ENVIRONMENTAL SCOPING ASSESSMENT REPORT

PROPOSED EXPLORATION ACTIVITIES FOR BASE AND RARE METALS, INDUSTRIAL MINERALS, PRECIOUS METALS AND SEMI-PRECIOUS STONES ON MINING CLAIMS 73612, 73613, 73614, 73615 AND 73616 IN KUNENE REGION.

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ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
BID	Background Information Document
CV	Curriculum Vitae
DEA	Directorate of Environmental Affairs
°C	Degree Celsius
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
EEC	Epic Environmental Consultancy
EIA	Environmental Impact Assessment
EMA	Environmental Management Act No.7 Of 2007
EMP	Environmental Management Plan
EPL	Exclusive Prospecting Licence
ESAR	Environmental Scoping Assessment Report
GDP	Gross Domestic Product
GPS	Global Positioning System
Ha	Hectare
HIV	Human Immunodeficiency Virus
IAPs	Interested and Affected Parties
km	Kilometre
Km2	Kilometre Square
l	Litre
MAWRD	Ministry of agriculture, Water and Rural Development
MEFT	Ministry Of Environment, Forestry and Tourism

MC	Mining Claim
ML	Mining Licence
mm	Millimetre
MME	Ministry of Mines and Energy
NAMPOWER	Namibia Power Corporation
NAMWATER	Namibia Water Corporation
PPE	Personal Protective Equipment
PPP	Public Participatory Process
ToR	Terms of Reference

Glossary

Definitions given below are for explanatory purposes only.

Activity	The physical work that a Proponent intends to construct, operate, change, decommission, or an activity that a Proponent proposes to carry out.
Alternative	A choice limited to one of two or more possibilities, as of things, proposals, or courses of action, the selection of which precludes any other possibility.
Assessment	The process of identifying, predicting, and evaluating the significant effects of activities on the environment; and the risks and consequences of activities and their alternatives and options for mitigation with a view to minimise the effects/impacts of activities on the environment.
Competent Authority	A body or person authorized under the local authorities act or Environmental Management Act to enforce the rule of law.
Contaminated Water	Water polluted by the Contractor's activities, e.g. concrete water, and runoff from plant/personnel wash areas.
Cumulative Impacts	In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts from similar or diverse activities or undertakings in the area.
Environment	As defined in the Environmental Assessment Policy and Environmental Management Act – refers to "land, water and air; all organic and inorganic matter and living organisms as well as biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, paleontological or social values".
Environmental Impact Assessment (EIA)	The process of examining the environmental effects of a development as prescribed by the Environmental Impact Assessment Regulations (2012) for activities listed as List of Activities which may not be undertaken without an Environmental Clearance Certificate from the Environmental Commissioner.

Environmental Management Plan (EMP)	A working document on environmental and socio-economic mitigation measures, which must be implemented by several responsible parties during all the phases of the proposed project.
Independent Environmental Control Officer	A qualified professional independent from the Proponent and Contractor who oversees the construction phase and ensure that all environmental specifications and EMP requirements are met during the phase. Will also be responsible for the monitoring, revising, and verifying of compliance with the EMP by the Contractor.
Interested & Affected Parties (IAP)	Any person, group of persons or organisation interested in, or affected by an activity; and any organ of state that may have influence over any aspect of the activity.
Listed Activity	An activity listed in terms of the Environmental Management Act (No. 7 of 2007) and its EIA Regulations (2012) and the List of Activities which may not be carried out without an Environmental Clearance Certificate from the Environmental Commissioner.

EXECUTIVE SUMMARY

Mr. Romeo Nauseb (the proponent), applied to the Ministry of Mines and Energy for Mining Claims 73612-73616 in Kunene region. However, the approval and granting of the mining claims is subject to the Environmental Clearance Certificate. The mining claims measures 86.8723 hectares (ha) in extent. The mining claims can be accessed via D3703 road north-west of Opuwo in Kunene region.

The Mining claims is to carryout exploration activities of Base and Rare Metals, Industrial Minerals, Precious Metals and Semi-precious Stones.

The proposed prospecting and exploration activities are among the listed activities that may not be undertaken without an environmental clearance certificate under the Environmental Impact Assessment Regulations (EIA) of 2012 and ensure that the proposed project activity complies with the national environmental laws.

Proposed Project Exploration Approaches

Exploration of the commodities will include determining the historical mineral occurrences; which will take into consideration surveys, drilling, trenching and sampling. A complete planning of trenching measurements and gravel processing will be done by the proponent to have a better choice of investment requirements.

•Geological Mapping: This includes a desktop evaluation of geographical area maps and observations. The review of geological maps of the area and onsite ground observations and an update of the information obtained during previous geological studies of the area (where possible).

•Lithology Geochemical Surveys: Rock samples will be collected and taken for analysis to be carried out by analytical chemistry laboratories to ensure if there is adequate/satisfactory quantities of base & rare or precious metal or other minerals of interest are present. Trenches and/or pits may be dug depending on the commodity. To make sure satisfactory risks mitigation, all diggings will be opened and closed straightaway after finding the required samples; and/or the sites will be fenced off until the trenches or pits are closed with the owner of land's permission and relevant authority.

•Geophysical surveys: This includes data collection of the substrata, the need for an aero-geophysical contractor might be needed by air or ground, through sensors such as radar, magnetic and electromagnetic to detect any

mineralization in the target area and are carried out to establish the mineralisation. Ground geophysical surveys may be carried out, where required using vehicle-mounted sensors or may be hand-held by staff members.

•Detailed Drilling (Invasive Method): Should any of the samples taken for analytical chemistry laboratories be found positive, holes will be drilled accordingly and more drill samples will be further collected/taken for investigation. Reverse circulation drilling may be considered for deeper targets, this method uses a pneumatic hammer which drives a rotating tungsten-steel bit. This method produces an uncontaminated big size sample comprised of rock chips. Whilst the Diamond drilling may be considered for better geological control and for carrying out processing trials.

Soil sampling usually comprises of small pits (±20cm X 20cm X 30cm) being excavated, where 1kg samples can be extracted and filtered to collect 50g of material.

Should the drilling will yield positive results, the test quarrying is only a component of exploration activities, to be done at a very small-scale level on directed sites of the EPL, to support the Proponent to get adequate and dependable exploration data. Areas that will be found to contain good value rocks in profitable capacities will then be demarcated and a submission will be launched with the Ministry of Mines and Energy (MME) for permitting of a valid mining license, of which a separate Environmental Impact Assessment (EIA) will be carried out for mining purposes. Consequently, it should be noted that this Environmental Scoping Assessment (ESA) procedure and its succeeding reporting will only cover exploration activities.

This Environmental Scoping Assessment report outlines environmental, social and economic likely impacts that the proposed exploration activities might have on all stakeholders involved. The identification of likely impacts that may occur through the planning, construction, operational and decommissioning phases of the anticipated project. Evaluation of impacts include direct, indirect as well as cumulative impacts.

