

# A scoping report on the Environmental Impact Assessment for Mineral Exploration Activities on EPL 8703

**Report Compiled for:**

Desmond-Elliot Tjamburo

P O Box 29720

Email

Address:desmondelliott.det@gmail.com

Compiled for: Augite  
Environmental Consulting

909 City Street, Windhoek

Cell number: +264 817069027

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# **Executive Summary**

## **Introduction**

### **Overview**

The proponent, Desmond-Elliott Tjamburo, was provisionally granted an exclusive prospecting licence (EPL) by the Ministry of Mines and Energy. The licence holder intends to explore for copper. Augite Environmental Consulting was appointed by the proponent to undertake an Environmental Assessment (EA) and Environmental Management Plan (EMP) for the mineral exploration project.

### **Location**

The mineral license is located about 22 km north of Outjo, along the C39 and M63 roads. The coordinates for the centre of the licence are -19.852013,16.209259.

### **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.

### **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.

# Introduction

## Project Background

The proponent, Desmond-Elliot Tjamburo, was granted an exclusive prospecting licence (EPL) by the Ministry of Mines and Energy. The licence holder intends to explore for Copper. An outline of the area is shown in the image below.

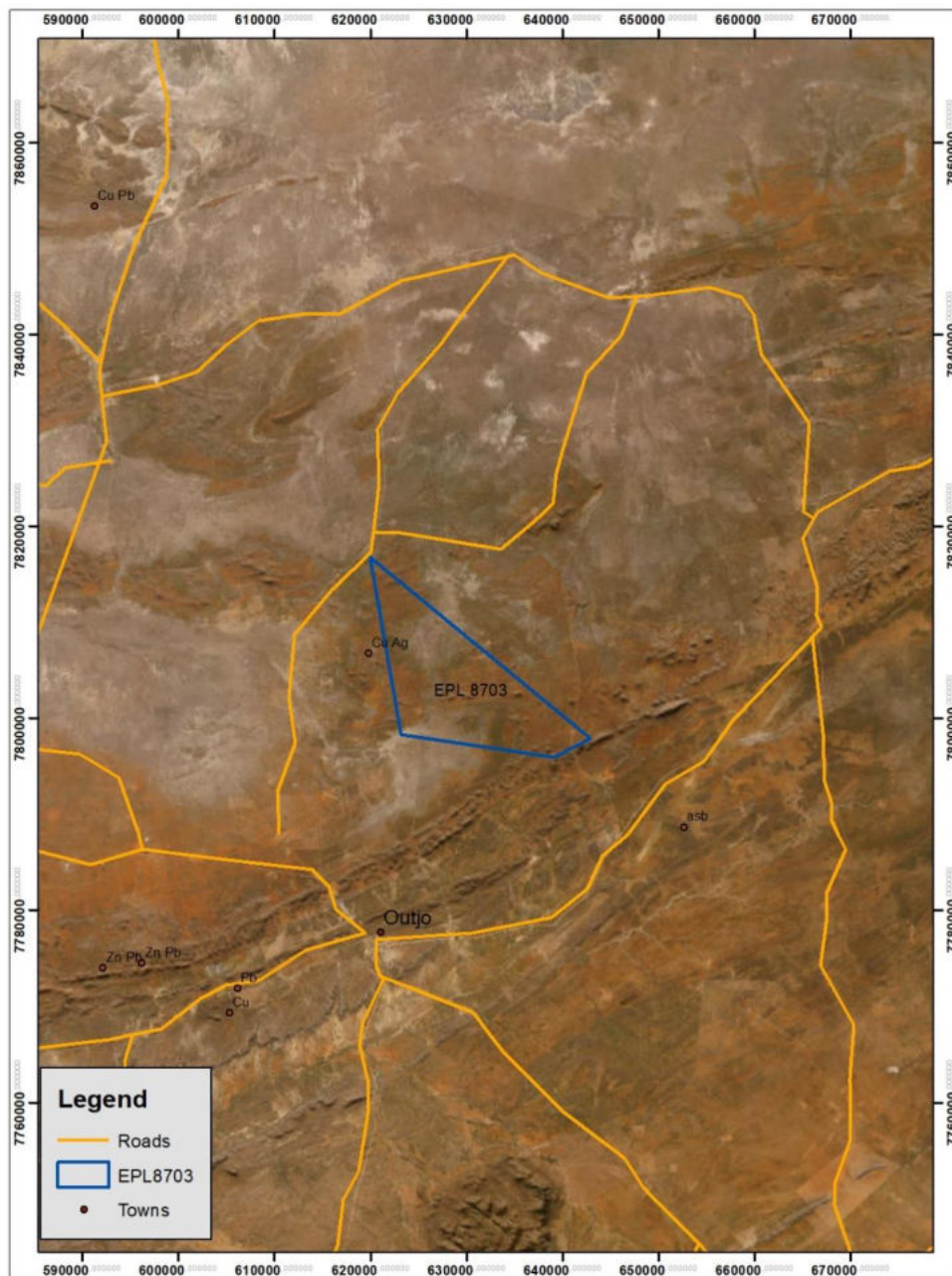


Figure 1. The surrounding roads that connect of the project area to the nearest town which is Outjo.



## Mineral Licence Tenure

The exclusive prospecting number is **14/2/4/1/8703**. The mineral licence is provisionally issued to Desmond-Elliot Tjamburo. The size of the mineral licence is **19994.4396 Hectares**. It is granted Base and Rare Metals, Industrial Minerals and Precious Metals commodities.

## Environmental Consultant

Augite Environmental Consulting cc was appointed by the proponent to undertake an Environmental Assessment (EA) and Environmental Management Plan (EMP) for the mineral exploration project. Olivine 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 Dr Kaukurauee Kanguuehi as the EAP. CV's of various role players are annexed to the appendix section of this report.

## Proponent of the Proposed Project

The Exclusive Prospecting Licence belongs to Desmond -Elliot Tjamburo.

Licence Holder	Postal Address	Email Address	Contact
Desmond-Elliot Tjamburo	P O Box 29720, Elisenheim, Windhoek	<a href="mailto:desmondelliott.det@gmail.com">desmondelliott.det@gmail.com</a>	+264 851430488

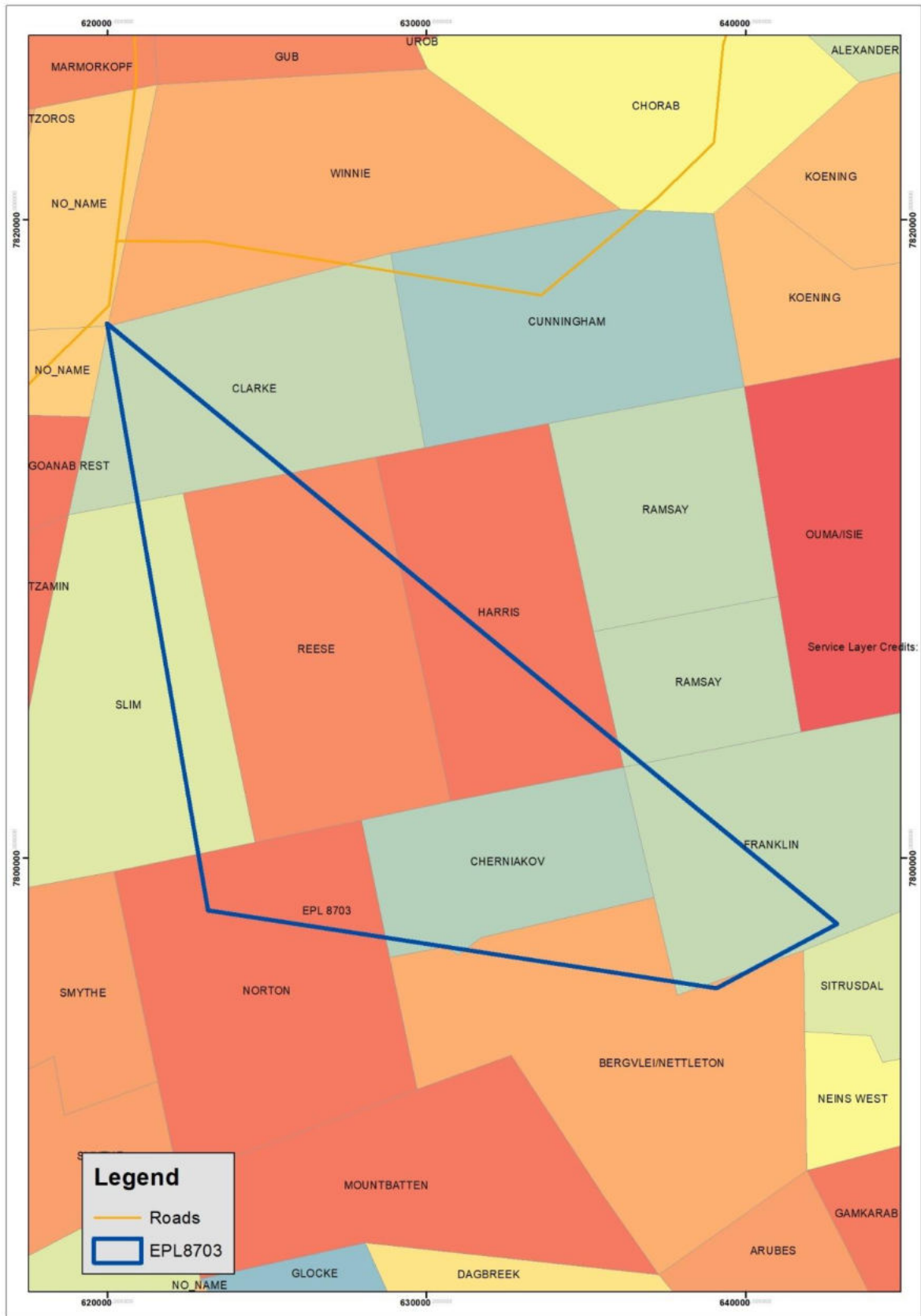


Figure 2. Map showing the farms surrounding EPL8703.

## Project Location

The mineral licence is located about 20 km north east of Outjo, along the C38 and D2780 roads. The coordinates for the centre of the licence are -19.86 and 16.2256.

