

# ENVIRONMENTAL IMPACT ASSESSMENT AND SCOPING REPORT FOR PROPOSED MINERAL EXPLORATION ACTIVITIES ON EPL 7666 FOR BASE AND RARE METALS, PRECIOUS STONES, INDUSTRIAL MINERALS, DIMENSION STONES AND PRECIOUS STONES OTAVI DISTRICT, OTJOZONDJUPA REGION

PROPONENT: AHAVAH (PTY) LTD

**JULY 2022** 

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CONTINENTAL BUILDING 2ND FLOOR UNIT: 206

### **Executive summary**

Ahavah (Pty) Ltd, the proponent, intends to begin with the first stage of exploration activities of any discovered mineral resources (Base and rare metals, dimension stones, precious metals, industrial minerals and precious stones) in the EPLs number 7666 located in the Otjozondjupa Region, Otavi District, and surrounded by B2Gold Namibia EPL's 2410 & 4309 to the south and Otjikoto Gold Mine currently operated by B2Gold Namibia. The EPL cover an area of approximately 4,591.7 hectares.

Any large scale project must undergo an Environmental Impact Assessment in accordance with the Environmental Management Act, Act 7 of 2007, the Environmental Impact Assessment Regulation (Government Gazette No. 30 February 2012), and Namibia's Environmental Assessment Policy of 1995. As a result, in compliance with regulation 6 of the 2012 environmental regulations, an Environmental Clearance Certificate must be requested for. The environmental proponent shall perform a public consultation process, create an environmental scoping study, and submit an Environmental Management Plan for the planned mineral exploration activities in accordance with regulation 21 of the 2012 environmental procedure.

Namib-Enviro Consultants on behalf of the proponent undertake an Environmental Impact Assessment (EIA), Environmental Management Plan, and assist with Environmental Clearance Certificate application for the proposed exploration of precious metals for the EPL No. 7666, as per Environmental Management Act, No. 7 of 2007 requirement.

The proposed exploration project on EPL 7666 will include various phases such as desktop studies, followed by field-based site-specific activities using geophysical surveys, geological mapping, and trenching, development of exploration drill holes in selected target areas, and sampling, as well as possible test mining activities.

Through scoping process, it was determined that the proposed project will have low and short term negative impacts (noise and dust) on environment and surrounding areas. Such impacts are expected to be caused by vehicle and machinery due to drilling and vehicle movement. However, mitigation measures will be set in order to reduce the impact significance.

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1. Introduction

1.1 Project Background

The proponent, Ahavah (Pty) ltd, was granted an Exclusive Prospecting Licence by the Ministry of Mines and Energy. The licence holder intends to explore for base and rare metals, dimension stones, precious metals, industrial minerals and precious stones that are found in the vicinity of the area.

### 1.1.1 Mineral Licence Tenure

The Exclusive Prospecting Licence (EPL 7666) was granted in 29 October 2019, and the licence is valid up to 28 October 2022 with the option of renewal. The mineral licence is issued to Merecky-Cedec Tuna-Omwa Ndungula who later amended and transferred the EPL to a company Ahavah Mining (PTY) Ltd.

### 1.1.2 Environmental Consultant

The proponent appointed Namib Enviro Consultants to undertake the environmental impact assessment in order to obtain an Environmental Clearance Certificate for the activities from the office of Environmental Commissioner in the Ministry Of Environment, Forestry and Tourism.

License holder	Address	Email Address	Contact
Ahavah Mining	Ondangwa	godsfavouritesonn@gmail.com	+264 814000740
(PTY) Ltd	Namibia		

### 1.2 Project location

The EPL 7666 is located approximately 58 km from the town of Otjiwarongo and 71 km from the town of Otavi within the Otjozondjupa region in the north-central part of Namibia and 300 km north of Windhoek. The proposed project area will be accessed through the B1 highway via D2804 and D2433 routes.



Figure 1 Locality map of EPL 7666

1.3 Infrastructure and services

### 1.3.1 Electricity

The power requirement for the project will be minimal. Electricity supply will be provided by the proponent's own diesel generators and NamPower existing power grid.

### 1.3.2 Water supply

Sources of water supply for exploration and ablution facilities will be obtained from local boreholes or supplied by trucks/piped from elsewhere outside the exploration site, however bottled water will be supplied for drinking.

## 1.3.3 Roads

Vehicle access to the EPL will be of the main B1 road then make use of primary farm roads and access to the EPL is via either Okaputa Farm gates upon permission from the farm owner.

