project area, but some features of archaeological significance have been identified. The study area varies in topography with rocky marble hills ranging in elevation.

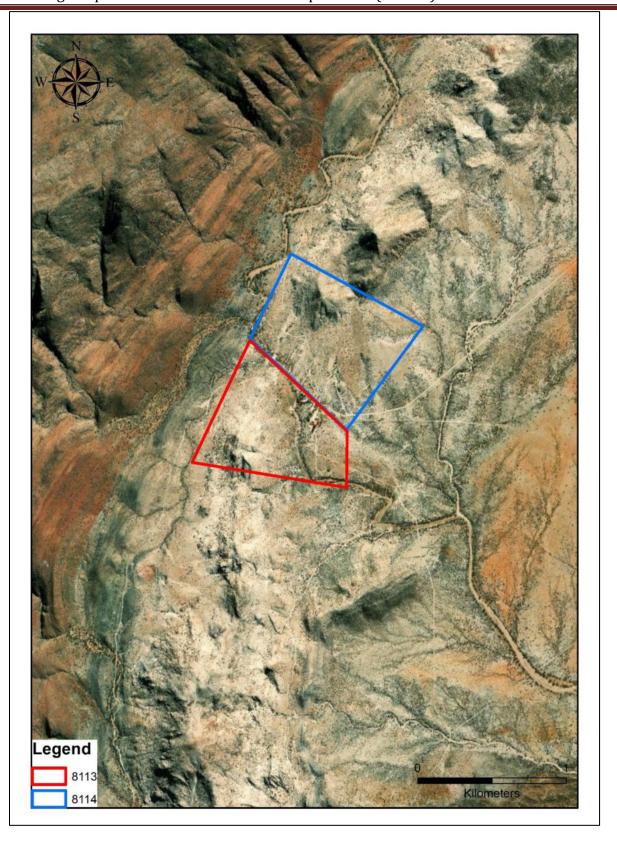


Figure 3 A map showing the topography of the area. The red and blue areas outline the project sites.

1.

**Site Location:** 15°39'6.077"E and 22°14'24.468"S

Landscape: Rocky Marble Hills

Significance: 4 Vulnerability: 2

**Description:** An old, abandoned marble quarry is located 4 km away from the exploration sites. Although quite recent, the marble quarry started in 1978 with the establishment of a quarry face. During the first year 10 000 t of marble blocks, ranging from 17 to 20 t in weight, were quarried using the diamond wire-saw technique.



2.

**Site Location:** 15°44'15.179"E and 22°10'32.876"S.

Landscape: Rocky Mountain Hill

Significance: 3 Vulnerability: 1 **Description:** On the edge of a rocky marble hill, there is some stone chipping features prevalent. This may be signs of prehistoric activities.



## 8. Chance Find Procedure

An Archaeological Chance Find Procedure (CFP) is a tool for the protection of previously unidentified cultural heritage resources during mining. The main purpose of a CFP is to raise awareness of all mine workers and management on site regarding the potential for accidental discovery of cultural heritage resources and establish a procedure for the protection of these resources. Chance Finds are defined as potential cultural heritage (or paleontological) objects, features, or sites that are identified outside of or after Heritage Impact studies, normally as a result of monitoring. Chance Finds may be made by any member of the project team who may not necessarily be an archaeologist or even visitors. Appropriate application of a CFP on development projects has led to discovery of cultural

heritage resources that were not identified during archaeological and heritage impact assessments.

The following procedure is to be executed if archaeological material is discovered:

- All construction/clearance activity in the vicinity of the accidental find/feature/site must cease immediately to avoid further damage to the find site.
- Briefly note the type of archaeological materials encountered, and their location, including, if possible, the depth below surface of the find
- Report the discovery to the supervisor or if they are unavailable, report to the project environmental officer who will provide further instructions.
- If the supervisor is not available, notify the Environmental Control Officer immediately. The Environmental Control Officer will then report the find to the Site Manager who will promptly notify the project archaeologist and NHC.
- Delineate the discovered find/ feature/ site and provide 25m buffer zone from all sides of the find.
- Record the find GPS location, if able.
- All remains are to be stabilised in situ.
- Secure the area to prevent any damage or loss of removable objects.
- Photograph the exposed materials, preferably with a scale (a yellow plastic field binder will suffice).
- The project archaeologist will undertake the inspection process in accordance with all project health and safety protocols under direction of the Health and Safety Officer.
- Finds rescue strategy: All investigation of archaeological soils will be undertaken
  by hand, all finds, remains and samples will be kept and submitted to a Museum as
  required by the heritage legislation. If any artefacts need to be conserved, the
  relevant permit will be sought from the NHC.
- An on-site office and finds storage area will be provided, allowing storage of any artefacts or other archaeological material recovered during the monitoring process.
- In the case of human remains, in addition to the above, the NHC and the relevant authorities will be contacted and the guidelines for the treatment of human remains will be adhered to. If skeletal remains are identified, an archaeological will be available to examine the remains.

- The project archaeologist will complete a report on the findings as part of the permit application process.
- Once authorisation has been given by NHC, the Applicant will be informed when mining activities can resume.