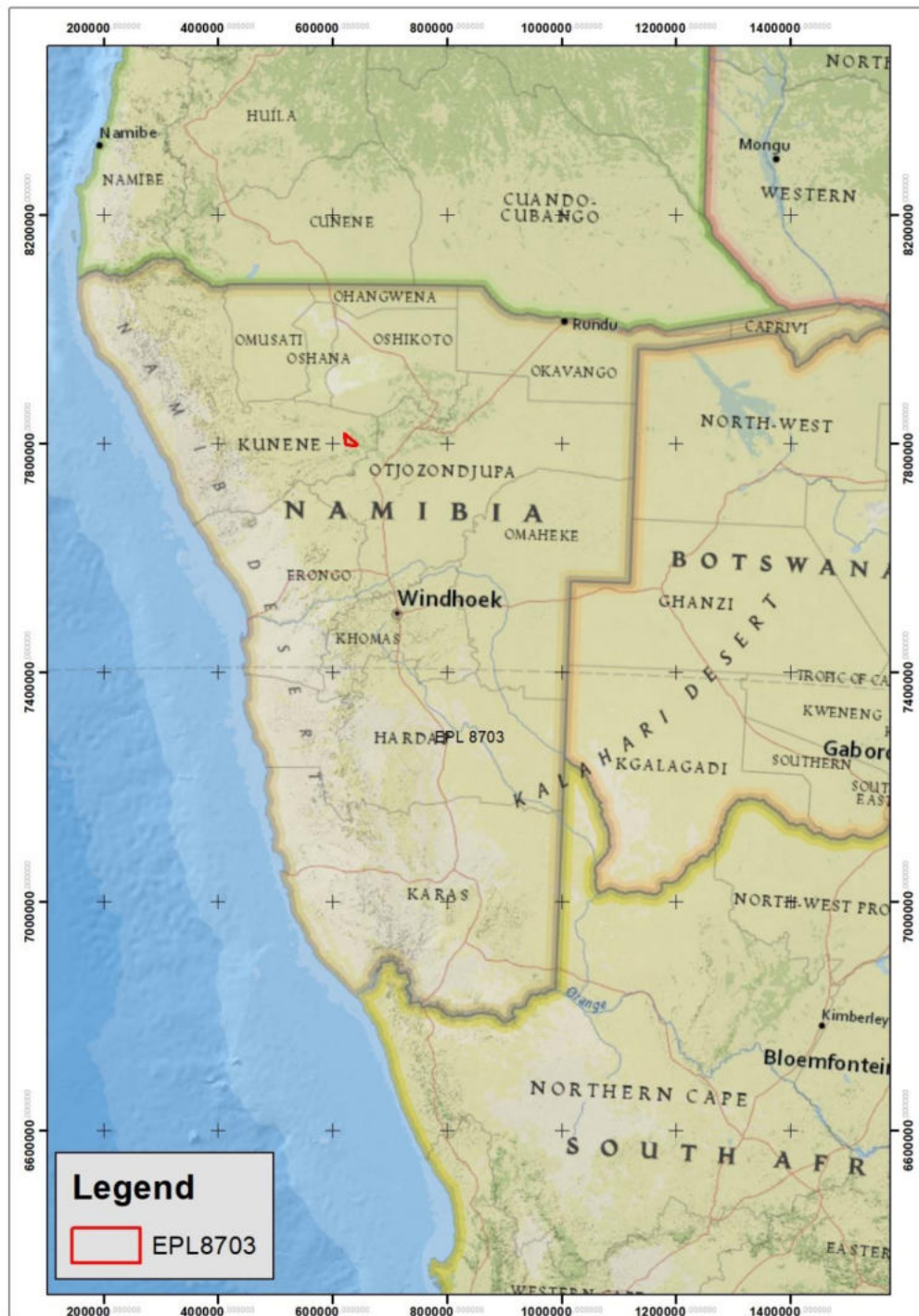


Figure 3. Licence area in proportion to where it is located in Namibia.

## Infrastructure and Services

### 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 proponents 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.

### 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.

### Refuse and Waste Removal

The proponent will negotiate directly with 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.

### 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.

### Security and Fencing

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

## Buildings

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

## Roads

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

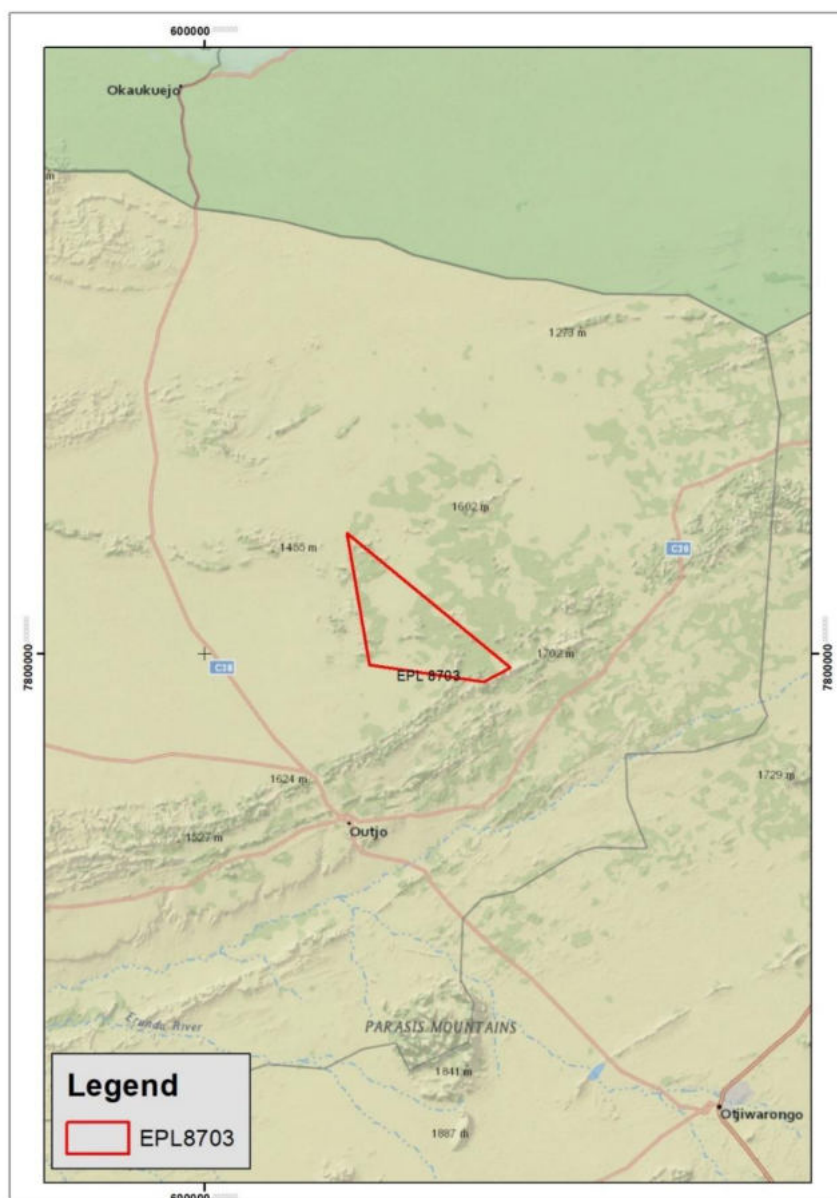


Figure 4. Topographic map showing the existing road network within the licence area

## **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.

## **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.

## **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.

## **Fire Fighting Provision**

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

## **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.

## **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 10 km southwest of Outjo, along the C39 and M63 roads. 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.

## **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 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.



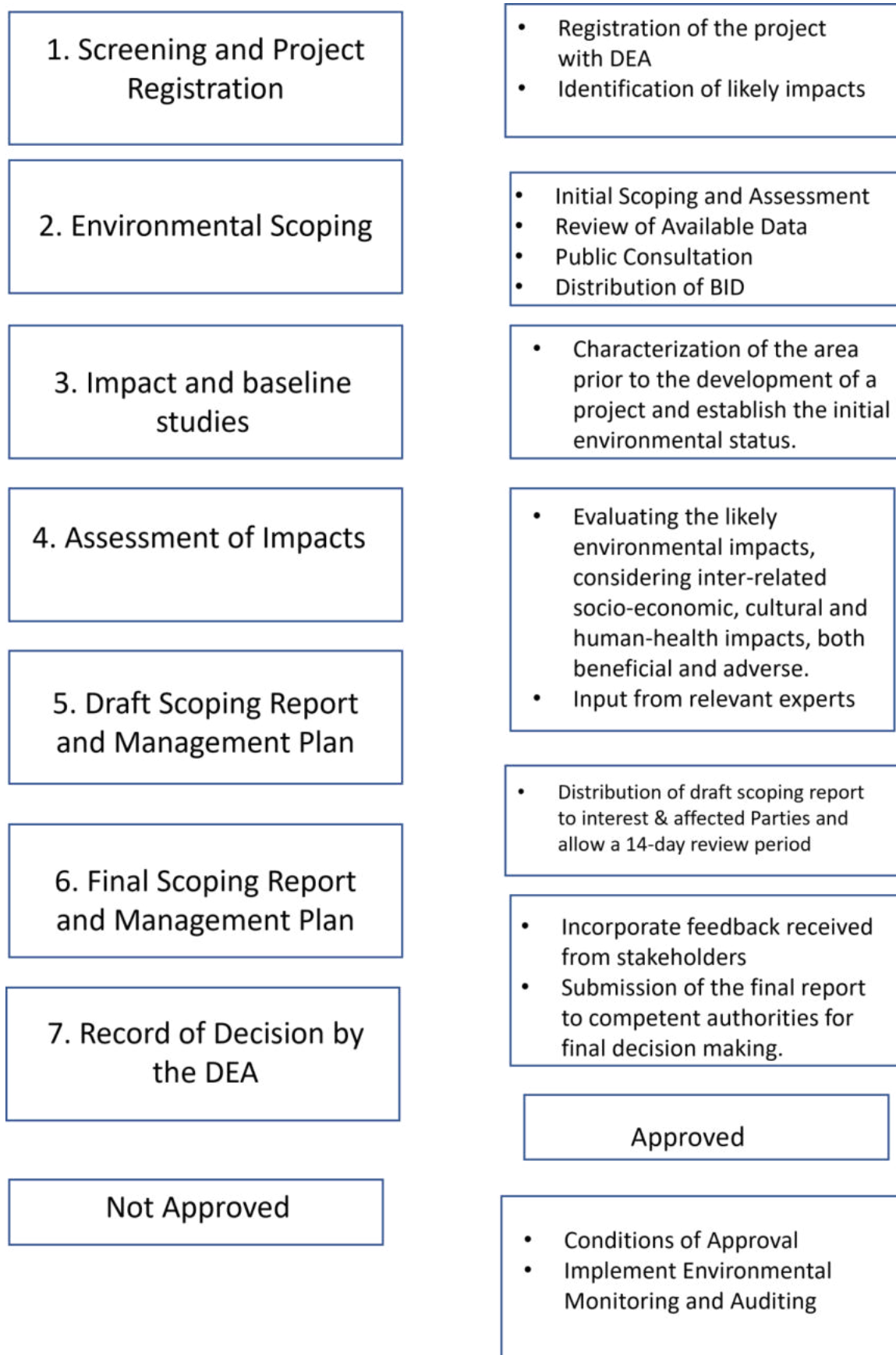


Figure 5. Flowchart of the Environmental Impact Assessment process followed in Namibia.

## 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.

### Project Initiation and Screening

The project registered on the online ECC portal ([eia.met.gov.na](http://eia.met.gov.na)) to provide notification of the commencement of the EIA process and to obtain clarity on the process to be followed.

### 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 farmers 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&APs 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.

### **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.

### **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.

### **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.

## **Need and Desirability**

### **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. Mining contributes roughly 10% of GDP annually and can expand to 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.

### **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.

### **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.

### **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 benefications to the receiving environment. However, the no go alternative is not considered since it will lead to negative socio-economic impacts.

### **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.

#### **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.

### 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.

### 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.

### 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.

### 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.

### 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’.

### 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”*.

## 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, except for East Caprivi, is proclaimed as a controlled area for the purposes of section 4(1) (a) of the ordinance.

## 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.

## 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.

## 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.

## 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.



# Description of Proposed Mineral exploration Project

## Introduction

Copper is a chemical element with the symbol Cu (from Latin: cuprum) and atomic number 29. It is a soft, malleable, and ductile metal with very high thermal and electrical conductivity. A freshly exposed surface of pure copper has a pinkish orange colour. Copper is used as a conductor of heat and electricity, as a building material, and as a constituent of various metal alloys, such as sterling silver used in jewellery, cupronickel used to make marine hardware and coins, and constantan used in strain gauges and thermocouples for temperature measurement.