It is vital to understand the nature of the anticipated project, to ensure that the impacts related with the project can be evaluated; and that mitigation measures are applied and observed by the Proponent at all times.

Below are the brief likely impacts on the environment during the exploration project that were identified:

- Dust & Noise
- Health & Safety
- Visual
- Ecological
- Groundwater and surface water
- Heritage & Socio-Economic

A desktop study (literature review) of existing data was conducted in the study area to ensure the existence of the potential targets is viable. Traditional ways of trenches and shallow pitting will be used; reverse circulation drilling will be used for deeper targets. All holes that will be drilled will be covered completely. Likely negative impacts might include: noise pollution from drilling and heavy equipment/machines will be suppressed, air pollution from dust emission of drilling activities will be suppressed as well and the risk of ground water contamination from grease, lubricants, etc. will be monitored as recommended in the Environmental Management Plan for this proposed project to ensure that environmental measures and compliance is adhered to all the time for the duration of the project. Likely positive impacts of the proposed exploration activities will include: employment creation, skills and knowledge transfer.

1. INTRODUCTION

1.1 Project Overview

The Proponent, Mr. Romeo Nauseb intends to carry out small-scale exploration activities of Base and Rare Metals, Industrial Minerals, Precious Metals and Semi-Precious Stones in Kunene Region.

This proposed project is a listed activity in terms of the Environmental Management Act (EMA). Before commencing with this proposed project, approval is required for an Environmental Clearance Certificate (ECC) to be issued by the competent authority to the proponent, in terms of the Environmental Management Act No.7 of 2007 and its EIA Regulations of 2012.

This scoping report outlines the environmental, social and economic potential impacts that the proposed exploration activities might have on all stakeholders involved.

Traditional methods of trenches and shallow pitting will be used; reverse circulation drilling will be used for deeper targets. All holes that will be drilled will be covered completely. Likely negative impacts might include: noise pollution from drilling and heavy equipment/machines will be suppressed, air pollution from dust emission of drilling activities will be suppressed as well and the risk of ground water contamination from grease, lubricants, etc. will be monitored as recommended in the Environmental Management Plan for this proposed project to ensure that environmental measures and compliance is adhered to all the time for the duration of the project. Possible positive impacts of the proposed exploration activities will include: employment creation, skills and knowledge transfer.

1.2 The Need and Desirability of the Proposed Project

Mining activities in Namibia is one of the main provider of the country's revenue (GDP) and one of the key economic sectors in the country. There are insufficient social assistances during exploration project activities related with the project.

1.3 Terms of Reference (ToR)

The Terms of Reference for the proposed project activity is founded on the requirements that are set out by the Environmental Management Act (EMA) of No.7 of (2007) and its Environmental Impact Assessment (EIA) Regulations (GN notice No.30 of 2012). The procedure enclosed the below, which are specified in this document:

- Provision of a detailed description of the proposed project activities;
- Classification of all legislations, policies and guidelines that have reference to the proposed project activities
- Identification of existing environmental (both ecological, socio and economic) conditions of the reception environment in order to determine environmental sensitivities;
- Consultation with Interested and Affected Parties (I&APs) and relevant authorities of the details of the proposed development and provide them with a reasonable opportunity to take part during the process;
- Considering the probable environmental impacts of the development (negative and positive impacts), and assess the significance of the identified impacts.
- Managing and mitigating measures that will be outlined more in the Environmental Management Plan (EMP) to minimise and/or mitigate potentially negative impacts, which cannot be avoided.

1.4 Environmental Consultant

The proponent, Mr. Romeo Nauseb appointed Epic Environmental Consultancy CC hereafter as an independent environmental consultancy to examine the likely biophysical and socio-economic environmental impacts that would ascend from the intended exploration activities. Epic Environmental Consultancy CC has no interest, be it in business, financial, private or other, in the proposed project application or appeal, apart from the fair payment for work completed on the proposed project to acquire the required Environmental Clearance Certificate (ECC). The results of the environmental scoping assessment are aimed at providing the Ministry of Environment, Forestry and Tourism's (MEFT) Department of Environmental Affairs and Forestry (DEAF) with enough information to make well informed decision on the permitting of an ECC for the proposed activities.

2. PROJECT DESCRIPTION AND LOCATION

The mining claims (73612, 73613, 73614, 73615 and 73616) are located in Opuwo district in Kunene Region. The mining claims can be accessed via D3703 road from Opuwo. GPS coordinates (latitude: -18.024496° and longitude: 13.760780°).

The Proponent, Mr. Romeo Nauseb intends to carry out small-scale exploration activities of Base and Rare Metals, Industrial Minerals, Precious Metals and Semi-Precious Stones. This proposed project is a listed activity according to the Environmental Management Act of 2007 and its Environmental Impact Assessment (EIA) Regulations of 2012.

Figure 1: Location of Mining Claims 73612-73616 in Opuwo, Kunene Region on the Mining Cadastre Portal (accessed on 12 June 2023).

3. PROJECT METHOD ALTERNATIVES FOR THE PROPOSED EXPLORATION PROJECT

The "no action or no-go" alternative implies that the status quo remains, and nothing happens. The main losses that may never be recognized if the proposed project does not go ahead comprise the following: Loss of foreign direct investment, there will be no temporary job opportunities for community members, no local business supports through the procurement of usable items such as Personal Protective Equipment (PPE), machinery spare parts, lubricants, etc, no possible income to the local and national government through land lease fees, license lease fees, and various tax structure, no enhanced geological understanding of the site area regarding the targeted commodities and no socio-economic benefits such as skills achievement for local community members.

Geochemical sampling and geological mapping approaches will be utilized for the duration of the early exploration period up to when a target is demarcated. Subsequently, reverse circulation and diamond drilling procedures will be used to assess or test the deepness and magnitude of the mineral rock components.

Exploration of the commodities will include determining the historical mineral occurrences; which will take into consideration surveys, drilling, trenching and sampling. A complete planning of trenching measurements and gravel processing will be done by the proponent to have a better choice of investment requirements.

•Geological Mapping: This includes a desktop evaluation of geographical area maps and observations. The review of geological maps of the area and onsite ground observations and an update of the information obtained during previous geological studies of the area (where possible).

•Lithology Geochemical Surveys: Rock samples will be collected and taken for analysis to be carried out by analytical chemistry laboratories to ensure if there is adequate/satisfactory quantities of base & rare or precious metal or other minerals of interest are present. Trenches and/or pits may be dug depending on the commodity. To make sure satisfactory risks mitigation, all diggings will be opened and closed straightaway after finding the required samples; and/or the sites will be fenced off until the trenches or pits are closed with the owner of land's permission and relevant authority.