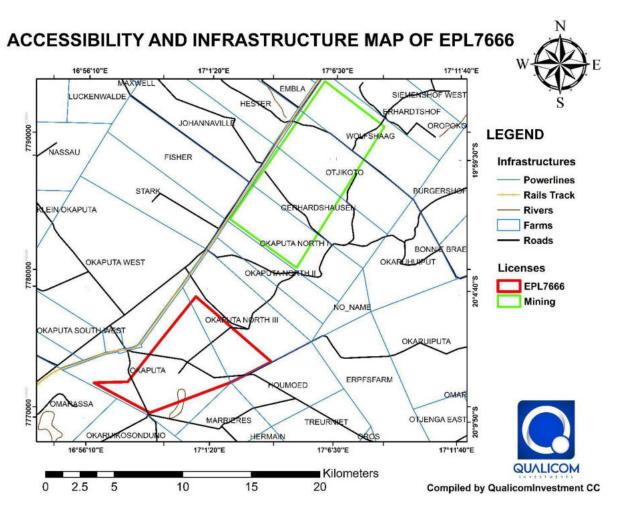


Figure 2 Road accessibility of EPL 7666

## 1.3.4 Refuse and Waste removal

Generated wastes will be stored in containers and collected on a regular basis and disposed of at a recognised disposal facility. In addition, temporary sanitary facilities will be provided by the proponent, and remove all generated wastes from the exploration site.

## 1.3.5 Storage of Lubrication and consumables

All the hydrocarbons will be stored in a removable tanks/containers in a demarcated section of one of the temporary waste storage areas, and they will be removed from the site regularly to ensure that the temporary tanks is not full.

## 1.3.6 Buildings

The proponent will erect temporary facilities and precautions will be taken to prevent the spreading of generated wastes of all kinds on and from the facility site.

## 1.3.7 IT systems and communication

Telephones or other form of electronic communications will be made available on site in case of emergencies, and for effective communication.

### 1.3.8 Fire fighters and emergencies

Connections to emergencies facilities like ambulance and municipality fire fighters will be provided on site in case of injuries.

### 1.3.9 Security and Fencing

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

### 1.3.10 Fuel distribution, storage and supply

During the drilling phase, diesel will be delivered to the project site by trucks and offloaded into the vehicles by offloading pumps.

### 1.4 Environmental Impact Assessment requirement

Any large scale project must undergo an Environmental Impact Assessment in accordance with the Environmental Management Act, Act 7 of 2007, the Environmental Impact Assessment Regulation (Government Gazette No. 30 February 2012), and Namibia's Environmental Assessment Policy of 1995. As a result, in compliance with regulation 6 of the 2012 environmental regulations, an Environmental Clearance Certificate must be requested for. The environmental proponent shall perform a public consultation process, create an environmental scoping study, and submit an Environmental Management Plan for the planned mineral exploration activities in accordance with regulation 21 of the 2012 environmental procedure.

### 1.5 Purpose of the scoping report

The project's scope is confined to conducting an Environmental Impacts Assessment and filing for an Environmental Clearance Certificate for the exploration activities to be conducted. 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.

Purpose of the scoping report	Key objectives of the scoping study	
• Identify any important environmental issues to be considered before	• Inform the public about the proposed mineral exploration activities.	
commencing with mineral exploration activities on the proposed	• Identify the main stakeholders, their comments and concerns.	
mineral exploration sites.		

Table 1 Purpose of the scoping report

- To identify appropriate time and space boundaries of the EIA study.
- To identify information required for decision-making.
- Define reasonable and practical alternatives to the proposal.
- To establish the terms of reference for an EIA study.

### 1.6 Terms of Reference

The approach and methodology will be guided by the Environmental Regulations of 2012 and the Terms of Reference which are provided by the proponent:

- Determine all laws and regulations that pertain to the planned project.
- Determine the area's environmental sensitivity by identifying existing environmental conditions (both biophysical and socioeconomic).
- Provide details of the proposed development to Interested and Affected Parties (I&APs) and relevant authorities, as well as a reasonable chance for them to participate in the process.
- Evaluate the development's possible environmental and social implications, as well as the significance of those impacts.
- Submit the final scoping report to the appropriate authority as well as the Environmental Commissioner.
- A Scoping Report that outlines all detected concerns and their consequences, as well as the path forward and any specialist investigations that may be required.

### 1.6.1 Environmental Assessment Approach and Methodology

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 accordance with the provisions of the Cabinet approved Environmental Assessment Policy for Sustainable Development and Environmental Conservation of 1995, govern the environmental assessment process in Namibia.

This report has taken into account all of the procedures for preparing all supporting documentation and filing an application for an Environmental Clearance Certificate with the Ministry of Environment, Forestry and Tourism's Environmental Commissioner (EC), Department of Environmental Affairs (DEA).

The scoping phase's goal was to communicate the proposed project's scope to Interested and Affected Parties, consider project alternatives, identify environmental aspects and potential impacts for further investigation and assessment, and develop terms of reference for specialist studies to be conducted in the Impact Assessment Phase if needed. The following are the steps conducted during the scoping phase:

### 1.6.1.1 Project initiation and screening

The first stage is of the EIA process are to register the project with the competent authority to give notice of the start of the EIA process and to get clarification on the steps to take. In accordance with the Environmental Management Act, No. 7 of 2007, and related regulations, the screening process evaluates whether the proposed project is regarded as a Listed Activity and whether any substantial consequences are likely to occur.