Copper is one of the few metals that can occur in nature in a directly usable metallic form (native metals). This led to very early human use in several regions, from c. 8000 BC. Thousands of years later, it was the first metal to be smelted from sulphide ores, c. 5000 BC; the first metal to be cast into a shape in a mold, c. 4000 BC; and the first metal to be purposely alloyed with another metal, tin, to create bronze, c. 3500 BC. Copper used in buildings, usually for roofing, oxidizes to form a green Verdigris (or patina). Copper is sometimes used in decorative art, both in its elemental metal form and in compounds as pigments. Copper compounds are used as bacteriostatic agents, fungicides, and wood preservatives.

## Techniques for Mineral Exploration

### 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 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 analysed 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 Outjo. 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.

## 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 Erongo 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. The Kunene Region encompasses a range of biomes or landscapes neatly arranged parallel to one another. On the west is the forbidding Skeleton Coast - a region of rocks, fog, shipwrecks and desolation, washed by the waters of the Benguela current, which brings Antarctic cold to desert heat. The region's administrative capital is Opuwo. The Kunene Region covers an area of 115,293 km<sup>2</sup> of the total Namibian land. This figure shows a population density of 1.6 persons per km<sup>2</sup>. Kunene Region is the second largest region in Namibia after //Karas Region.

### 4.2 Climatic Conditions

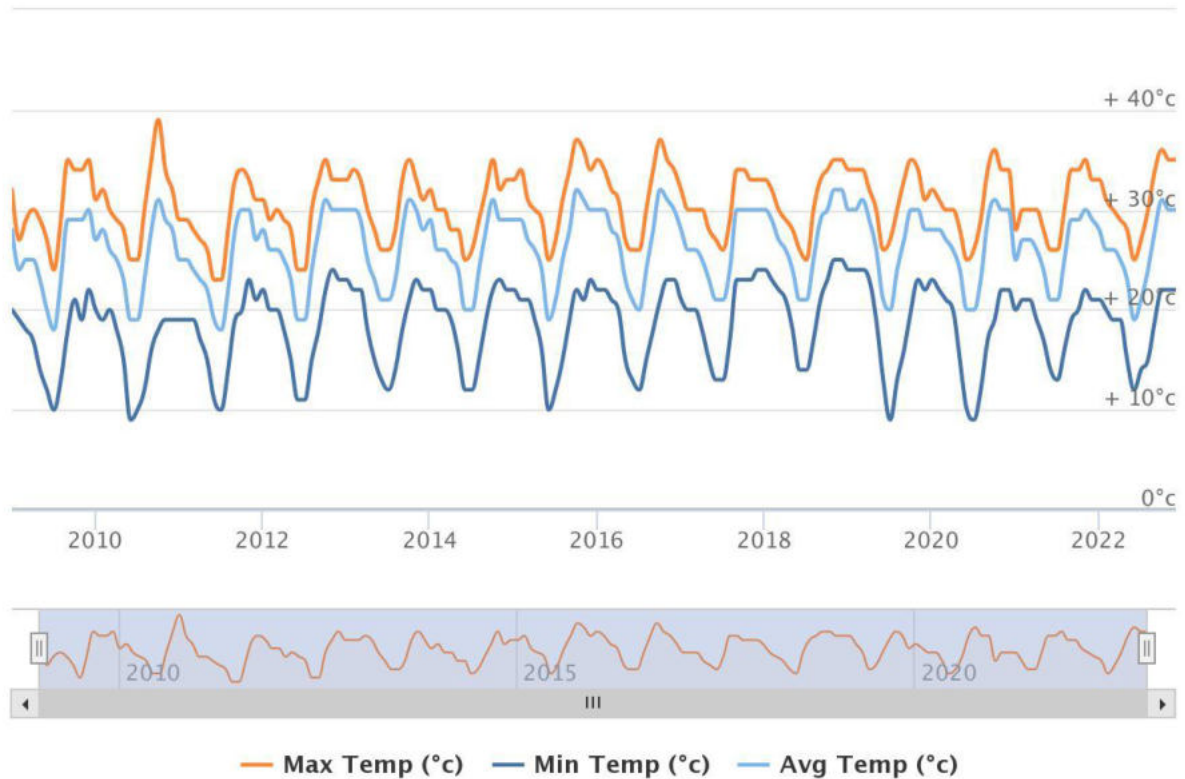
#### 4.2.1 Temperature

In the proposed area, the hot season lasts for 4.6 months, from September 8 to January 26, with an average daily high temperature above 32°C. The hottest month of the year in Outjo is December, with an average high of 33°C and low of 17°C. The cool season lasts for 2.3 months, from May 25 to August 1, with an average daily high temperature below 27°C. The coldest month of the year in Outjo is June, with an average low of 7°C and high of 26°C.

## Outjo

Max, Min and Average Temperature (°C)

Zoom 1m 3m 6m YTD 1y **All**



WorldWeatherOnline.com

Figure 6. Average temperature for a period from 2010 to 2022.

### 4.2.2 Precipitation

In the proposed area, the highest rainfall is usually experienced in March which may reach 180 mm with average rainfall days of 14. In January months, rain-fall may reach about 100 mm with average rainfall days. The graph below shows the rainfall patterns in the area.

# Outjo

Average Rainfall Amount (mm) and Rainy Days

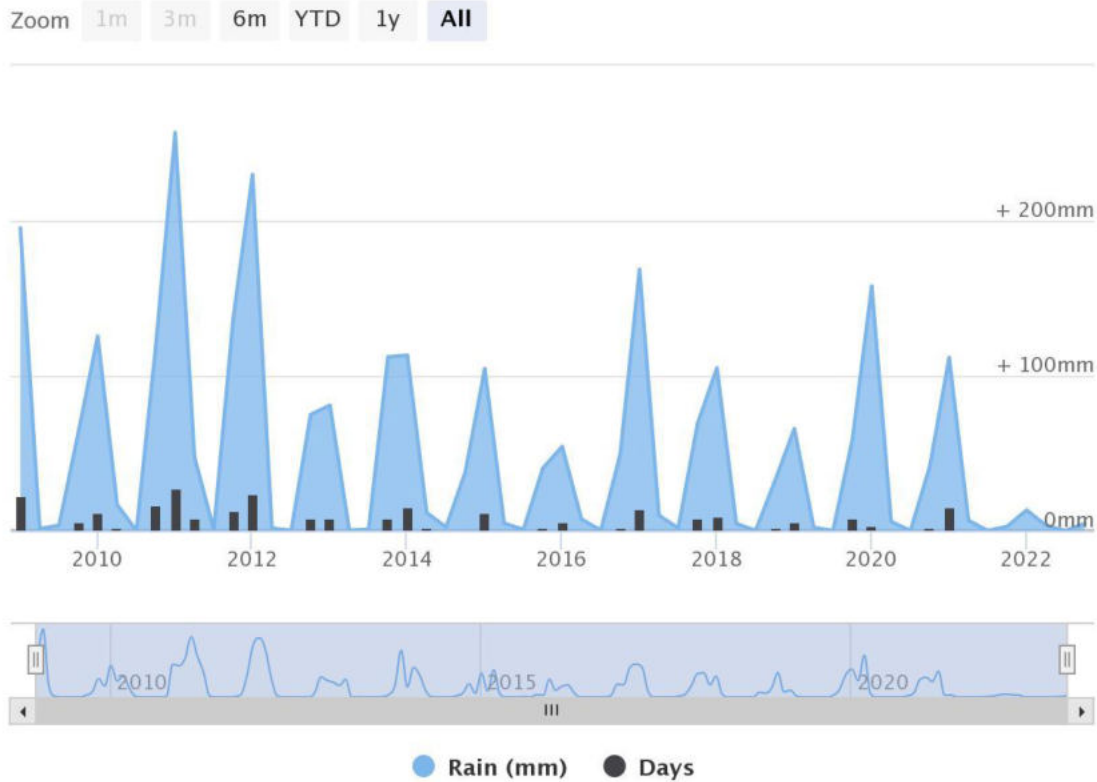


Figure 7. Average precipitation for a period from 2010 to 2022.

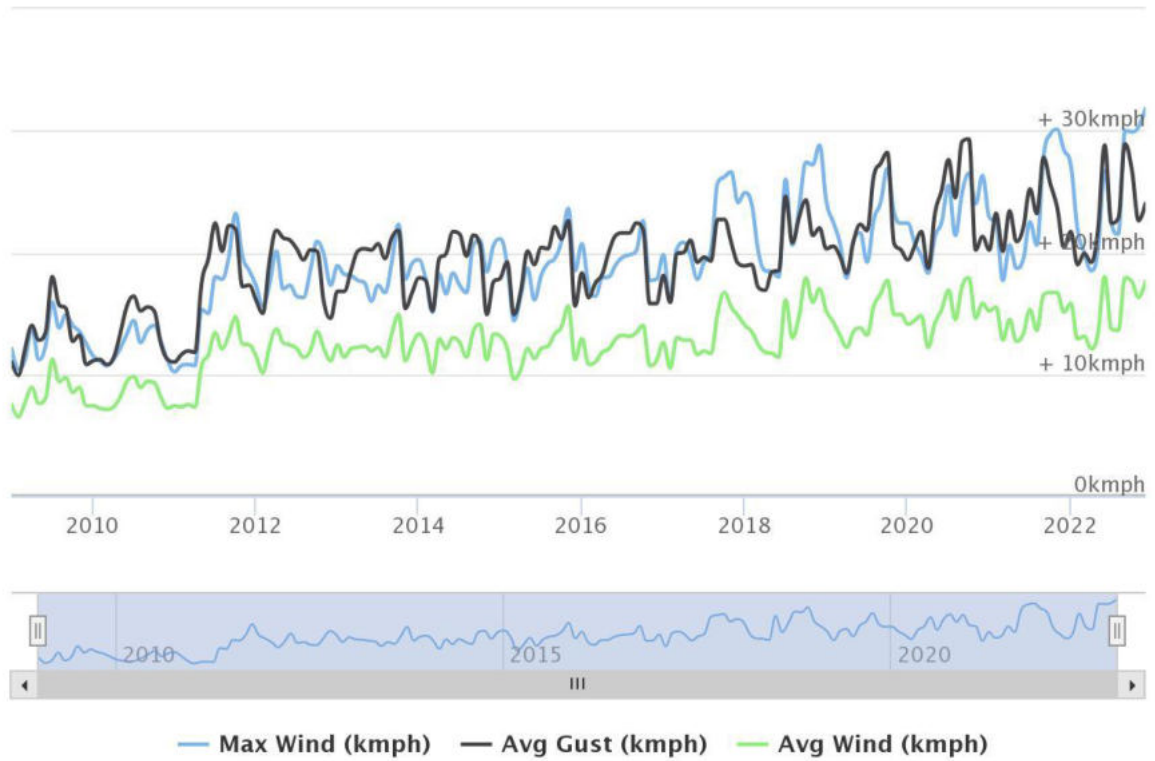
## Wind

The windiest months (with the highest average wind speed) are October and November (17.5kmph). The calmest month (with the lowest average wind speed) is March (13kmph).

# Outjo

Average and Max Wind Speed and Gust (kmph)

Zoom 1m 3m 6m YTD 1y **All**



WorldWeatherOnline.com

Figure 8. Average wind and maximum speed for the period between 2010 and 2022.

## Humidity

The relative humidity during the least humid months of the year, i.e. September and November, is around 16-18% and the most humid month is January with 50-60% 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.