•Geophysical surveys: This includes data collection of the substrata, the need for an aero-geophysical contractor might be needed by air or ground, through sensors such as radar, magnetic and electromagnetic to detect any mineralization in the target area and are carried out to establish the mineralisation. Ground geophysical surveys may be carried out, where required using vehicle-mounted sensors or may be hand-held by staff members.

•Detailed Drilling (Invasive Method): Should any of the samples taken for analytical chemistry laboratories be found positive, holes will be drilled accordingly and more drill samples will be further collected/taken for investigation. Reverse circulation drilling may be considered for deeper targets, this method uses a pneumatic hammer which drives a rotating tungsten-steel bit. This method produces an uncontaminated big size sample comprised of rock chips. Whilst the Diamond drilling may be considered for better geological control and for carrying out processing trials.

Soil sampling usually comprises of small pits (±20cm X 20cm X 30cm) being excavated, where 1kg samples can be extracted and filtered to collect 50g of material.

Should the drilling will yield positive results, the test quarrying is only a component of exploration activities, to be done at a very small-scale level on directed sites of the EPL, to support the Proponent to get adequate and dependable exploration data. Areas that will be found to contain good value rocks in profitable capacities will then be demarcated and a submission will be launched with the Ministry of Mines and Energy (MME) for permitting of a valid mining license, of which a separate Environmental Impact Assessment (EIA) will be carried out for mining purposes. Consequently, it should be noted that this Environmental Scoping Assessment (ESA) procedure and its succeeding reporting will only cover exploration activities.

4. REGULATORY FRAMEWORK

4.1 Environmental Assessment Requirement

The Environmental Management Act No.7 of 2007 (also referred to as the EMA), requires that for every activity which is listed under the EIA regulations of 2012, an Environmental Clearance Certificate must be obtained before commencement of any listed activity.

The purpose of the EIA is to identify, assess and ascertain potential environmental impacts that may arise from the proposed activity. An Environmental Impact Assessment is a process of identifying, predicting, interpreting and communicating potential impacts to interested and affected parties (I&APs).

Section 7 of the Environmental Impact Assessment (EIA) Regulations (GN notice No. 30 of 2012), if an activity is listed, an Environmental Scoping Assessment Report and Environmental Management Plan should be submitted to the Environmental Commissioner (EC) as part of the application process for an Environmental Clearance Certificate (ECC). Please see below:

"MINING AN QUARRYING ACTIVITIES

- *The construction of facilities for any process or activities which requires a licence, right or other form authorisation, and the renewal of a licence, right or other form of authorisation in terms of the Minerals (Prospecting and Mining Act) of 1992.*
- *Other forms of mining or extraction of any natural resources whether regulated by law or not.*
- *Resource extraction, manipulation, conservation and related activities.*
- *The extraction or processing of gas from natural and non-natural resources, including gas from landfill sites.*
- *The extraction of peat."*

4.2 National Legislations

Table 1: Related National Legislations

Legislation	**Applicability**	**Legislation Objective(s)**
The Namibian Constitution	To maintain the ecosystems, ecological processes and biological diversity by conducting Environmental Impact Assessment (EIA).	"The state shall actively promote and maintain the welfare of the people by adopting policies that are aimed at…maintenance of ecosystems, essential ecological processes and the biological diversity of Namibia and utilization of natural resources on a sustainable basis for the benefit of all Namibians, both for present and future".
Environmental Management Act No.7 of 2007	Legal requirement to carry out an Environmental Impact Assessment (EIA).	The Environmental Management Act No.7 of 2007 promotes the sustainable management of the environment and the use of natural resources and

		provides for the process of assessment and control of activities which may have significant effects on the environment; and provides for incidental matters. The Act ensures that potential impacts are considered, a comprehensive stakeholder's consultation is carried out, all interested and affected parties are given a chance to comment/object on the project. The Act as well provides a list of activities that may not be undertaken without an Environmental Clearance Certificate.
Environmental Impact Assessment (EIA) Regulations (GN notice No. 30 of 2012)	Provides guidelines for Environmental Assessments.	Provides procedures for Environmental Assessments.
Minerals (Prospecting and Mining) Act No.33 of 1992 As amended	Governs all mining activities in the country.	To provide for the reconnaissance, prospecting and mining for, and disposal of, and the exercise of control

Minerals (Prospecting and Mining) Amendment Act 8 of 2008		over, minerals in Namibia; and to provide for matters incidental thereto.
Public Health Act No. 36 of 1919	Safeguards the public is protected from noise, dust and air pollution.	No person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.
Water Resources Management Act No. 11 of 2013	Guarantees that the water systems are not polluted and that pollution control mechanisms are in place.	An Act to provide for the management, protection, development, use and conservation of water resources; to provide for the regulation and monitoring of water services and to provide for incidental matters.
Environmental Policy Framework (1995)	Provides guidelines for EIA.	The Policy ensures that all developmental projects are subjected to environmental assessments so that all potential impacts are

		taken into consideration and incorporated into the planning and development stages.
Labour Act No. 11 of 2007	Regulates labour in general, remuneration, etc in the country.	The Labour Act regulates labour in general and protects the safety, health and welfare of employees. The regulation of 1997 relating to the safety and health of employees at work, sets out the duties of employers, welfare and facilities at the work place.
Soil Conservation Act No. 76 of 1969	Promotes soil conservation.	The Act promotes the conservation of soil and the prevention of soil erosion.
National Heritage Act No. 27 of 2004	Provides protection and conservation of places and objects that has national heritage significance; and the	The Act makes provision for the protection of places and objects of heritage significance and the registration of such places

	registration of such places or objects.	And objects. Section 46 of the Act, further prohibits the removal, damage, alteration, excavation of national sites or remains; and Section 48, sets out the procedure for application and granting permits for exploration activities such as trenching, drilling, etc.
Hazardous substances Ordinance No. 14 of 1974	Controls the handling of hazardous substances such as fuel, fire, etc.	The Ordinance controls the handling of hazardous substances such as manufacturing, imports and exports to ensure human and environmental safety.

4.3 Permits

Permits that may be related with the proposed exploration project activity are listed in Table 3.

Table 2: Related permits to the planned project

PERMITS/CERTIFICATES	ACTIVITY	VALIDITY
Exclusive Prospecting Licence	Mineral rights ownership and prospecting authorization	3 years
Environmental Clearance Certificate	No listed activities are to be conducted without an approved ECC	3 years
Forestry Permits	Regulates the forest species to be cleared.	Temporary/permit dependent
Water abstraction	Regulates groundwater abstraction	2-5 years
Notice of intention to drill	Submitted prior to drilling Permit	Dependent
Fuel Installation Certificate	Regulates the amount of fuel product in control	3 months (temporary)/ permanent

5. INFRASTRUCTURE AND SERVICES

Electricity

Electricity requirement for this proposed project is nominal or minimal, as power require will only be for lighting, powering small machinery that will be used during the mineral exploration. The Proponent will provide a generator that will be used on-site.