### 1.6.1.2 Initial scoping

In the EIA process, the scoping stage's goals are to define the assessment's scope, conduct a high-level analysis to identify potential impacts, and determine whether additional research is necessary to rank the seriousness of any potential significant effects and assign the proper amount of mitigation.

### 1.6.1.3 Identification and description of the baseline situation

A clear background is necessary to serve as a benchmark against which any future projectrelated changes can be evaluated. It also enables the identification of appropriate monitoring and mitigation measures. Desk-top studies, stakeholder consultations, and engagement with interested and affected parties can all be used to gather the baseline environmental and social conditions for the proposed project.

### 1.6.1.4 Public consultation

For a project that needs an environmental clearance certificate, section 21 of the Environmental Management Act, No. 7 of 2007 and its rules mandate public engagement and consultation. In order to achieve transparent decision-making, consultation is a required and crucial step in the EIA process that can have several advantages. Informing stakeholders and interested and affected parties (I&AP) about the proposed project is one of the main goals of the consultation process. The approaches undertaken for the proposed project are in line with the requirements of the EIA regulation, such as Interested and Affected Parties identification, Notification letter and Background Information Document, and Advertisements and site notice.

### 1.6.1.5 Impact prediction and evaluation

Predicting potential environmental changes as a result of the project or development is known as impact prediction and evaluation. The impact's size and whether it was regarded substantial and warranted additional research were determined using the accepted technique.

### 1.6.1.6 Impact significance assessment

The magnitude and temporal and spatial scales of the project, as well as the specific activities involved with the project, are used to determine the significance of an impact. At all times, the evaluation of the environmental effects of development operations should attempt to be objective and unbiased. Environmental activities, on the other hand, are vulnerable to the subjectivity that comes with attempting to quantify significance. The significance of an effect is determined by the context (spatial and temporal scale) as well as the strength of that impact.

### 1.6.2 List of specialist studies undertaken

It is a norm to disclose all the tasks to be undertaken as part of the assessment process, including any specialist to be included if need be as stipulated in section 9(a) of the environmental regulations of 2012.

At this juncture, the exploration project has not commenced yet, this implies that currently no field specific specialist studies were commissioned by the proponent. However, a geophysical interpretation using airborne geophysical data to delineate basement structures and lithological contacts/geological boundaries was undertaken by Qualicom Investments cc. A full environmental impact assessment will be conducted out with appropriate site- specific specialist studies on groundwater, air-quality, fauna, flora, archaeology and avifauna as exploration commences.

### 1.7 Need and desirability

The exploration project could help Namibia achieve some of the objectives outlined in National Development Plans including the Fifth National Development Plan (NDP5) and the Harambee Prosperity Plan. The project will employ individuals from the local towns and communities throughout the exploratory phase. If the exploratory project results in the finding of a commercially viable mineral deposit, a mine could be built in the area. A mine can make a substantial contribution to the social and economic development of the town.

### **1.8** Alternatives

The scoping assessment and EIA report should examine and provide the alternatives taken into consideration in context of the Environmental Management Act, No. 7 of 2007 and its regulations. This requirement makes sure that potential environmental effects, expenses, and operational feasibility have been taken into account during the design development and decision-making process, which results in the best option being chosen.

### 1.8.1 Alternative location

No alternative location was not taken into consideration since the planned exploration site has the capacity to host the minerals the proponent wish to explore.

### 1.8.2 No-go alternatives

The predicted environmental effects from exploratory activities would not occur if they were not conducted, but the project's social and economic benefits would also not be realized. There wouldn't be a chance to identify resources inside the project area; instead, geological mapping and data collecting would have added to regional understanding of Namibia's mineral riches and, if discovered to be economically viable for mining, benefited Namibia's economy.

## 2. Applicable Legislation

The Ministry of Mines and Energy oversees all mineral rights related to mineral exploration activities in Namibia, while the Ministry of Environment, Forestry and Tourism is in charge of environmental regulations. The regulatory framework that applies to the proposed project is described in this section.