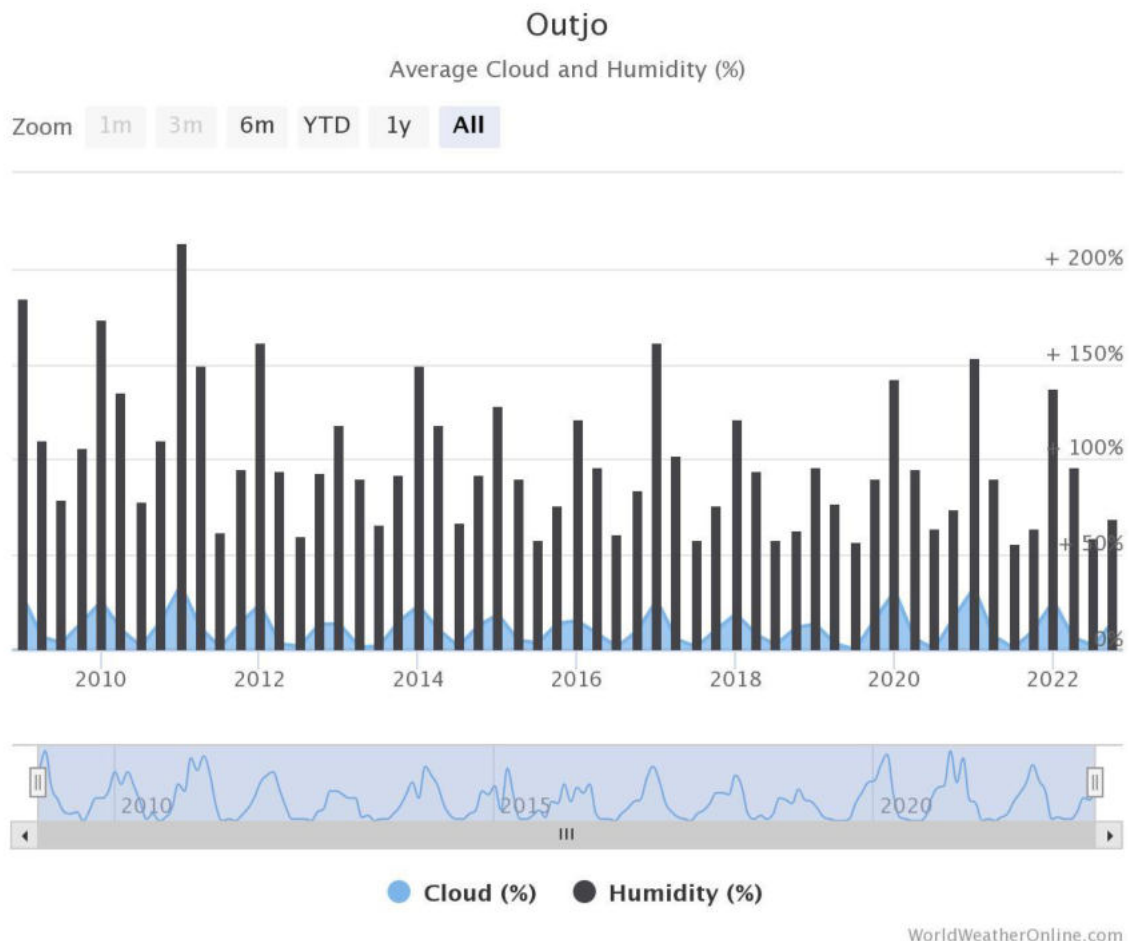


Figure 9. Average cloud and humidity for the period between 2010 and 2022.

## 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<sub>10</sub> describes all particulate matter in the atmosphere with a diameter equal to or less than 10 µm and are generally emitted from motor vehicles (diesel engines) and burning of wood. PM<sub>2.5</sub> describes all particulate matter in the



atmosphere with a diameter equal to or less than 2.5  $\mu\text{m}$  and are mostly related to combustion.  $\text{NO}_2$  and nitric oxide (NO) are formed simultaneously in combustion processes and other high temperature operations such as blast furnaces. Sources of  $\text{SO}_2$  include fossil fuel combustion from industry and power plants.  $\text{SO}_2$  is emitted when coal or other biomass fuels are burnt for energy.

Data from [accuweather.com](http://accuweather.com) shows that the air quality in the area is generally excellent with an air quality index of 15 AQI. The ground-level ozone ( $\text{O}_3$ ) is about 15  $\mu\text{g}/\text{m}^3$  which is excellent. The fine particle matter levels ( $\text{PM}_{2.5}$ ) are about 9  $\mu\text{g}/\text{m}^3$ . The particle matter ( $\text{PM}_{10}$ ) is about 9  $\mu\text{g}/\text{m}^3$ . The nitrogen dioxide ( $\text{NO}_2$ ), carbon monoxide (CO), and sulphur dioxide ( $\text{SO}_2$ ) levels in the area are recorded to be 0  $\mu\text{g}/\text{m}^3$ .

## 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.

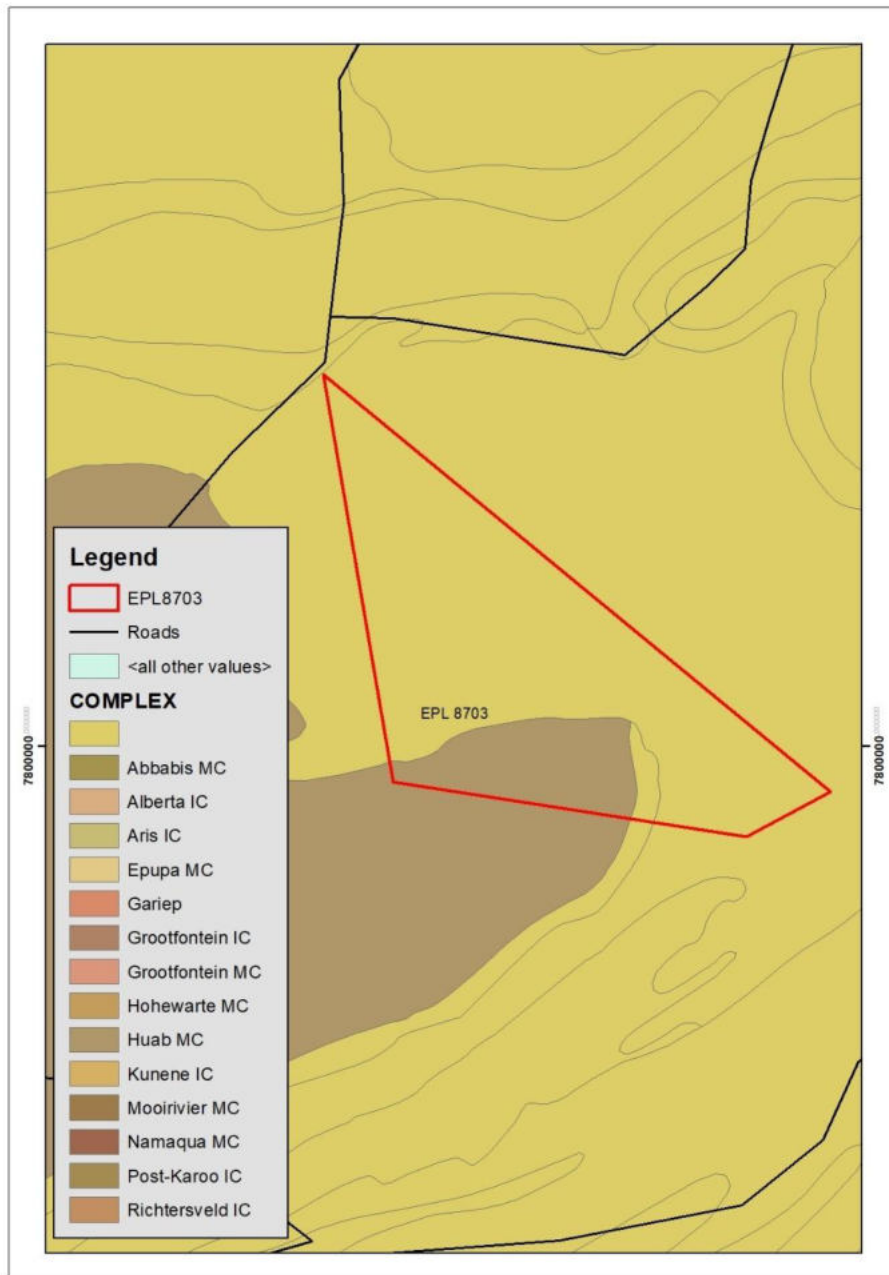


Figure 10. The various geological complexes that can be found in the area surrounding EPL8703

## Hydrogeology and Water Resources

The area is underlain by rocks with little groundwater potential and aquifers with moderate groundwater potential.

## 4.5 Flora

Rainfall in the Kunene 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.

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

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

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

## 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.

## 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 known 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.

Table 1. mammal species that are likely to occur within the area

SCIENTIFIC NAME	COMMON NAME
<i>Acinonyx jubatus</i>	Cheetah
<i>Antidorcas marsupialis</i>	Springbok
<i>Atelerix frontalis angolae</i>	Southern African Hedgehog
<i>Canis mesomelas</i>	Black-backed Jackal
<i>Caracal caracal</i>	Caracal
<i>Crocuta crocuta</i>	Spotted Hyena
<i>Cynictis penicillata</i>	Yellow Mongoose
<i>Equus zebra hartmannae</i>	Hartmann's Mountain Zebra
<i>Felis nigripes</i>	Black-footed Cat
<i>Felis silvestris/lybica</i>	African Wild
<i>Galerella sanguinea</i>	Slender Mongoose
<i>Genetta genetta</i>	Small Spotted
<i>Ictonyx striatus</i>	Striped Polecat
<i>Lepus capensis</i>	Cape Hare
<i>Lepus saxatilis</i>	Scrub Hare
<i>Manis temminckii</i>	Ground Pangolin
<i>Mellivora capensis</i>	Honey Badger/Ratel
<i>Oreotragus oreotragus</i>	Klipspringer
<i>Oryx gazella</i>	Gemsbok
<i>Otocyon megalotis</i>	Bat-eared Fox
<i>Panthera pardus</i>	Leopard
<i>Parahyaena (Hyaena)</i>	brunnea Brown
<i>Phacochoerus africanus</i>	Common Warthog

<i>Proteles cristatus</i>	Aardwolf
<i>Raphicerus campestris</i>	Steenbok
<i>Suricata suricatta</i>	marjoriae Suricate
<i>Sylvicapra grimmia</i>	Common Duiker
<i>Tragelaphus strepsiceros</i>	Greater Kudu
<i>Vulpes chama</i>	Cape Fox

### 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 2. Endangered reptiles that might be found within the EPL8703 Area.

SCIENTIFIC NAME	COMMON NAME	STATUS
<i>Psammobates Oculiferus</i>	Kalahari Tent	Protected
<i>Python Natalis</i>	Southern African	Protected
<i>Geochelone Pardalis</i>	Leopard Tortoise	Protected
<i>Varanus Albigularis</i>	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.

### Avifauna (Birds)

Simmons et al (2003) points that although Namibia's Avifauna is comparatively 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 3. Some the common birds that could potentially be found in EPL8703*

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

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

## Archaeology and Heritage Sites

Archaeological sites in Namibia are protected under the National Heritage Act of 2004 (No. 27 of 2004). Evidence shows that, the emergence of 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 (Kinahan, 2017). Erongo is one part of the country with high archaeological sensitive areas, with more than 37 declared national monuments in Namibia and other non-designated archaeological sites.

Reviewing the previous reports and data has shown that there no known heritage sites close to the existing EPL area.