Water Supply

Water required will be minimal. Therefore, the water will be brought onsite and stored in containers or in a tank. The water will be used for consumption and cleaning. The water used for drilling will be re-used.

Waste Disposal

All waste produced will be disposed of at the local dumpsite/landfill used by all local residents in the study and the surrounding area. Sewerage will be disposed in a way that does not pollute the environment.

The proponent will be liable for the discharging of the ablution facility weekly and dispose of at the nearest sewerage discarding ponds in the area. The proponent will include the suppliers of grease and other lubricants to collect and dispose of such waste in an environmentally responsive/friendly manner.

Security and Safety

Strict access to the exploration site will be facilitated by the staff/workers that will be hired during the exploration project. Provision for fire extinguishers in the vehicles that will be used and in mobile containers (where possible) will be made available by the proponent.

Roads

Existing roads will be used to gain access to the exploration site; and for any new road that will be created proper procedures and regulations will be adhered to. The mining claims are located close to D3703 road below.

Figure 2: Shows D3703 road from Opuwo will provide access to the mining claims.

Staff Accommodation

Less than 15 possible temporary job opportunities are expected during the exploration stage. Personnel will be hired from the nearest town or settlements/villages. The workforces will be positioned at different stages of exploration including soil sampling, geological mapping, geophysical surveys, and drilling operations.

It is anticipated that for most of the exploration project, the personnel will reside in the nearest town and/or settlements/villages; and be transported to and from the site. The Proponent will make transport available. However, during the latter

part of the prospecting (drilling) personnel may be required to stay at the exploration site in campsites or in existing housing rented from the property/farm owner if possible.

The Proponent shall arrange for suitable living facilities during this exploration period. Should the Proponent consider setting up camps for the exploration team on site, precaution and safe use of flammable materials should be adhered to.

IT and Communication

When the proposed project commences, the proponent will provide the prospecting/exploration team (staff) with two-way radios to allow the team to communicate efficiently.

Fuel Storage and Lubricants

All light vehicles will be fuelled in Opuwo. A 1000 litres fuel trailer will be made available onsite (where necessary) to operate various equipments needed for the duration of the prospecting/exploration project. Consumables and lubricants will be stored at a designated area at the site.

Fire Fighting

Potable fire extinguishers will be fitted as required in vehicles onsite and in mobile containers where possible.

Mobile Equipment

The proponent's vehicle fleet will be optimised during the following project stage. Provision will be made available for 4x4 vehicles and a drill rig (where necessary).

6. DESCRIPTION OF THE NATURAL RECEIVING ENVIRONMENT

6.1 Climate

6.1.1 Temperature

The mean/average temperature normal in Opuwo Kunene region is recorded as 22.8 °C, according to national statistical data.

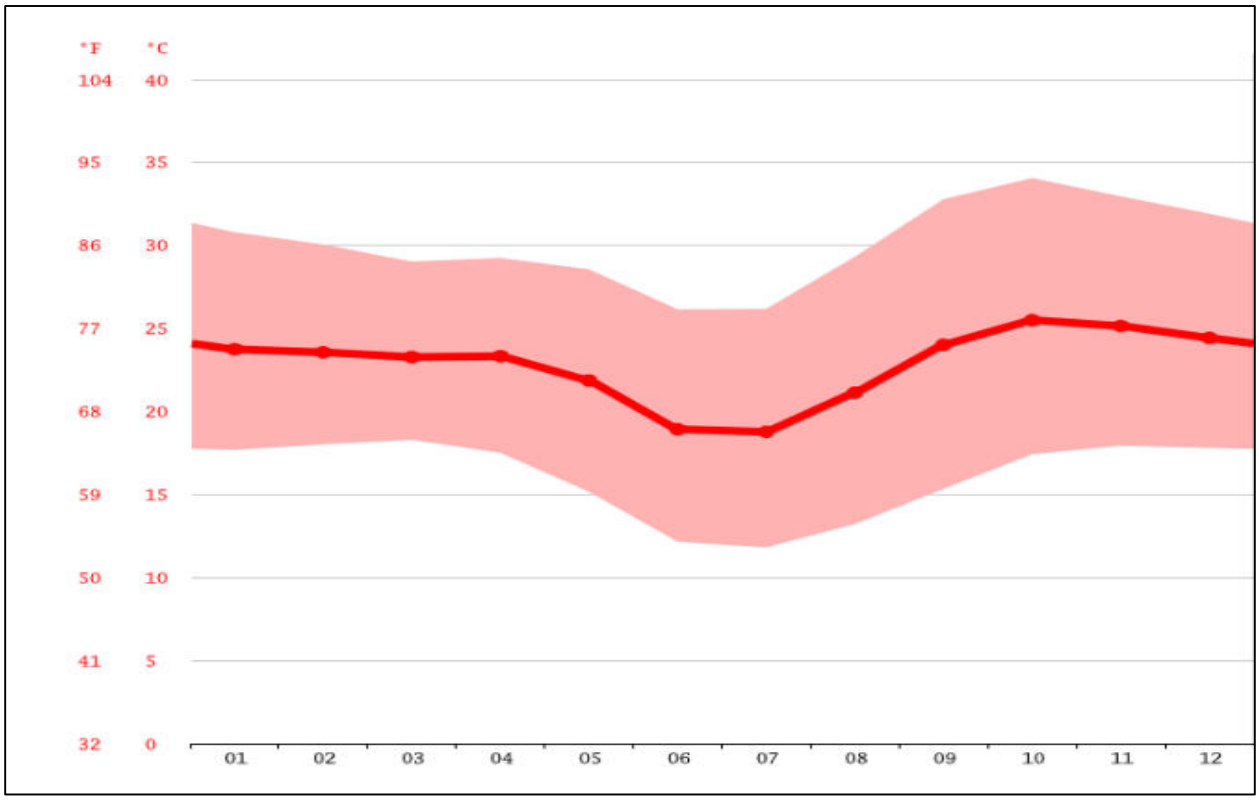

Figure 3: Average Mean Temperatures in the study area. Source: (worldweatheronline.com, 2023)

6.1.2 Rainfall

The climate of the local steppe in the study area has a substantial impact. There is not much rainfall in the Kunene region all year long. According to Köppen and Geiger, this climate in the region is classified as BSh. Rainfall is about 464 mm for every year.

Kunene region is located close to the equator line and is characterized by difficult-to-describe summer seasons.