## Table 1 Heritage Management Plan for the Project

Objective	•	<ul> <li>Protection of archaeological sites and land considered to be of cultural value;</li> <li>Protection of known physical cultural property sites against vandalism, destruction and theft; and</li> <li>The preservation and appropriate management of new archaeological finds should these be discovered during mining.</li> </ul>					
No.	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	
Pre-Construction Phase							
1	Planning	Ensure all known sites of cultural, archaeological, and historical significance are demarcated on the site layout plan and marked as no-go areas.	Througho ut Project	Weekly Inspection	Contractor	Project Manager	
Construction Phase							
1	Emergency Response	Should any archaeological or physical cultural property heritage resources be exposed during excavation for the purpose of mining, construction in the vicinity of the finding must be stopped until heritage authority has cleared the development to continue.	N/A	Throughout	Contractor	Project Manager	
		Should any archaeological, cultural property heritage resources be exposed during excavation or be found on development site, a heritage specialist or NHC official must be called to site for inspection.		Throughout	Contractor	Project Manager	
		Under no circumstances may any archaeological, historical or any physical cultural property heritage material be destroyed or removed form site;		Throughout	Contractor	Project Manager	
		Should remains and/or artefacts be discovered on the development site during earthworks, all work will cease in the area affected and the Contractor will immediately inform the Mine Manager who in turn will inform NHC.		When necessary	Contractor	Project Manager	
		Should any remains be found on site that is potentially human remains, the NHC and the Police Service should be contacted.		When necessary	Contractor	Project Manager	
Rehabilitation Phase							
Same as mining phase.							
Operational Phase							
	Same as mining phase.						

#### 9. Recommendations and Conclusions

- From a heritage perspective supported by the findings of this study, the proposed dimension stone exploration project and associated developments are feasible. However, the proposed development should be approved to proceed as planned under observation that the development dimensions do not extend beyond the proposed sites.
- Should any unmarked burials be exposed during mining, affected people must be trekked and consulted, relevant rescue/ relocation permits must be obtained from NHC before any grave relocation can take place. Furthermore, an archaeologist must be retained to oversee the relocation process in accordance with the National Heritage Act 27 of 2004.
- 3. Should chance archaeological materials or human burials remains be exposed during mining work on any section of the proposed mining development laydown sites, work should cease on the affected area and the discovery must be reported to the heritage authorities immediately so that an investigation and evaluation of the finds can be made. The overriding objective, where remedial action is warranted, is to minimize disruption in mining scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the act.
- 4. Future community engagement should ensure that any cultural heritage related matters for this project are given due attention whenever they arise and are communicated to NHC throughout the proposed project development. This form of extended community involvement would pre-empty any potential disruptions that may arise from previously unknown cultural heritage matter that may have escaped the attention of this study.
- 5. Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project EMP there are no other significant cultural heritage resources barriers to the proposed development.

## 10. References

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Lenssen-Erz, Tilman (1997), "Metaphors of Intactness of Environments of Rock Art Paintings of Namibia" in P. Faulstich (ed.), Rock-art as visual ecology: 42-53 Tucson, AZ: American.

Nankela, A., 2017. Archaeology Specialist Report: National Environmental Assessment for the MTC, Windhoek: GCS.

Sandelowsky BH (1983) Archeology in Namibia. Am.Sci. 71:606-615

Willcox, A. Fl. (1963), The rock art of Southern Africa. New York: Nelson.

# Appendix



Figure 4 Image showing the general landscape of the area.



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#### CONSENT

(Section 55(9) of the National Heritage Act, 2004 (Act No. 27 of 2004)) Consent is hereby given to:

09 August 2022

Consent Number No: 122/2022

Name of applicant: Mangetti Mining Investment Mining Cc

(Title and full name of the applicant)

Address of applicant: P.O.Box 29532

(Address of the applicant and of the applying institution (if applicable)

For: Exploration Prospecting License (EPL) 8113 &8114 for the exploration of

**Dimension Stone** 

(Type of Activity applied for)

Of: No Heritage resources located

(Description of Heritage Resources)

From: EPL is Located about 27 km southwest of Karibib region.

(Description of the site, location as in the application)

In accordance with: Exploration Prospecting License Mining License (EPL) 8114 &8115 for the exploration of Dimension stones, located 27 km southwest of Karibib in the Erongo region.

(Specify relevant documentation and Permit application date)

The following conditions (imposed in terms of section 55(9) of the Act.) apply to this permit:

- a) That as per section 55 (9) (a) the activity authorised by this consent be supervised by a person with appropriate professional qualifications or experience in the identification and conservation of heritage.
- b) That any archaeological or palaeontological object or meteorite found in the course of the activity authorised by the consent must be recorded, conserved and dealt with as per the manual on Chance Find Procedures of heritage resources; and
- that Namibian citizens, especially members of the local community in and around the project area, be engaged in the activity authorised by the consent for the purpose of identification of heritage resources in the project area as well as of receiving professional training;
- d) That the consent holder reports back to the National Heritage Council every six (6) months on compliance with the conditions of this consent.
- e) This Consent does not exempt the holder from any conditions that may be imposed by owners, hosts or any other relevant authorities in consultation with NHC who have a stake in the project area.
- f) NHC shall not be liable for any losses, damages or injuries to persons or properties as a result of any activities related to this permit.
- g) This Consent is subject to the provisions of the National Heritage Act (Act 27 of 2004). Should any of the conditions contained herein conflict with the Act; the provisions of the Act as per section 55 (10) shall prevail.
- h) Adopt the Chance Find Procedures.

This consent is renewable, upon submission of an application at least two months before the current permit lapses

(List any conditions that the Council may see fit to impose in terms of section 55 (9) of the act.

This Consent will be valid from 09th August 2022 to 08th August 2023

Director: National Heritage Council

National Heritage Council of Namibia

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O 9 AUG 2022

Private Bag 12013
Ausspannest;
Windhoek Namib's