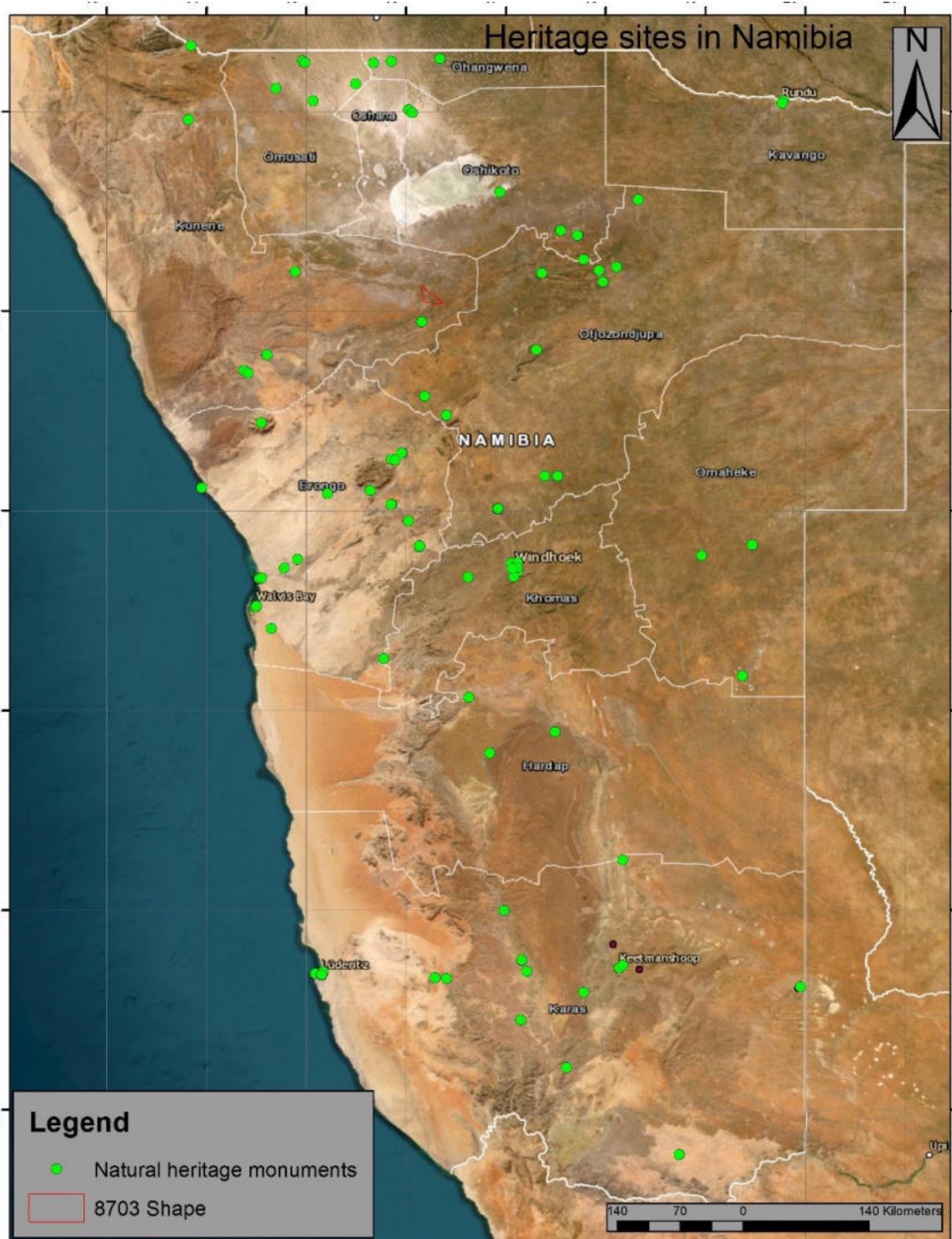


Figure 11. Map showing all the major heritage sites in Namibia

## Socio-Economic Environment

### 4.9.1 Demographics of Outjo

The Outjo Constituency is located in the Southeastern part of Kunene Region, bordering Kamanjab to the West, Otjiwarongo constituency to the South, Otavi Constituency to the East

and Omuthiyagwiipundi constituency to the North. The total area size of Outjo Constituency is 7,466 square kilometers and has a population of 12,447, with a population density of 1.7 per square kilometer, making it the most populous constituency in the region. Sixty one percent (61%) of the population is aged between 15 – 59 years old. The constituency has a fairly high literacy rate of 78% and 65% of the population have already left school.

Outjo forms the entry point for consumer goods and services distributed throughout the region to towns such as Opuwo, Khorixas, Kamanjab and Ruacana to the north. These regional urban areas are connected by tarred roads, making transportation services one of the best in the country with low traffic flow and minimal vehicle accidents. According to SADCbiz.com, Outjo forms the communication and transport hub of the Kunene Region. It is serviced by rail and tarred road from Otjiwarongo and Usakos. Outjo constituency has a 75% economically active population, where 66% are formally employed in the constituency and 35% are unemployed. 66% of the resident main source of income is derived from wages and salaries, followed by 10% pensions and 9% cash remittances. About 89% of the households have access to safe water, 47% have no access to toilet facilities (lower than other constituencies in the region) and 48% use electricity for lighting.

#### **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 8703. 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 4. Criteria for Assessing Impacts

PART A: DEFINITION AND CRITERIA		
Definition of SIGNIFICANCE	Significance = consequence probability	
Definition of CONSEQUENCE	Consequence is a function of severity, spatial extent and duration	
Criteria for ranking of the SEVERITY/NATURE of environmental impacts	H	Substantial deterioration (death, illness or injury). Recommended level will often be violated. Vigorous community action. Irreplaceable loss of resources.
	M	Moderate/measurable deterioration (discomfort). Recommended level will occasionally be violated. Widespread complaints. Noticeable loss of resources.
	L	Minor deterioration (nuisance or minor deterioration). Change not measurable/will remain in the current range. Recommended level will never be violated. Sporadic complaints. Limited loss of resources.
	L+	Minor improvement. Change not measurable/will remain in the current range. Recommended level will never be violated. Sporadic complaints.
	M+	Moderate improvement. Will be within or better than the recommended level. No observed reaction.
	H+	Substantial improvement. Will be within or better than the recommended level. Favorable publicity.
Criteria for ranking the DURATION of impacts	L	Quickly reversible. Less than the project life. Short-term
	M	Reversible overtime. Life of the project. Medium-term
	H	Permanent beyond closure – Long-term.
Criteria for ranking the SPATIAL SCALE of Impacts	L	Localized-Within the site boundary.
	M	Fairly widespread-Beyond the site boundary. Local
	H	Widespread – Far beyond site boundary. Regional/national

Table 5. The various impacts consequences

PART B: DETERMINING CONSEQUENCE					
<b>SEVERITY = L</b>					
<b>DURATION</b>	Long-term	H	Medium	Medium	Medium
	Medium term	M	Low	Low	Medium
	Short-term	L	Low	Low	Medium
<b>SEVERITY = M</b>					
<b>DURATION</b>	Long-term	H	Medium	High	High
	Medium term	M	Medium	Medium	High
	Short-term	L	Low	Medium	Medium
<b>SEVERITY = H</b>					
<b>DURATION</b>	Long-term	H	High	High	High
	Medium term	M	Medium	Medium	High
	Short-term	L	Medium	Medium	High
			L	M	H
			Localized Within site boundary Site	Fairly widespread Beyond site boundary Local	Widespread Far beyond site boundary

Table 6. The various significance of the impacts

PART C: DETERMINING SIGNIFICANCE					
<b>PROBABILITY</b> (of exposure to impacts)	Definite/Continuous	H	Medium	Medium	High
	Possible/frequent	M	Medium	Medium	High
	Unlikely/seldom	L	Low	Low	Medium
			L	M	H
			CONSEQUENCE		

Table 7. The various interpretation of significance.

PART D: INTERPRETATION OF SIGNIFICANCE	
Significance	Decision guideline
High	It would influence the decision regardless of any possible mitigation.
Medium	It should have an influence on the decision unless it is mitigated.
Low	It will not have an influence on the decision.

\*H = high, M = medium and L = low and + denotes a positive impact.

## Public Participation Process

The public participation process commenced with newspaper advertisements in two widely distributed newspapers for three consecutive weeks as shown in Appendix B. Known interested and affected parties were notified directly via mail and fax. Posters were placed at the office of the Regional Council office and at the site as well. Interested and affected parties that were notified directly including farmers. No negative concerns were received at this stage. Should any interested and affected parties raise any concerns during the on-going project phase, the Ministry of Environment and Tourism will be immediately notified. The registered interested and affected are indicated in the table below:

Name	Position	Organization
Dr Chris Brown	CEO	Namibian Chamber of Environment

## 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\$ 3 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 5 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 Impact	Significance		Duration	Extent	Intensity	Probability
	NMM	MM				
Increased spread of HIV/AIDS & Covid-19	M	L	LD	N	M	LP
Increased influx of people to the area	L	L	SD	L	L	P
Increased informal settlement in the area	M	L	MD	L	L	LP

## **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	Significance		Duration	Extent	Intensity	Probability
	NMM	MM				
Dust	L	L	LD	N	M	LP
Noise	M	L	SD	L	L	P
Safety & Security	M	L	MD	L	L	LP
Visual	L	L	MD	O	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 Uis 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 Impact	Significance		Duration	Extent	Intensity	Probability
	NMM	MM				
Air Quality	M	L	LD	L	M	HP
Fire & Explosion Hazard	H	L	SD	O	M	LP
Generation of waste	M	M	SD	O	M	D
Health and Safety	H	M	LD	N	M	P
Fauna	M	L	MD	L	M	D
Vegetation	M	L	MD	L	M	D
Avifauna	M	L	MD	L	M	LP



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 because 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

<b>CONSTRUCTION/INITIAL PHASE</b>			
<b>Environmental Impact</b>	<b>Proposed mitigation measures</b>	<b>Responsibility</b>	<b>Monitoring plan</b>
<b>Air pollution</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>• Contractor</li> <li>• Site Manager</li> </ul>	<ul style="list-style-type: none"> <li>• Amount of dust produced.</li> <li>• Level of Landscaping carried out.</li> </ul>
<b>Noise Pollution</b>	Maintain equipment and vehicles. <ul style="list-style-type: none"> <li>• Field work should only be carried out only during daytime i.e. 08h00 to 17h00.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor</li> <li>• Management</li> </ul>	<b>Amount of noise</b>

	<ul style="list-style-type: none"> <li>Workers should wear earmuffs if working in noisy section.</li> <li>Management to ensure that noise is kept within reasonable levels.</li> </ul>		
<b>Solid waste</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>Management</li> </ul>	Presence of well-Maintained receptacles and central collection point.
<b>Oil leaks and spills</b>	<ul style="list-style-type: none"> <li>Vehicles and equipment 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 handled carefully.</li> </ul>	<ul style="list-style-type: none"> <li>Contractor</li> </ul>	No spills and leaks on the site
<b>First aid</b>	A well-stocked first aid kit shall be maintained by qualified personnel	<ul style="list-style-type: none"> <li>Management</li> </ul>	<b>Contents of the first aid kit</b>
<b>Visual</b>	Environmental considerations will be adhered to at all times before clearing roads, trenching and excavating.	<ul style="list-style-type: none"> <li>Management</li> </ul>	Employees will be trained on the importance of minimising visual impacts
<b>Archaeological Sites</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>Contractor</li> <li>Management</li> </ul>	<ul style="list-style-type: none"> <li>Register of all archaeological sites identified.</li> </ul>
<b>Occupational Health</b>	Provide Personal Protective Equipment	<ul style="list-style-type: none"> <li>Contractor</li> <li>Management</li> </ul>	<ul style="list-style-type: none"> <li>Workers using Protective</li> </ul>