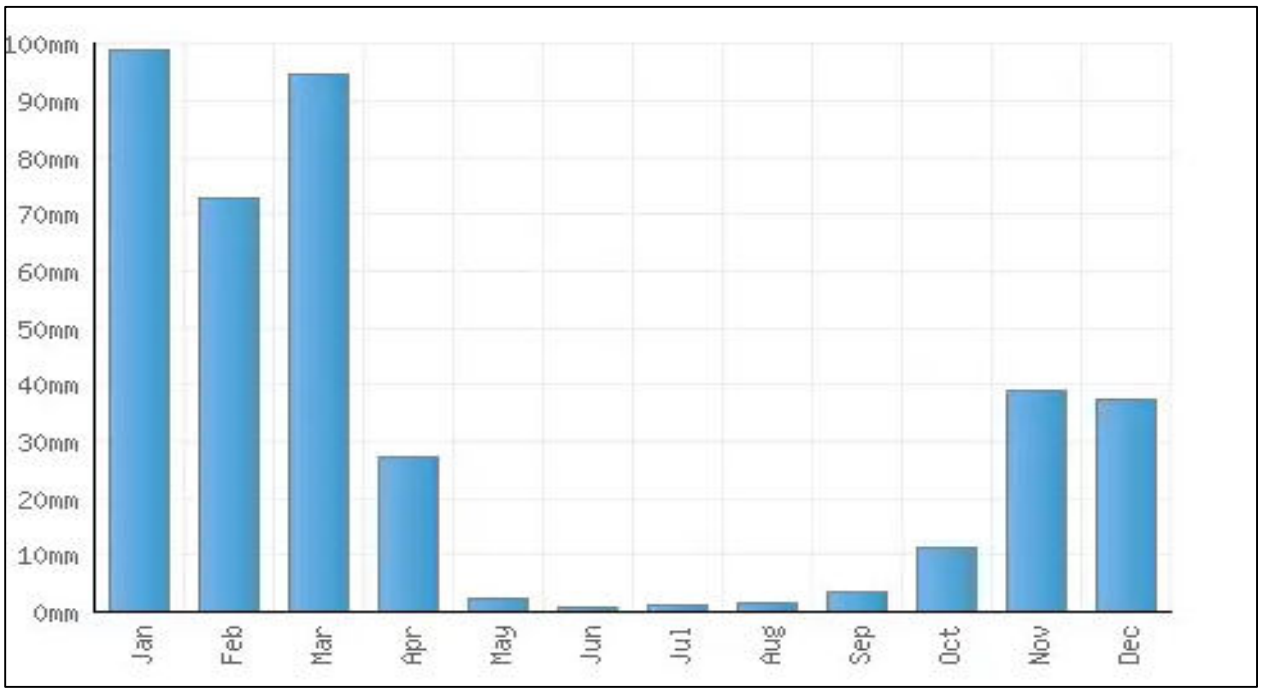

Figure 4: Average Annual Rainfall in the study area. Source: (worldweatheronline.com, 2023)

6.1.3 Wind speed and Gust

Generally, the wind in Opuwo area during March blows at an average speed of 10.2 mph (16.4 kmph). The windiest month is July with an average wind speed of 15.4 mph (24.8 kmph), whereas the quietest month is February with an average wind speed of 10.1 mph (16.3 kmph).

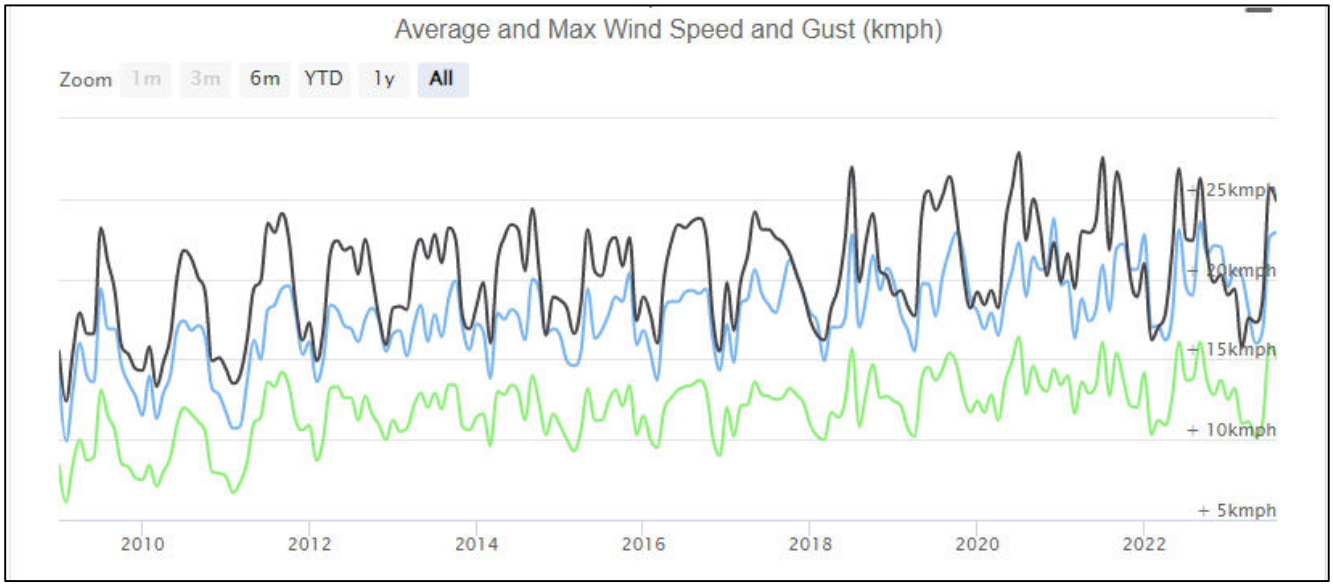

Figure 5: Average Wind speed and Gust in the study area. Source: (worldweatheronline.com, 2023)

6.1.4 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.