Legislation/Policies	Relevant Provisions
The Constitution of the Republic of Namibia as	Article 91 (c) provides for duty to guard against "the degradation and destruction of ecosystems and failure to
Amended	protect the beauty and character of Namibia." Article 95(1) deals with the "maintenance of ecosystems, essential ecological processes and biological diversity" and sustainable use of the country's natural resources.
Environmental	Section 2 outlines the objective of the Act and the means to
Management Act No. 7 of	achieve that. Section 3 details the principle of Environmental
2007 (EMA)	Management
The Minerals Prospecting	The Minerals Prospecting and Mining Act No.33 of 1992
and Mining Act 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 licenses.
EIA Regulations GN 28, 29,	GN 29 Identifies and lists certain activities that cannot be
and 30 of EMA (2012)	undertaken without an environmental clearance certificate. GN 30 provides the regulations governing the environmental assessment (EA) process.
Nature conservation	The Nature Ordinance 4 of 1975 covers game parks and
ordinance, ordinance No. 4	nature reserves, the hunting and protection of wild animals
of 1975	(including reptiles and wild birds), problem animals, fish, and the protection of indigenous plants.
Petroleum Products and	The act regulates the importation and usage of petroleum
Energy Act No. 13 of 1990	products.

	The act is to provide measures for control of the furnishing	
	-	
	of certain information regarding petroleum products; in	
	connection with motor vehicles;	
National Heritage Act, 2004	Act provides for the protection and conservation of places	
(Act No. 27 of 2004)	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.	
Forest Act, No. 12 of 2001	The act regulates the cutting down of trees.	
	The act 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;	
Water Act No. 54 of 1956	Section 23(1) deals with the prohibition of pollution of	
	underground and surface water bodies.	
Atmospheric Pollution	This ordinance provides for the prevention of air pollution	
Prevention Ordinance 11 of	and is affected by the Health Act 21 of 1988. Under this	
1976	ordinance, the entire area of Namibia, with the exception of	
1770		
	East Caprivi, is proclaimed as a controlled area for the	
	purposes of section 4(1) (a) of the ordinance.	
Labour Act no 11 of 2007	Regulations relating to the Occupational Health & Safety	
	provisions of Employees at Work promulgated in terms of	
	Section 101 of the Labour Act, No. 6 of 1992 - GN156, GG	
Hazardous Substance	The ordinance provides for the control of toxic substances. It	
Ordinance, No. 14 of 1974	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.	

### 3. Description of the project

### 3.1 Introduction

Namibia's mining industry makes a major contribution to the GDP, government tax collections, and export earnings of the nation. The Minerals Policy's goal is to further attract investment and enable the private sector to take the lead in exploration, mining, mineral beneficiation, and marketing and is supported by Namibia's encouragement of exploration operations. This ambition is supported by the proposed project, which also has the potential to generate employment in nearby communities in the Otjozondjupa Region. If exploration efforts are effective and a resource with commercially viable mineral concentrations can be identified, exploratory activities may develop into mining operations, which may lead to socioeconomic development in the region.

The mining sector in Namibia significantly boosts the country's GDP, tax revenue, and export revenues. Namibia's encouragement of exploratory operations supports the Minerals Policy's objective to increase investment and empower the private sector to take the lead in exploration, mining, mineral beneficiation, and marketing. The planned project, which has the potential to provide employment in adjacent villages in the Otjozondjupa Region, supports this goal. Exploratory activities may turn into mining operations, which could result in socioeconomic development in the area, if exploration efforts are successful and a resource with commercially viable mineral concentrations can be found.

### 3.2 Techniques for mineral exploration

### 3.2.1 Target generation

There will be various stages to the exploration activities, including mapping, geochemical survey, geophysical survey, and remote sensing. These techniques' features are discussed below.

### 3.2.1.1 Geochemical survey

Geochemical maps show the locations and outcomes of surface samples, such as studies of rock, silt, and soil samples. The geology and outcomes of a geophysical survey are shown on a geophysical map. As the project moves forward, geochemical data are utilized to establish drill targets and concentrate attention on regions with greater mineral potential. They help the operator drill more selectively, increasing the likelihood of crossing zones during exploration and minimizing the overall footprint of exploration and its effects on the local ecosystem. The proponent's initial ground exploration technique in the licence region will be geochemical surveys.

### 3.2.1.2 Geophysical survey

The goal of a geophysical survey is to identify possible ore bodies by measuring the physical characteristics of rocks at or near the Earth's surface, such as magnetism, density, and conductivity. Surface methods are used to measure these qualities. This is conducted to gather information on the characteristics of rocks, particularly at depth. Additionally, they are employed to map the geological features.

### 3.2.1.3 Remote sensing

Remote sensing is the process of gathering data about a location or object without actually being there. Photographs taken by manned spacecraft or aerial cameras, electronic scanners, or sensors, all of which record data digitally, are data collection tools used in remote sensing. Without having to conduct ground-based exploration operations, remote sensing techniques in mineral exploration allow explorers to assess broad portions of the earth remotely. Remote sensing can be used to map the geology, locate metal resources using existing faults and fractures, or to identify rocks that have undergone hydrothermal alteration.

### 3.2.1.4 Target drilling

Target drilling is the technique of drilling holes to intercept an ore body using rigs or other powered instruments. Contractors with more skilled operators can perform the job. Drilling is done to: ascertain whether desired mineral ore bodies are present or absent; define the volume and depth of the ore body; and calculate the reserve of the ore body reservoir.