<b>and Safety</b>	<p>Train workers on personal safety and how to handle equipment and machines.</p> <ul style="list-style-type: none"> <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>		<p>Equipment.</p> <ul style="list-style-type: none"> <li>• Presence of Well stocked First Aid Box.</li> <li>• Clean sanitary facilities.</li> </ul>
<b>Fauna</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>• Contractor</li> <li>• Management</li> </ul>	<ul style="list-style-type: none"> <li>• Regular monitoring of any unusual signs of animal habitat.</li> </ul>
<b>Alien Invasive Plants</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>• Contractor</li> <li>• Management</li> </ul>	<ul style="list-style-type: none"> <li>• Regular monitoring of any unusual signs of alien species.</li> </ul>
<b>Loss of vegetation</b>	<ul style="list-style-type: none"> <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</li> </ul>	<ul style="list-style-type: none"> <li>• Management</li> </ul>	<ul style="list-style-type: none"> <li>• Warning signs on site</li> <li>• restored vegetation</li> </ul>

	<p>zones. Permeable materials will be used wherever possible.</p> <ul style="list-style-type: none"> <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 on</li> </ul>		
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## OPERATIONAL PHASE

<b>Archaeological Sites</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>• Management</li> <li>• Contractor</li> </ul>	<ul style="list-style-type: none"> <li>• Update Register of all archaeological sites identified.</li> </ul>
<b>First aid</b>	<ul style="list-style-type: none"> <li>• A well-stocked first aid kit shall be maintained by qualified personnel</li> </ul>	<ul style="list-style-type: none"> <li>• Management</li> </ul>	<ul style="list-style-type: none"> <li>• Contents of the first aid kit.</li> </ul>
<b>Fire preparedness</b>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <li>• Management</li> </ul>	<ul style="list-style-type: none"> <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>
<b>Environment Health and Safety</b>	<ul style="list-style-type: none"> <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> </ul>	<ul style="list-style-type: none"> <li>• Management</li> </ul>	<ul style="list-style-type: none"> <li>• Provide sanitary facilities.</li> <li>• Copies of Annual Audit</li> </ul>

	<ul style="list-style-type: none"> <li>• Provide sufficient and suitable sanitary conveniences which should be kept clean.</li> <li>• Conduct Annual Health and Safety Audits.</li> </ul>		
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## DECOMMISSIONING PHASE

<b>Environmental/ Social Impact</b>	<b>Proposed mitigation measures</b>	<b>Responsibility</b>	<b>Monitoring plan/indicator</b>
<b>Noise &amp; Air pollution</b>	<ul style="list-style-type: none"> <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>	<ul style="list-style-type: none"> <li>• Management</li> </ul>	Amount of noise
<b>Disturbed Physical environment</b>	<ul style="list-style-type: none"> <li>• Undertake a complete environmental restoration programme and introducing appropriate vegetation</li> </ul>	<ul style="list-style-type: none"> <li>• Management</li> </ul>	
<b>Solid waste</b>	<ul style="list-style-type: none"> <li>• Solid waste should be collected by a contracted waste collection company</li> <li>• Excavation waste should be re-used or backfilled.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractor</li> <li>• Management</li> </ul>	<ul style="list-style-type: none"> <li>• Amount of waste on Site.</li> <li>• Presence of wellmaintained receptacles and central collection point</li> </ul>
<b>Occupational Health and Safety</b>	<ul style="list-style-type: none"> <li>• Provide Personal Protective Equipment.</li> <li>• 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>• Demarcate area under decommissioning.</li> </ul>	<ul style="list-style-type: none"> <li>• Management</li> </ul>	<ul style="list-style-type: none"> <li>• Workers using Protective Equipment.</li> <li>• Presence of a First Aid Box.</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 to 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

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 is 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.

### **Public Participation Process**



The public participation process commenced with newspaper advertisements in two widely distributed newspapers for three consecutive weeks as shown in Appendix B. Known interested and affected parties were notified directly via mail and fax. Posters were placed at the office of the Regional Council office and at the site as well. Interested and affected parties that were notified directly including farmers. No negative concerns were received at this stage. Should any interested and affected parties raise any concerns during the on-going project phase, the Ministry of Environment and Tourism will be immediately notified. The registered interested and affected are indicated in the table below:

Name	Position	Organization

The issues raised are shown in the appendix, under the public meeting section.

Name	Organization	Email	Tel	Comments

## Conclusion

The scoping report is prepared for the Environmental Impact Assessment for mineral exploration on an area which is located about 20 km north east of Outjo, along the C39 and M63 roads. 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 8 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



# DR KAUKURAE KANGUEEHI

## ENVIRONMENTAL SCIENTIST

### BIO

I am a qualified and professional environmental scientist with experience in environmental geochemistry and biogeochemistry. Strong scientific report writing and data analysis skills. Team player with an eye for detail.

### EXPERIENCE

#### SENIOR RESEARCHER & EXPLORATION GEOLOGIST

Arcadia Minerals

01 October 2021 - Present

- Exploration geological activities
- Hydrogeology
- Drilling supervision & management
- Geological mapping
- Geochemical sampling
- Environmental impacts assessments monitoring
- Quarterly report writing for EPL renewals
- EIA & EMP reports
- Identifying new geological targets
- Geotechnical & structural core logging
- Financial & budget planning
- Market monitoring & evaluation
- Report writing & research
- Data analysis, interpretation & presentations

+264 81 706 9027/  
+264 81 291 0670

kkangueehi0@gmail.com

Windhoek, Namibia

LinkedIn: Kaukuraee Ismael  
Kangueehi

### EDUCATION

#### DOCTOR OF PHILOSOPHY (PHD) | EARTH SCIENCES

University of Stellenbosch

2018 - 2021

#### MASTER OF SCIENCE | EARTH SCIENCES

University of Stellenbosch

2016 - 2017

#### BACHELOR OF SCIENCE (Honors)

University of Stellenbosch

2015

#### BACHELOR OF SCIENCE

University of Namibia

2010

## STUDENT DEMONSTRATOR/TUTOR

University of Stellenbosch

**01 February 2015 - 15 December 2020**

Taught 2nd & 3rd year students the following subjects whilst pursuing my Masters & PhD on a full-time basis:

- Geo-Environmental Science
- Introduction to Environmental Geochemistry
- Economic Geology
- Field skills & Engineering Geology

## EXPLORATION GEOLOGIST

Sabre Resources Namibia

**01 March 2010 - 31 October 2013**

- Exploration geological activities
- Hydrogeology
- Drilling supervision
- Geological mapping
- Geochemical sampling
- Environmental impacts assessments monitoring
- Quarterly report writing for EPL renewals
- Geotechnical and structural core logging

*Reason for leaving:* To pursue Postgraduate studies on a full-time basis.

## SKILLS

- Scientific report writing
- Data analysis & interpretation
- Proficient in MS Office Package

## SOFTWARE

- GIS
- BenMap
- R Programming
- Hysplit Modeling Software
- Micromme 3D Modelling

## LANGUAGES

- English
- Otjiherero
- Afrikaans

---

## REFERENCES

**Professor Susanne Fietz**  
Professor | University of Stellenbosch

Masters & PhD Supervisor  
Contact number: +27 79 369 4250  
Email: sfietz@sun.ac.za

**Professor Frank Eckardt**  
Professor | University of Cape Town

Masters & PhD Co-Supervisor  
Contact number: +27 21 650 4117  
Email: frank.eckardt@uct.ac.za

**Mr Lisias Pius**  
Country Manager | Arcadia Minerals

Contact number: +264 81 275 6367  
Email: lisias@lexrox.co.za

**CALL FOR PUBLIC PARTICIPATION**  
ENVIRONMENTAL IMPACT ASSESSMENT FOR PROPOSED SMALL SCALE MINING ON MINING CLAIMS (MCs) 74185 TO 74188, ERONGO REGION

This notice serves to inform interested and affected parties that an application for the environmental clearance certificate will be launched with the environmental commissioner in terms of the Environmental Impact Assessment Management Act (No.7 of 2007) and Environmental Regulations (GN 30 of 6 February 2012) for the proposed activity:

**Project:** Proposed small scale mining activities on site (7) Mining Claims 74185 to 74188.  
**Location:** The project is located in Erongo Region, approximately 40 km SW of Uta settlement, Erongo constituency, Erongo region, via C35 and D2142 from Uta.  
**Proprietor:** Torken Industries.

**Project description:** The proponent intends to mine the following commodities on small scale: Base & Rare metals, Industrial Minerals, Precious metals and Semi-precious stones.

In accordance with Namibia's Environmental Management Act (No. 7 of 2007) and Environmental Regulations (GN 30 of 6 February 2012), all interested and affected parties (IAEPs) are invited to register and submit comments, concerns and questions in writing to the email given below on or before 24/02/2023. Public meeting date to be communicated to all registered interested and affected parties.

Tel: +264 85 761 4750  
Email address: [info@minera-xplore.com](mailto:info@minera-xplore.com) or [contact@minera-xplore.com](mailto:contact@minera-xplore.com)  
**Minera-Xplore Consultancy cc**

**CALL FOR PUBLIC PARTICIPATION**  
ENVIRONMENTAL IMPACT ASSESSMENT FOR PROPOSED SMALL SCALE MINING ON MINING CLAIMS (MCs) 74119 TO 74121, ERONGO REGION

This notice serves to inform interested and affected parties that an application for the environmental clearance certificate will be launched with the environmental commissioner in terms of the Environmental Impact Assessment Management Act (No.7 of 2007) and Environmental Regulations (GN 30 of 6 February 2012) for the proposed activity:

**Project:** Proposed small scale mining activities on site (7) Mining Claims 74119 to 74121.  
**Location:** The project is located in Erongo Region, approximately 41 km SW of Uta settlement, Erongo constituency, Erongo region, via C35 and D2142 from Uta.  
**Proprietor:** Torken Industries (Pty) Ltd.

**Project description:** The proponent intends to mine the following commodities on small scale: Base & Rare metals, Industrial Minerals and Semi-precious stones.

In accordance with Namibia's Environmental Management Act (No. 7 of 2007) and Environmental Regulations (GN 30 of 6 February 2012), all interested and affected parties (IAEPs) are invited to register and submit comments, concerns and questions in writing to the email given below on or before 24/02/2023. Public meeting date to be communicated to all registered interested and affected parties.

Tel: +264 85 761 4750  
Email address: [info@minera-xplore.com](mailto:info@minera-xplore.com) or [contact@minera-xplore.com](mailto:contact@minera-xplore.com)  
**Minera-Xplore Consultancy cc**

**CALL FOR PUBLIC PARTICIPATION**  
ENVIRONMENTAL IMPACT ASSESSMENT FOR PROPOSED SMALL SCALE MINING ON MINING CLAIMS (MCs) 74364 TO 74368, ERONGO REGION

This notice serves to inform interested and affected parties that an application for the environmental clearance certificate will be launched with the environmental commissioner in terms of the Environmental Impact Assessment Management Act (No.7 of 2007) and Environmental Regulations (GN 30 of 6 February 2012) for the proposed activity:

**Project:** Proposed small scale mining activities on site (7) Mining Claims 74364 to 74368.  
**Location:** The project is located in Erongo Region, approximately 42 km SW of Uta settlement, Erongo constituency, Erongo region, via C35 and D2142 from Uta.  
**Proprietor:** Torken Industries (Pty) Ltd.

**Project description:** The proponent intends to mine the following commodities on small scale: Base & Rare metals, Industrial Minerals and Semi-precious stones.

In accordance with Namibia's Environmental Management Act (No. 7 of 2007) and Environmental Regulations (GN 30 of 6 February 2012), all interested and affected parties (IAEPs) are invited to register and submit comments, concerns and questions in writing to the email given below on or before 24/02/2023. Public meeting date to be communicated to all registered interested and affected parties.