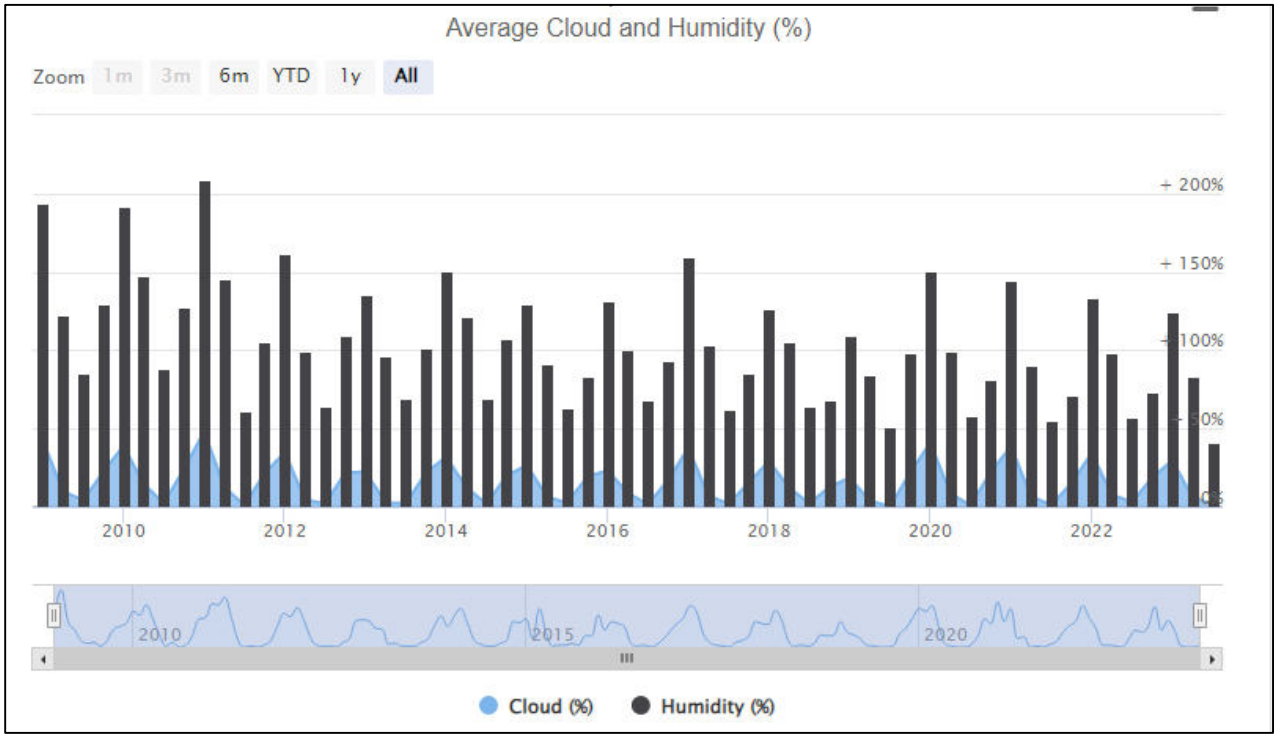

Figure 6: Annual Cloud and Humidity in and surrounding the study area. Source: (worldweatheronline.com, 2023)

6.2 Geology, Topography and vegetation in the study and surrounding area.

The geology of the study area is characterized by rocks of the Otavi Group (Mendelson et al, 2002). The sediments lie beneath evident bulging rock components of quartizite, sand, Gravel, Scree and Calcrete. The project location and its surrounding is covered by the comparatively thin layer of sandy loamy and calcrete concealment of the Kalahari Group.

Figure 7: Boscia foetida (commonly known as the stink shepherd's tree or smelly shepherd's bush) was observed in the study area.

Removal of any endangered or protected plants whether it is of minimum concern requires a permit from the Ministry of Environment, Forestry and Tourism (MEFT). The overall impacts on plant species is considered nominal and restricted to a small area. Most of the plant species occurring in the study area are commonly dispersed in the region/country.

Figure 8: Geology, topography and vegetation in the study area.

6.3 Surface and Groundwater in the study area

The project area is located in an area that consists of fissured or kartisified aquifers and has rock bodies that has little or limited groundwater potential. Due to the limited groundwater potential, the some parts of the mining claim area may be prone to moderate groundwater contamination.

6.4 Surrounding Land Uses

Tourism and mining are among the growing sectors due to its variety of scenery, wildlife, and the discovery of iron ore. Kunene region boasts the presence of the big four, namely, the Leopard, Elephant, Rhino, and the Lion, which can be found roaming freely in their natural environment. Agricultural, fishing, construction, administrative and support service activities significantly contribute to the region's Gross Domestic Product.

6.5 Socio-Economic Environment

According to the 2011 National housing census, Opuwo had a population of 27,272 people. The town has the highest population in Kunene region and remains the region's commercial hub. Tourism and mining are among the growing sectors due to its variety of scenery, wildlife, and the discovery of iron ore.

6.6 Flora

According to Mendelsohn, et al (2002), rainfall in Kunene region is usually both low and extremely variable meaning that years of plentiful rain often followed by extreme dry condition.

Vegetation is commonly sparse with few trees and a thin variety of grass. Plant cover varies in relation to rainfall (Christian, 2005). The neighbouring area is characterised by high botanical diversity.

The vegetation that are found within the vicinity of the area are of "medium' to "high" sensitivity against the external conditions. The growing season is very short because of the semi-arid climate. Grass is dependable on rainfall, which cause livestock and other animals to suffer during periods of minimal rainfall (Burke, 2003). The mineral exploration area is semi-arid and consists of diverse vegetation species which includes a number of endemic species. The thickness of vegetation in the area of the proposed exploration site is sparse. Efforts will be made to protect existing trees and shrubs.

6.7 Fauna

The exploration activities may have slight disturbances on the habitat of a limited species but no significant impacts on the animals are expected. The proponent shall guarantee that no animal shall be captured, killed or harmed in any way by the personnel on site. Wildlife poaching shall not be tolerated in any way as this is an offence and anyone who shall be caught infringing in this regard will be prosecuted.

According to literature review, there are commonly 14 types of amphibian species that occur in the proposed area/site. Nine of these amphibian species occur abundantly, two occur rarely and six of them occur uncommonly. According to Griffin (1998), there are approximately 4000 species of amphibians worldwide of which over 200 species are present in Southern Africa and 57 in Namibia. Griffin (1998), expresses that more than 60% of the reptiles found in Namibia are protected by the conservation Ordinance. 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). Namibia is well endowed with mammal diversity with around 250 species know to be present within the country (Griffin, 1998). There are currently 14 mammal species which are considered to be endemic to Namibia, including 11 species of rodents and small carnivores which are not well known. 650 bird species are recorded in Namibia, of which 160 species occur in the area, especially after good rains fall (Christian, 2005).

6.8 Archaeological and Heritage Sites in Namibia

Archaeological sites in Namibia are protected by National Heritage Act No. 27 of 2004. It is proven that the rise 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).

There are no known heritage sites in the study area.