The sites listed below are ideal for test hole drilling and may produce core with mineralized veins. The provided coordinates may need to be adjusted as necessary and are based on the coordinate system made accessible by the Ministry of Mines & Energy. In each location, a first vertical hole will be suitable for determining the orientation of the lithology at depth.

Area number	Easting (X)	Northing (Y)	Dip
DHL001	17o 0' 46'' E	20o 5' 58" S	90°
DHL002	16o 59' 02'' E	20o 7' 36'' S	90°
DHL003	17 °1' 33" E	20o 7' 00'' S	90°
DHL004	16°58'44''E	20o 8' 46'' S	90°

### Table 3 Target drilling areas

### 3.3 Labour requirement, equipment and materials

Manpower will be sourced from Otavi, Otjiwarongo, Tsumeb, Windhoek, Okahandja and Swakopmund towns which are populated and can supply either skilled or unskilled labour. Equipment and supplies are readily available locally in Namibia, and if specialized items are not available, they can be outsourced regionally, e.g. from South Africa.

### 3.4 Site rehabilitation

The project locations must be restored as closely as feasible to their former state once exploratory activities are finished. As required by law, rehabilitation must be decided upon during the exploratory program and must be agreed upon with the landowners and authorities. 4. Description of the current environment

4.1 Introduction

This part gives a general picture of the current biophysical environment by analysing the baseline data on the current natural and socioeconomic environment. In order to learn more about the existing state of the receiving environment, desktop studies on the national database are conducted as part of the scoping stage. This offers a starting point from which the planned project's effects can be measured. Additionally, public input and participation in the proposed project are included in this section.

The EPL 7666 project is situated in the Otjozondjupa region, about 5 km from the B1 highway and around 50 km northeast of Otjiwarongo Urban. Observed from satellite photographs, the majority of the acreage covered is used for raising animals. Hills can be seen along the gravel road to the south of the area's flat terrain. Savannah camel thorn vegetation covers it, and summer, which lasts from October to April, is characterized by heavy rainfall. The rest of the year is characterized by dry weather. South of the EPL is the Waterberg Conservation Area, however none of its designated acreage is included in the exploration zone.

### 4.2 Climatic conditions

There are three major seasons influencing the area climate: a wet-hot season (January - April), a dry-cold season (May - August) and an intermediate season (September – December). The wet and intermediate seasons are characterized by extensive thundershowers and flooding, with considerable variation in the amount of precipitation between years. Maximum daily temperatures for the hottest months range between  $33^{\circ}$ C –  $34^{\circ}$ C, and the average daily minimum temperature for the coldest months varies from less than  $2^{\circ}$ C to more than  $10^{\circ}$ C. The average annual water evaporation for the farms range between 1500 mm – 1700 mm (Mendelson et al, 2002).

The area is characterized by low rainfall with extreme temperature ranges and unique climatic factors influencing the natural environment and biodiversity. The mean annual precipitation is 534.5 mm. Precipitation is concentrated in summer, from November until April and generally occurs in the form of intense, scattered, erosive thunderstorms. The mean annual temperature is approximately 19.6 °C. The absolute temperature measure can reach an absolute maximum temperature of 38.5°C (Mendelson et al, 2002). In general, the climatic conditions at the EPL site allow for year-round exploration activities.

### 4.4 Geology

The EPL 7666 is predominantly underlain by lithologies belonging to the Neoproterozoic Swakop Group, which has been divided into three sub-groups, the Ugab, Usakos, and Navachab Subgroups. Stratigraphically the Okonguarri Formation within the Usakos Subgroup hosts the Otjikoto gold mineralization and is overlain and underlain by distinctive glacial diamictite horizons of the Ghaub Formations respectively. The Okonguarri Formation is regionally metamorphosed to greenschist facies, and can locally be thermally metamorphosed to mid-amphibolite facies where granitic bodies have intruded the unit (Negonga, 2021).

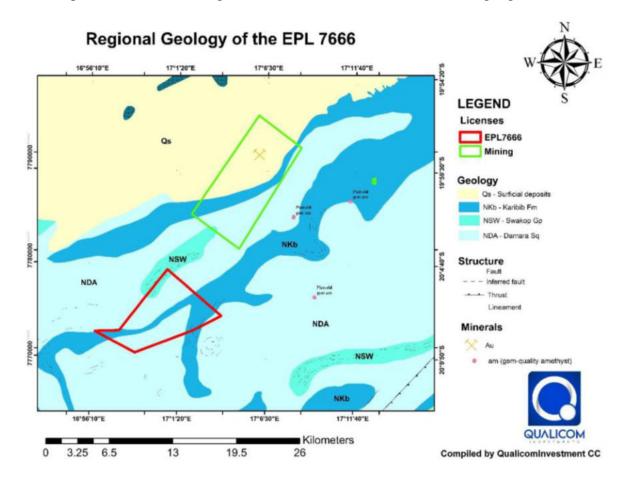


Figure 3 Local geology map of EPL 7666

### 4.5 Hydrogeology and topography

The local topography is flat with a gentle slope towards the north-west with freely draining soils. The site is located at an elevation of 1,500-1,510 mamsl, just north of a local surface water divide. There are no well-defined surface water drainage features on the site and no major surface water flow or defined channel flow is expected other than local events after heavy rainfall.