Tel: +264 85 761 4750  
Email address: [info@minera-xplore.com](mailto:info@minera-xplore.com) or [contact@minera-xplore.com](mailto:contact@minera-xplore.com)  
**Minera-Xplore Consultancy cc**

**NOTICE OF ENVIRONMENTAL ASSESSMENT AND PUBLIC PARTICIPATION PROCESS**

Junior Bolono Industrial Consultants cc hereby gives notice to all potentially interested and affected parties (IAEPs) that an application will be made to Environmental Commissioner in terms of the Environmental Management Act (No 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 of 6 February 2012) for the following activity:

**PROJECT DESCRIPTION:** Proposed mineral exploration activities on EP 8748.

**PROJECT LOCATION:** The site is located near D79 South East of Aua, Erongo District, Erongo Region.

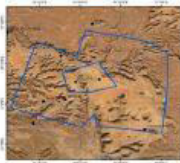


**PROPOSER:** Luxury Investments Two Hundred and Sixty Five (202) (Pty) Ltd.

IAEPs are invited to register with the consultant and give their comments and concerns in writing. Please take note of the following:

**PUBLIC MEETING**  
Date: Saturday 18 February 2023  
Venue: Industrial Hotel in Aua.  
Time: 12:00

To register or request for documents please submit your name, contact information and interest in the project, in writing to:

Mr. Rhyssden, Head of Office  
Tel: +264 85 81 547 2009  
Email: [info@juniorbolono.com](mailto:info@juniorbolono.com)

**CALL FOR PUBLIC PARTICIPATION**  
ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL EXPLORATION ON EP 8748


This notice serves to inform 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 15 to 20 km north of Oshana, accessible along the C38, east of the road. The proponent intends to explore for Base Metals. Exploration methods may include geological mapping, geophysical surveys, and sampling.

**Proprietor:** Torken Communications and Investment Rental CC

All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before 12/02/2023. Contact details for registration and further information:

Angita Environmental Consulting  
Dr. K. Kengwehi  
Email: [kkengwehi@angita.com](mailto:kkengwehi@angita.com), Call number: 0817609027



**CALL FOR PUBLIC PARTICIPATION**  
ENVIRONMENTAL IMPACT ASSESSMENT FOR MINING CLAIMS 74141 AND 74139

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 16 kilometers to the West of Arandis and 25 kilometers to the East of Oshana, accessible along the R2, north of the road. The proponent intends to mine on a small scale for industrial metals. Mining methods may include digging small pits, crushing and sampling.

**Proprietor:** Torken Industries

All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before 07/02/2023. Contact details for registration and further information:

Angita Environmental Consulting  
Dr. K. Kengwehi  
Email: [kkengwehi@angita.com](mailto:kkengwehi@angita.com), Call number: 0817609027



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**CALL FOR PUBLIC PARTICIPATION**  
**ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL EXPLORATION ON EPL 8763**

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 15 to 20 km north of Oshana, accessible along the CH, east of the road. The proponent intends to explore for Base Metals. Explorative methods may include geological mapping, geophysical surveys, and sampling.

**Proponent:** Elliot Communications and Investment Retailer CC

All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before 13/02/2023. Contact details for registration and further information:

Anglo Environmental Consulting  
 Dr. K. Kangwani  
 Email: [kangwani@angloenv.com](mailto:kangwani@angloenv.com), Cell number: 0817069027



**NOTICE OF ENVIRONMENTAL ASSESSMENT AND PUBLIC PARTICIPATION PROCESS**

Junior Balara Industrial Consultants cc hereby gives notice to all potentially interested and Affected Parties (IAPs) that an application will be made to Environmental Commissioner in terms of the Environmental Management Act (No 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 of 4 February 2012) for the following activity:

**PROJECT DESCRIPTION:** Proposed mineral exploration activities on EPL 8746

**PROJECT LOCATION:** The site is located near 0272 South East of Aua, Bethans District, Karas Region

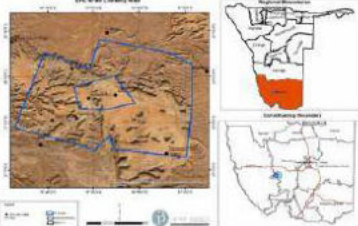

**PROPOSER:** Luxury Investments Two Hundred and Sixty(270) LTD

IAPs are invited to register with the consultant and give their comments and concerns in writing. Please take note of the following:

**PUBLIC MEETING**  
 Date: Saturday, 18 February 2023  
 Venue: Braitshof hotel in Aua  
 Time: 12:00

To register or request for documents please submit your name, contact information and interest in the project in writing to:

Mr Nqholiso, Fredrick  
 Tel: +244 (0) 81 147 2029  
 Email: [nqholiso20041@gmail.com](mailto:nqholiso20041@gmail.com)

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**Email:** [infocareermarketing@telkomsa.net](mailto:infocareermarketing@telkomsa.net)  
**Web:** [www.careermarketingint.com](http://www.careermarketingint.com)  
**Booking fee:** 3500 Namibian Dollars

**Assistance to travel and accommodation available**

**CALL FOR PUBLIC PARTICIPATION**  
**ENVIRONMENTAL IMPACT ASSESSMENT FOR MINING ACTIVITIES ON MINING CLAIM 74032**

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 40 km southeast of Karibib on Farm Otjua. The proponent intends to mine industrial minerals and semi-precious stones from the mining claims.

**Proponent:** Mr. Alweendo

All interested and affected parties are hereby invited to register and submit their comments regarding the proposed project on or before 27/02/2022. Contact details for registration and further information:

Impala Environmental Consulting  
 Mr. S. Andjamba  
 Email: [public@impalac.com](mailto:public@impalac.com), Tel: 0856630598



ail: classifieds@nepc.com.na

## Notices

### Legal Notice

#### ACT ASSESSMENT (EIA) FOR THE ITIES ON EPL 4458, KEISHÖHE DISTRICT, KHARAS REGION

all Interested and Affected Parties  
on for an Environmental Clearance  
ed to the Competent Authority and  
t, Forestry and Tourism (MEFT) for

oration activities on EPL 4458.  
area, Lüderitz District, Kharas region  
tion (Pty) Ltd.

intends to continue with exploration  
etals, dimension stones, industrial  
als on the Keishöhe carbonatite  
cated about 4km southeast of the  
near the town of Aus. In terms of  
ent Act 07 of 2007, the intended  
ten without an EIA study being

gister, request the Background  
attend the public meeting, and  
@greengain.com.na T.

eting is scheduled as follows  
enter, Aus.  
2023



+264 81 82 2927  
info@greengain.com.na  
<https://www.greengain.com.na>

#### 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:  
**KAVANGO EAST**

1. Name and postal address of  
applicant,

**BEUKAN SHIWA  
P.O BOX 336, TSUMEB**

2. Name of business or proposed  
business to which applicant relates  
**OMALONDO SHEBEN**

## Notices

### Legal Notice

#### CALL FOR PUBLIC PARTICIPATION

#### ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL EXPLORATION ON EPL 8703

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 of the Environmental  
Management Act (No.7 of  
2007) and the Environmental  
Regulations (GN 30 of 2012).  
Project: The license area is  
located **15 to 20 km north  
of Outjo**, accessible along  
the C38, east of the road.  
The proponent intends to  
explore for Base Metals.  
Exploration methods may  
include geological mapping,  
geophysical surveys and  
sampling.

#### Proponent:

Elliot Communication and  
Investment Retailer CC

All interested and affected  
parties are hereby invited  
to register and submit their  
comments regarding the  
proposed project on or before  
13/02/2023. Contact details  
for registration and further  
information:

Augite Investments CC

Dr. K Kanguuehi

Email:

kkanguuehi0@gmail.com,

Cell number: 0817069027

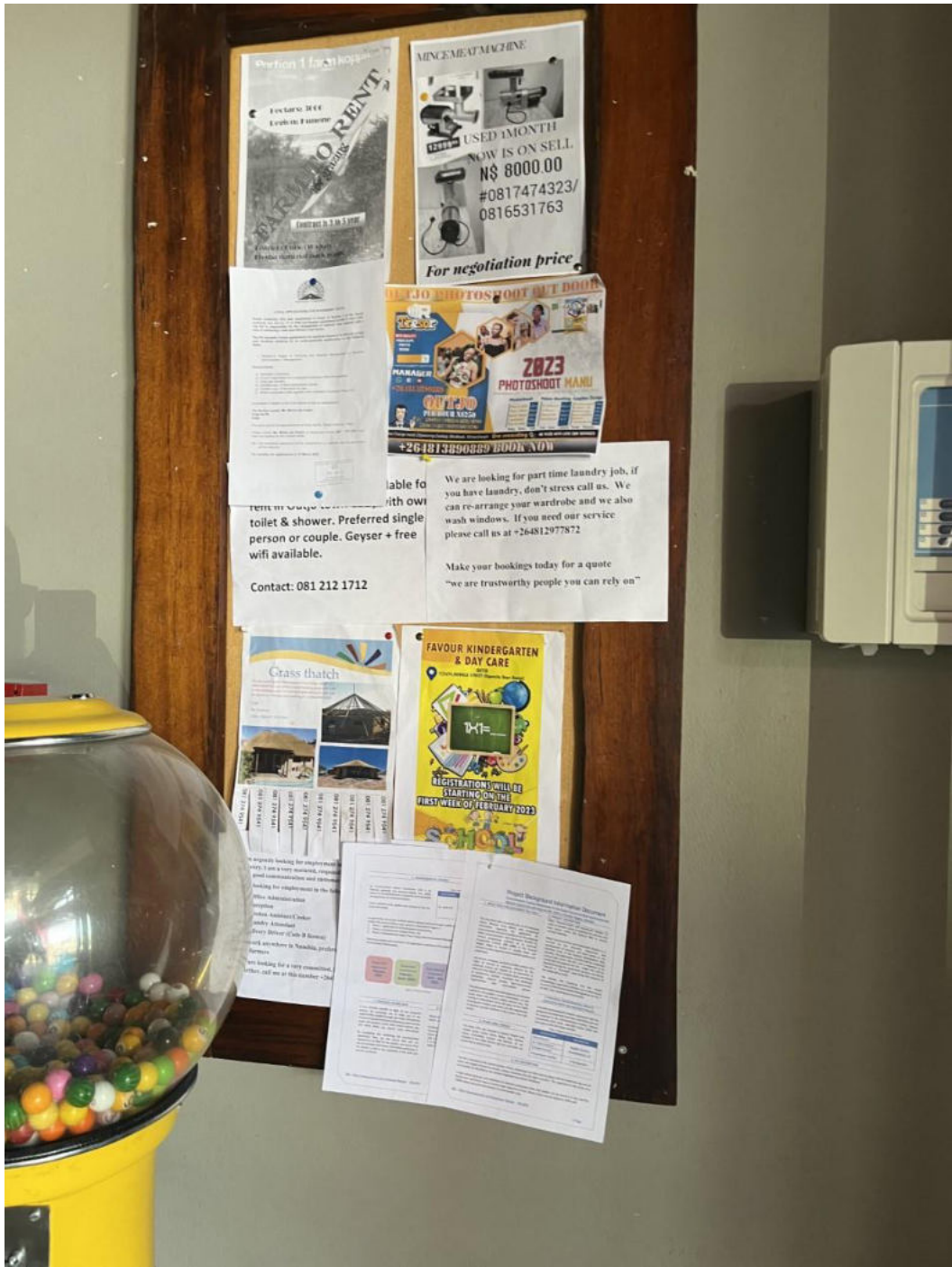
Give your business  
the best boost you  
can!