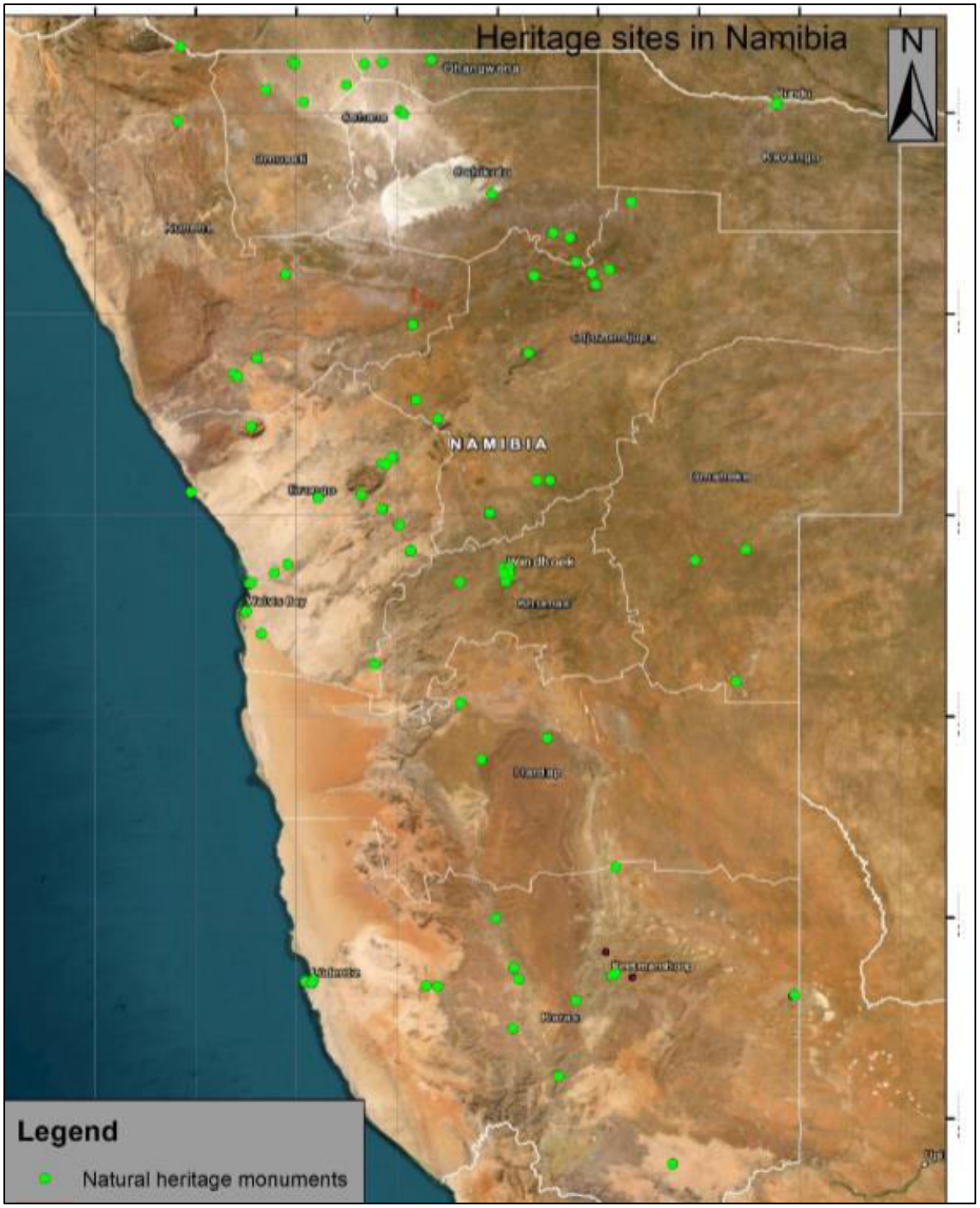

Figure 9: Major Heritage Sites in Namibia

7. ENVIRONMENTAL ASSESSMENT APPROACH AND METHODOLOGY

PART 1: ENVIRONMENTAL SCREENING (Project commencement and registering with the Competent Authority).

- Includes meeting with the client, conversing about anticipated timeframes, logistics and project explanations.
- Involves literature review (desktop site Baseline analysis) and compilation of a Background Information Document (BID).
- Project registering with the Ministry of Environment, Forestry and Tourism (MEFT) Department of Environmental Affairs (DEA) on the EIA online portal.
- Once the project is registered, the Environmental Commissioner recommends whether a complete Environmental Impact Assessment or Environmental Scoping Assessment is mandatory for the anticipated project.

PART 2: ENVIRONMENTAL SCOPING ASSESSMENT (INCLUDING PUBLIC PARTICIPATION PROCESS (PPP)

- A comprehensive desktop baseline study and literature review in the study area is carried out by means of remote sensing to recognize and define possible sites which are probable to be impacted by the proposed project prior to site visit.
- The Environmental Consultants undertakes site visit to form a foundation for the assessment and define the sensitivity of the surrounding biophysical and socio-economic environment and the socio-economic benefits of the proposed project.
- Data or Information found throughout the site visit supplements the literature review and is used by the Environmental Consultant to:
  * Define the tangible possible risks related to the proposed project,
  * Make available useful mitigation measures to reduce the risks; and
  * Create commendations for additional revisions where needed.
- Likely participants (local governments, constituency offices, farmers etc.) are acknowledged and they are made aware of the proposed project. Interested and Affected Parties (I&APs) details is collected for upcoming communication associated to the proposed project.

- The Background Information Document (BID) normally prepared during part/phase 1 is shared with recognized and registered I&Aps during this period. The BID summarizes proposed project information such as the project description of activities, project motivation, likely impacts, and EA process that will be followed.
- Comments, inputs, issues or concerns raised up by I&APs during the progression are noted for consideration in the Environmental Assessment report and development of the Environmental Management Plan (EMP).

PART 3: ENVIRONMENTAL REPORTING: ENVIRONMENTAL SCOPING ASSSESSMENT REPORT AND THE ENVIRONMENTAL MANAGEMENT PLAN (EMP)

- This is the data analysis phase suitable methods are used to yield proper project outcomes; merging of the results in the method of a report that will be made available to the client for appraisal and remarks. The EMP is drafted to mitigate and manage the identified impacts in the ESA report.

8. IMPACT ASSESSMENT APPROACH, PROCESS AND IDENTIFICATION

Environmental Assessment Requirement in Namibia

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) 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.

Assessment of Potential Impacts Identified

The probable impacts identified and evaluated below are associated with the proposed exploration project; and will be discussed in more detail in the Environmental Management Plan:

Assessment Procedure

Outlined below is the assessment procedure used in determining the significance, location, management and impacts of the exploration activities and the viable alternatives on the bio-physical and socio-economic environment.

Table 4: Assessment methodology used in determining the significance of impacts.

Criteria	Category
Impact	Description of likely impact
Nature Describe the type of effect	Positive: The activity will have a social/economical/environmental benefit. Neutral: The activity will have no effect. Negative: The activity will have a social/economical/environmental harmful effect.
Duration Foresees the life time of the impact	Temporary :< 1 year (not included in the construction).

	Short-term: 1-5 years. Medium: 5-15 years. Long-term: >15 years (Impact will only stop after the exploration due to natural course or by human interferences). Permanent
Extent Describes the scale of the impact	Site specific: Extends only onsite itself where activity will be carried out. Small: Limited to the site's close environment (within 1 km of the site). Medium: Within 5 km from the site (local). Large: Beyond 5 km from the site (regional).
Intensity Describe the magnitude (scale/size of the impact)	Zero: Social and/or natural function/ or the process remain an unchanged. Very low: Affects the environment in a way that the natural/social functions and processes are not affected. Low: Natural/social functions/processes are slightly changed/affected. Medium: Natural/social/functions/processes are notably altered/changed/affected in a modified way. High: Natural/social functions/processes are severely changed/affected and may permanently or temporarily stop.
Probability of Occurrence	Improbable: Impact not likely to occur.