### 4.6 Flora and fauna

Vegetation in seasonally wet areas also varies with the degree of water logging. The greater part of the EPL area falls within the Tree and Shrub savannah zone, which is listed as the dominant vegetation type in central Namibia. The project area lies in the trees and shrubs savanna biome, where acacia trees, shrubs, and thorn bush woods predominate the plant type (Mendelsohn et al., 2002). The planned area's vegetation structure can be broadly categorized as woodland kinds. The region is home to a large variety of terrestrial animals and plants, with the area's flora diversity sustaining about 500 species.

### 4.7 Socio-economic

The Otjozondjupa Region's economy is mostly cantered on agriculture. Numerous people rely heavily on cattle farming for their livelihood, which is one of the factors contributing to the region's low population (142,400 in 2011), low total land use intensity (105,460 km2), and low population density (about 1.5 persons per km2). Commercial and community farms, mostly used for cattle farming, cover significant portions of the area. Hunting farms and guest farms are also typical. Over the past forty years, bush encroachment has significantly reduced the carrying capacity of the farms on both commercial and communal property. Production of charcoal for export is one method used to control the invader shrub.

Most Namibians, about 23% of the population, are employed in the primary industries of agriculture, fishing, and forestry. According to this statistic, one in four people in the Otjozondjupa Region are employed in agriculture, which is the region's most important economic sector (Namibian Statistics Agency, 2018). 87.6% of all workers in agriculture are employed informally, making it the industry sector with the greatest proportion of such workers (NSA, 2018).

5. Assessment of impact

5.1 Overview

The goal of this section on impact assessments is to identify and examine the most important environmental implications from mineral exploration activities on EPL 8205, as well as feasible mitigation actions. If mineral exploration activities are discontinued in the future, an EIA will be required to address the resulting environmental impacts.

This section also includes mitigation measures for the identified impacts. This section outlines the general strategy used to evaluate the project's possible environmental and social effects. It is necessary to review and analyse each prospective consequence in order to completely comprehend its significance.

Criteria	Category	Description
	National	Beyond a 20 km radius of the site
	Regional	Within a 20 km radius of the centre of the site
Criteria for ranking	Local	Within a 2 km radius of the the centre of the site
Spatial impact		
	Site specific	On site or within the boundaries of the property
	Zero	
	High	Natural and/ or social functions and/ or
		processes are severely altered
Criteria for ranking the	Medium	Natural and/ or social functions and/ or
magnitute of impacts		processes are notably altered
	Low	Natural and/ or social functions and/ or
		processes are slightly altered
	Very low	Natural and/ or social functions and/ or
		processes are negligibly altered
	Zero	Natural and/ or social functions and/ or
		processes remain unaltered
	Zero	Zero time

5.2 Assessment methodology used to examine the identified project impacts Table 4 Assessment Methodology used for impacts identification

	Short term	Up to 18 months
Criteria for ranking the	Medium term	0-5 years (after operation)
duration of impact	Long term	5-10 years (after operation)
	Permanent	More than 10 years (after operation)
	Definite	Estimated greater than 95 % chance of the
		impact occurring
	Very likely	Estimated 50 to 95% chance of the impact
		Occurring
Probability	Fairly likey	Estimated 5 to 50 % chance of the impact
		Occurring
	Unlikely	Estimated less than 5 % chance of the
		impact occurring
	Zero	Definitely no chance of occurrence
	Certain	Wealth of information on and sound
		understanding of the environmental factors
		potentially influencing the impact
	Sure	Reasonable amount of useful information
Confidence		on and relatively sound understanding of
		the environmental factors potentially
		influencing the impact
	Unsure	Limited useful information on and
		understanding of the environmental factors
		potentially influencing this impact
	Irreversible	The activity will lead to an impact that is
Reversibility		permanent
	Reversible	The impact is reversible, within a period of
		10 years.

5.3 Overall socio-economic benefits and issues

5.3.1 Socio-economic benefits

Socio-economic benefits

The project has great potential to improve livelihoods and contribute to sustainable development within the surrounding community.

## **Potential Direct Benefits**

- Capital investment
- Training programs offered by the proponent will permanently benefit staff members.
- The surrounding community will benefit from the project during the on-going phase.

# 5.3.2 Socio-economic issues **Potential Indirect Benefits**

General enhancement of the health conditions and quality of life for a few people in the surrounding settlements.