# Appendix C







## Project Background Information Document

Environmental Scoping Assessment for the Elliott Communication and Investment Retailer Exploration Activities on EPL 8703 in Kunene Region, Namibia

### 1. WHAT DOES THIS DOCUMENT TELL YOU?

This document aims to provide you, as an Interested and/or Affected Party (I&AP), with background information regarding the application for Environmental Clearance Certificate for the proposed Elliott Communication and Investment Retailer CC mineral prospecting activities on its Exclusive Prospecting Licences (EPL 8703) in the Kunene Region. (Refer to Section 9: Locality Map), and Section 6 on the required environmental studies to be undertaken.

Any person, company, authority or other entities that might be directly or indirectly affected by the proposed activity can register as an Interested or Affected Party (I&AP). This includes, but is not limited to landowners, tenants, municipal and provincial authorities, interest groups, Non-Government Organisations and conservation groups.

This document further indicates how you can become involved in the project, receive information, or raise issues which may concern and/or interest you. The sharing of information forms the basis of the Public Participation Process and offers you the opportunity to become actively involved in the project from the outset.

### 2. STUDY AREA PROFILE

The three EPLs are situated in Kunene Region and extend across Farms Clarke, Reese, Slim, Norton, Harris, Cherniakov, Franklin and Ramsay. All are situated in the Outjo District and are accessible via gravel and or tarred roads.

### 3. SITE DESCRIPTION

The EPL is located on the central-western Plains, stretching from the coast to about 450 km inland this big area of plains was largely formed by erosion cutting eastwards into the higher ground. The vegetation in the study area can broadly be classified as the western highlands thornbush shrubland.

A high animal diversity and endemism of mammal particularly birds and reptiles can be found in in the area This formed the catchment area of several major ephemeral rivers. Much of the area lies between 500m and 1000m above sea level and consists of metamorphic rock.

### 4. PROJECT DESCRIPTION

Elliott Communication and Investment Retailer CC seeks to become active at exploring for precious and base metals within the Damara Belt in central northern Namibia.

Elliott Communication and Investment Retailer cc is focused on the discovery, exploration and development of precious and base metals in the Northern Limb of the Damara Metallogenic Belt, Namibia. The exploration activities will be conducted concurrently across the EPL and is expected to be conducted throughout the EPL. Target sites will be identified during the exploration process and will be "refined" or "focussed", depending the outcome of the exploration results.

The Mining and Trenching and the related prospecting / exploration activities are a listed activity in terms of the Environmental Management Act No. 7 of 2007, thus requiring an assessment.

### 5. POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE PROPOSED PROJECT

Potential environmental impacts associated with the proposed development have been identified and will be assessed in the Environmental Scoping / Impact Assessment (EIA) study. Specialist inputs which will form part of the EIA study includes:

Table 1: Relevant potential impacts

SPECIALIST FIELD	ORGANISATION
Socio-Economic	Augite Enviro Investments cc
Air / Noise Pollution	
Ecological Baseline	
Archaeological Baseline	To be appointed

## 6. ENVIRONMENTAL STUDIES

An Environmental Impact Assessment (EIA) is an effective planning and decision-making tool, which allows for the identification of potential environmental consequences of a proposed project.

Listed activities to be applied and assessed in the EIA study will include:

Table 2: Relevant listed activities

LISTED NOTICE	ACTIVITY
GG. 4878 R.29	3 (3.2 & 3.3.) Exploration and Soil Sampling Activities

As part of this EIA process all I&APs will be actively involved through a public participation process. The project will consist of three major phases as illustrated in Figure 3:

- 1) Phase 1: Application for Environmental Authorisation;
- 2) Phase 2: Environmental Scoping Phase; and
- 3) Phase 3: Environmental Impact Phase Study and Environmental Management Programme (EMPr)

These three phases will culminate in the approval or rejection of the project i.e. positive or negative Environmental Authorisation.

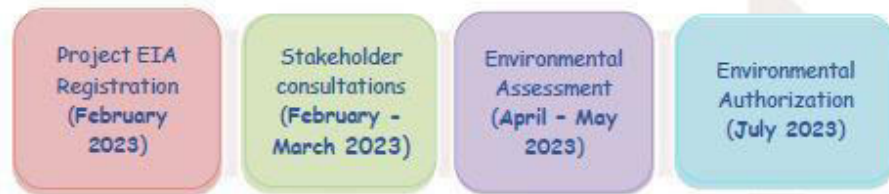


Figure 1: Project Timeline

## 7. YOUR ROLE AS AND I&AP

If you consider yourself an I&AP for the proposed project, we encourage you to make use of the opportunities created through the Public Participation Process to become involved in the process and raise the issues and concerns which affect and/or interest you, and about which you require more information.

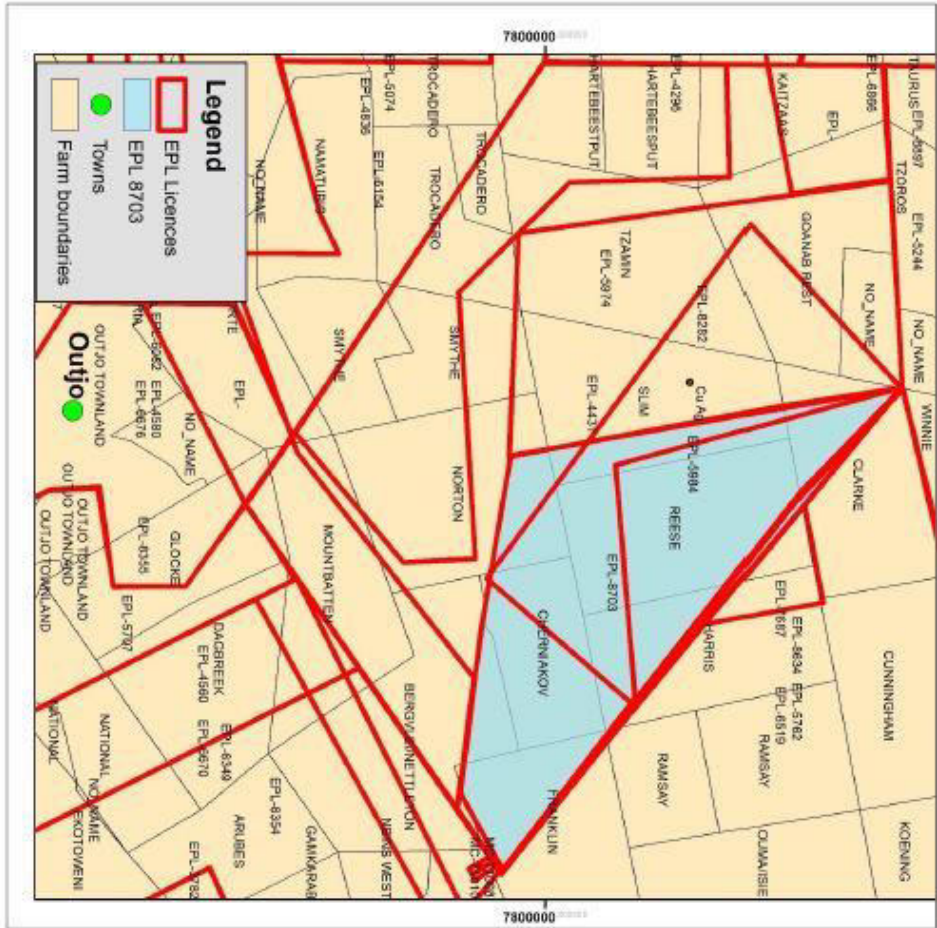
By completing and submitting the accompanying registration form, we will ensure that you are registered as an I&AP for the project, and ensure that you are provided with future information pertaining to the project as well as the availability of the draft and final for comments.

## 8. COMMENTS AND QUERIES

Please direct all comments, queries or inputs to:

Dr Kaukurauee Ismael Kanguuehi  
Environmental Assessment Practitioner  
Email: [kkanguuehi0@gmail.com](mailto:kkanguuehi0@gmail.com)  
Cell: +264 81 706 9027  
P. O. Box 87099, Eros, Windhoek  
Augite Environ Investments cc

9. MAP OF PROJECT SITE AND SURROUNDING LAND USES



EPL 8703 Location Map

Please add more pages if necessary

**ENVIRONMENTAL SCOPING ASSESSMENT AND MANAGEMENT PLAN FOR THE ELLIOT  
COMMUNICATION AND INVESTMENT RETAILER EXPLORATION ACTIVITIES ON EPL  
8703 IN THE KUNENE REGION, NAMIBIA**

**REGISTRATION AND COMMENT FORM**

**PERSONAL DETAILS:**

Title: ..... First Name: .....  
Surname: .....  
E-Mail: .....  
Telephone: ..... Fax: .....  
Organisation (if applicable): .....  
Capacity (e.g. Chairperson, member, etc): .....  
Physical Address: .....  
Town: .....  
Postal Address: ..... Code: .....  
Town: ..... Code: .....

1. What is your main area of interest with regards to the proposed project?  
.....  
.....  
.....

2. Do you have any points of concern or support regarding the proposed project?  
If "yes", please briefly list these in point form: YES / NO  
.....  
.....  
.....

3. Are there any additional stakeholders who you feel should be consulted with regards to the proposed project?  
If "yes" please list their names and contact details below: YES / NO  
.....  
.....  
.....

Please add more pages if necessary



ANNEXURE 1  
FORMS

Form 1

REPUBLIC OF NAMIBIA  
ENVIRONMENTAL MANAGEMENT ACT, 2007

(Section 32)

APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE



PART A: DETAILS OF APPLICANT

1. Name: (person or business) *Elliot Communication and Investment Retriker*

2. Business Registration / Identity No. (if applicable) *68 09 72 00 781*

3. Correspondence Address: *P.O. Box 29 720, Elisenheim, Wlk*

4. Name of Contact Person: *Desmond-Elliot Jjamburo*

5. Position of Contact Person: *Owner*

6. Telephone No.: *+264 85 1430488*

7. Fax No.:

8. E-mail Address : (if any) *kkanguelhi@gmail.com*

Tick ( ) the appropriate box

**PART B: SCOPE OF THE ENVIRONMENTAL CLEARANCE CERTIFICATE****1. The environmental clearance certificate is for:**

- EPL 8703


**2. Details of the activity(s) covered by the environmental clearance certificate:**

[Note: Please attach plans to show the location and scope of the designated activity(s), and use additional sheets if necessary:

Title of Activity: Environmental Scoping Assessment for the Exploration on EPL 8703  
 Nature of Activity: Exploration and Prospecting  
 Location of Activity: Kunene Region  
 Scale and Scope of Activity: Sampling and trenching

**PART C: DECLARATION BY APPLICANT**

I hereby certify that the particulars given above are correct and true to the best of my knowledge and belief. I understand the environmental clearance certificate may be suspended, amended or cancelled if any information given above is false, misleading, wrong or incomplete.

  
 Signature of Applicant      KANKURUFFE KANGUEMZI      ENVIRONMENTAL CONSULTANT  
 Full Name in Block Letters      Position

on behalf of BESMOND-ELLIOT TAMBARD      01/03/2023  
 Date

ANNEXURE 2  
FEES

1. The fees set out in this Annexure are payable in terms of the Act.
2. Payments must be made as prescribed in regulation 29.

FEES

Item	Fee payable for	Fees Payable N\$
1	Issue of environmental clearance certificate	300 ✓
2	Application for amendment of environmental clearance certificate	300
3	Application for transfer of environmental clearance certificate	1000
4	Appeal application	1000