Describe the probability of the impact occurring	Probable: Distinctive possibility/impact likely to occur. Highly probable: Impact most likely to occur/happen. Definite: Impact will likely to occur regardless of any prevention measures in place.
Degree of Confidence in predictions State of degree of confidence in predictions based on the availability of information and specialist knowledge.	Unsure/Low: Little confidence regarding the information available (<40%). Probable/Medium: Moderate confidence regarding the information available (40-80%). Definite/High: Great confidence regarding the information available (>80%).
Significance of Rating The impact on every component is determined by a combination of the above criteria.	Neutral: A potential concern found to have no impact when assessed/evaluated. Very low: Impacts will be site specific and temporary with no mitigation needed. Low: The impact will have a minor influence on the proposed project or environment. The impacts will require feasible and achievable mitigation measures in place. Medium: Impacts will be notable in the local and surrounding areas for the lifespan of the proposed project and may result in long-term changes. The impact may be reduced or improved by making changes to the project design or ensuring effective execution of the mitigation measures.

Possible positive impacts

- Socio-economic development (through employment creation);
- Skills and knowledge transfer;
- infrastructure interrelated development benefits;
- Increased support for local businesses in the area (through the purchasing of equipment spare parts, greases, food, etc.);
- Better local economic development and economic growth.

Possible negative impacts

- Soil disturbance: Probable causes of soil contamination comprise petrochemical spills/leaks from vehicles (bakkies), water trucks, drill rig, fuel operated generator as well as the trailer mounted fuel tank for fuel storage.
- Surface and groundwater pollution/contamination: There is no surface water in the area as it receives rainfall occasionally, and communities rely on groundwater. Consequently, to avoid putting pressure on this scarce resource, the project will source water offsite and transport it in water tankers.
- Noise Disturbance.
- Impact on Air quality, Dust and Emissions: The likely cause of air pollution would be dust and fumes produced by project vehicles and/or trucks, diesel power-driven machinery; and dust from drilling.
- Waste generation
- Biodiversity loss and habitat destruction: likely cause of the minimal clearing of plants/vegetation will be to make way for access roads (where required) and possibly put up temporary staff accommodation onsite during field exploration for the exploration team.
- Alien Invasive Species (AIS): Plants that are introduced accidentally or deliberately into a natural environment (exploration/study area) where they are not usually found; and this may or might negatively have serious consequences on the new environment. They represent a threat on the native plant
- Safety and Health
- Visual and Sense of Place: Exploration project activities generally leave marks on the local landscape when rehabilitation is not done properly, this normally depend on the site features, methods used during exploration and

the depending on the site characteristics, exploration method and power/intensity of the activities.

Cumulative impacts

Cumulative impacts are defined *as "those that result from the successive, incremental, and/or combined effects of an action, project, or activity (collectively referred to in this document as developments) when added to other existing, planned, and/or reasonably anticipated future ones*".

From this scoping assessment conducted, the cumulative impacts are defined below:

- ✓ Increased loss of vegetation and habitant;
- ✓ Decreased visual impact and sense of place;
- ✓ Increased benefits to the farm owners and local contractors; and
- ✓ Temporary employment opportunities, skills and knowledge transfer.

Mitigation Measures

A mitigation hierarchy can be used to react or to respond to an anticipated project activity. The mitigation hierarchy includes: avoidance, minimization, restoration and compensation.

9. PUBLIC CONSULTATION PROCESS

As specified in the Environmental Impact Assessment (EIA) Regulations (paragraphs 7 and 21), public participation/involvement/consultation is a requirement and an essential element in the environmental assessment. Comments or suggestions made during the PPP should be noted; and addressed in both the Environmental Assessment Scoping Report and Environmental Management Plan (EMP).

Consulting with interested and affected parties (IAPs) in the proposed exploration activities ensured that all parties involved are well informed; and offer all stakeholders the opportunity to share their concerns, comments and/or suggestions.

- Public notices appeared in the Confidente newspaper on the 15th September 2023 and 22nd September 2023; and in Windhoek Observer newspaper 15th September 2023 and 22nd September 2023 respectively.
- Public environmental notices were also placed at the Regional council office notice board in Opuwo.
- BID document was compiled.

NB: No comments/Issues/views/suggestions/recommendations/objections was received from the public.

10. REHABILITATION AND DECOMMISSIONING

It will be the responsibility of the Proponent to conduct the decommissioning exercise, which will be done as per the Proponent's Decommissioning & Rehabilitation Plan.

A full decommissioning execution should be done by the proponent, which should include the following:

- Demolishing and removal of all temporary and permanent structures;
- Disturbed areas to be prepared accordingly;
- Retrieval and backfilling of topsoil;
- Any building rubble have to be disposed of at local dumpsite/landfill; and
- Rehabilitation monitoring should be done.

The impact on the physical environment can be reduced by execution of progressive rehabilitation that will be undertaken by the Proponent.

11. RECOMMENDATIONS AND CONCLUSION

Engagement with residents and surrounding community shall be carried out throughout the duration of the exploration project by the proponent to identify any concerns or issues and ensure that suitable mitigation and management measures are further recognised.

The positive significance in the social impact has been recognized to likely direct and indirect jobs associated with the project and the probability of the project contributing to the national economy through loyalties, taxes and foreign currency earnings.

The negative impacts were carefully well-defined, assessed, and mitigation measures are provided in the EMP to lessen and/or eliminate their consequence on the environment. The effective implementation of suggested managing actions (mitigation measures) will reduce negative impacts which cannot be completely eliminated from medium to low rating. Maintaining low significance rating will need monitoring of the probable negative impacts by the Proponent's Environmental Control Officer at all times.

As a result, Epic Environmental Consultancy recommends that the proposed mineral exploration project receive an Environmental Clearance Certificate (ECC) provided that:

- ✓ The EMP is adhered to or complied with at all times and ensure that all required permits, licenses and approvals for the proposed exploration activities are acquired or renewed as required;
- ✓ That the Proponent and all project workers or contractors to fulfil the legal requirements leading the anticipated project and its related activities;
- ✓ Site areas where exploration activities have stopped to be rehabilitated to the pre-exploration state;
- ✓ That Environmental Compliance monitoring reports are compiled and submitted to MEFT as per the Ministry's requirements.

10. REFERENCES

NSA (2011). The 2011 Population and Housing Census, Windhoek.

Mentes, H., 2012. Design and Development of a Mineral Exploration Ontology, Georgia: Georgia State University.

Mendelsohn, J., Jarvis, A., Roberts, C. & Robertson, T., 2002. Atlas of Namibia: a portrait of the land and its people, Cape Town: David Philip.

Burke, A., 2003. Floristic relationship between inselbergs and mountain habitats in the Central Namib., s.l.: Dinteria.

Griffin, E., 1998. Species richness and biogeography of non-acarine arachnids in Namibia, Windhoek: Biodiversity and Conservation.

Brown, C. & Lawson, J., 1989. Birds and electricity transmission lines in South West Africa/Namibia, Windhoek: Madoqua.