## General socio-economic concerns

- As the number of employees and contractors moving in and out of the area expands, so does the chance of COVID-19, HIV/AIDS spreading and other infectious diseases.
- Increased migration of individuals to the area in search of job possibilities during the mineral exploration project's target generation and drilling phase; and
- Increased informal settlement and accompanying difficulties.

## 5.2 Associated issues of the mineral exploration phases

Table 5 Mineral exploration phases and its associated impacts

Impacts	Associated issues	Evaluation	Rating
		criteria	
Mapping and	Geochemical Sampling Phase of the Proje	ct	
Dust	Fall out dust settling on vegetation is	Duration	Medium
	likely to cause local disruptions in	Extent	Local
	herbivorous and predatory complexes and	Magnitude	Low
	should be minimized as far as possible	Probability	Definite
		Reversible	Reversible
Noise	Disturbs or scare animals that inhabited in	Duration	Medium
	the proposed exploration surrounding	Extent	Local
	areas	Magnitude	Medium
		Probability	Definite
		Reversible	Reversible

Safety and	Possibility of injuries during mapping and	Duration	Short term
Security	sampling	Extent	Site specific
		Magnitude	Very low
		Probability	Unlikely
		Reversible	Reversible
Visual	Accidental diversion off of routes and	Duration	Medium
	aesthetic damage to the landscape	Extent	Site specific
		Magnitude	Medium
		Probability	Fairly likely
		Reversible	Reversible
<b>Drilling Phase</b>	of the Project		
Air quality	Vehicle movement may cause less dust.	Duration	Medium
	However, when appropriately controlled,	Extent	Local
	will be likely to have little effects.	Magnitude	Very low
		Probability	Fairly likely
		Reversible	Reversible
Fire and	Long term environmental impacts	Duration	Long term
Explosion		Extent	Local
Hazard		Magnitude	Medium
		Probability	Fairly likely
		Reversible	Reversible
Generation	Littering the surrounding areas if wastes	Duration	Short term
of Waste	are not appropriately disposed.	Extent	Local
		Magnitude	Very low
		Probability	Unlikely
		Reversible	Reversible
Health and	Can cause serious health and safety risks	Duration	Short term
Safety	to workers on site.	Extent	Site specific
		Magnitude	Very low
		Probability	Unlikely
		Reversible	Reversible

Fauna	Disturbances to the environment will	Duration	Medium term
	result in the loss or change in behaviour	Extent	Local
	of fauna	Magnitude	Medium
	or faulta	Probability	Very likely
		Reversible	Reversible
Vegetation	Disturbances to the environment will	Duration	Long term
	result in the loss or change in behaviour	Extent	Site specific
	of flora	Magnitude	High
		Probability	Very likely
		Reversible	Reversible
Avifauna	Causes immigration of endemic birds	Duration	Medium term
		Extent	Local
		Magnitude	Medium
		Probability	Very likely
		Reversible	Reversible
Groundwater	- Exploration activities may affect	Duration	Long term
Impacts	the availability of water and the	Extent	Regional
	quality thereof	Magnitude	Low
	- Surface water for animals may be	Probability	Fairly likely
	affected as well	Reversible	Irreversible

## 6. Environmental management plan

### 6.1 Overview

According to the Environmental Management Act, No. 7 of 2007, an EMP is necessary. To provide a management framework for the formulation and execution of exploratory operations, an EMP has been established. The EMP offers exploratory criteria and arrangements to guarantee that any potential environmental and social impacts are minimized, avoided, or averted to the greatest extent practicable, and that statutory requirements and other legal duties are met.

Conducting an environmental assessment prior to engaging in an activity such as mining or exploration is one means of anticipating future environmental repercussions and creating ways to avoid or minimize them. Prior to prospecting or mining a specific location, it is usual practice to have an environmental management plan in place. It's crucial to have a well-structured, all-encompassing plan in place, as well as an environmental management system put up by a certified environmental consultant to assist management in making responsible and realistic decisions.

This EMP address all possible impacts which the project is likely to damage the natural environment, and every employees must be informed that they are required to follow this plan when this paper is issued.

## 6.2 Environmental management principles

Everyone will be expected to conduct all of their activities in an environmentally and socially responsible manner. This includes all consultants, contractors, and subcontractors, as well as transport drivers, visitors, and anybody else involved in the mineral exploration project who enters the exploration regions. Protect project staff and the general public's health and safety from the project's potential consequences.

## 6.3 Impacts on the bio-physical environment

Table 6 Possible effects on the bio-physical environment, mitigation measures, and their monitoring methods

Impacts

**Mitigation measures** 

**Monitoring methods** 

Impacts o	n -	No animals shall be killed,	Regular monitoring of any
Fauna		captured or harmed in any	unusual signs of animal habitat.
		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.	
Impact o	n _	Environmental	Environmental education
Vegetation		considerations will always	awareness, and regular monitoring
vegetation		be adhered to before clearing	of any unusual signs of animal
		e	habitat.
		roads, trenching and	naunai.
		excavating.	
	-	Paths and roads will be	
		aligned to avoid root zones.	
	-	The movement of vehicles in	
		riverbeds, rocky outcrops	
		and vegetation sensitive	
		areas will be avoided.	
	-	The movement of vehicles	
		will be restricted to certain	

Impacts on	- The population change can	Public meetings will be held by
Socio-	be mitigated by employing	the proponent whenever necessary
Economic	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.	
Visual Impacts	Environmental considerations will	Employees will be trained on the
	be adhered to at all times before	importance of minimizing visual
	clearing roads, trenching and	impacts.
	excavating.	
Generation of	Commit to the management of solid	Transportation of solid waste to a
Solid Waste	waste life cycle by all the employees	registered site for disposal.
	and contractors of the site.	
Noise	Disturbance to fauna that roam the	Restriction duration of noise
	area will be minimized by training	pollution.
	the employees on ways to minimize	
	noise.	
Air quality	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.	

r		1	
Environmental impacts	Proposed mitigation measures	Responsibility	Monitoring plan
impuets	CONSTRUCTION PHA	SE	
Solid waste	<ul> <li>Any debris should be collected by a waste collection company</li> <li>If trenches are dug, waste should be re-used or backfilled.</li> <li>The site should have waste receptacles with bulk storage</li> </ul>	Management	Presence of well- Maintained receptacles and central collection point.
	facilities at convenient points to prevent littering during exploration.		
Oil leaks and spills	<ul> <li>Vehicles and equipment should be well maintained to prevent oil leaks.</li> <li>Contractor should have a designated area where</li> </ul>	Proponent	No oil spills and leaks on the site
77. 1	designated area where maintenance is carried out and that is protected from rainwater.	M	
Visual	- Environmental considerations will be adhered to at all times before clearing roads, trenching and excavating.	Management	Employees will be trained on the importance of minimizing visual impacts.
Archaeological Sites	<ul> <li>Adhere to practical guidelines provided by an archaeologist to reduce the archaeological impact of mineral exploration activities.</li> <li>All archaeological sites to be identified and protected before further exploration commences.</li> </ul>	Management	
Air pollution	<ul> <li>Maintenance of vehicles and equipment.</li> <li>Control speed and operation of construction vehicles.</li> <li>Prohibit idling of vehicles.</li> <li>Workers should be provided with dust masks if working in sensitive areas.</li> </ul>	Site manager	Control amount of dust produced
Noise pollution	<ul> <li>Field work should only be carried out only during daytime at a specific time.</li> <li>Workers should wear earmuffs if working in noisy section.</li> </ul>	Proponent and management	Control amount of noise

6.4 Table 7 Summary of Environmental Management Plan during the phases of the project

	- Management to ensure that noise is kept within reasonable levels.		
Soil pollution	<ul> <li>Clearly mark/demarcate vehicle routes.</li> <li>No worker should ever drive off road, but to stick to the demarcated routes.</li> </ul>	Project coordinator Management and park warden	Proper planning and management
Flora	<ul> <li>A geologist should be consulted with respect to the viability of moving the trench to avoid destruction of fragile species.</li> </ul>	Management and proponent	Warning signs on site and restored vegetation
Fauna	<ul> <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 food will be left lying around as these will attract animals which might result in human- animal conflict</li> </ul>	Management	Regular monitoring of any unusual signs of animal habitat.
Occupational Health and Safety	<ul> <li>Provide Personal Protective Equipment Train workers on personal safety and how to handle equipment and machines.</li> <li>A well-stocked first aid kit shall be maintained by qualified personnel.</li> <li>Provide sufficient and suitable sanitary conveniences which should be kept clean.</li> </ul>	Proponent	<ul> <li>Workers using protective equipment.</li> <li>Presence of Well stocked first aid kit.</li> <li>Clean sanitary facilities.</li> </ul>
	<b>OPERATIONAL PHA</b>	SE	
Oil leaks and spills	<ul> <li>Impervious PVC sheets should be deployed as flooring and covered with sand to absorb spillages</li> <li>Should spillages occur, contaminated sand needs to be removed and stored in a drum, to be later removed to an approved disposal site</li> </ul>	Proponent	No oil spills and leaks on the site.
Solid waste	- Under no conditions should any waste be buried or burned at the site	Proponent Management	Presence of well- Maintained receptacles and

	- Minimize solid waste generated		central collection
	on site.		point.
	- Waste to be deposited at a		
	demarcated waste site in the park		
	or if it needs to be removed to		
	designated sites outside the park		
Visual	- Environmental considerations	Park wardens	Employees will be
	will be adhered to at all times	and	trained on the
	before clearing roads, trenching	Management	importance of
	and excavating.	C	minimizing visual
	- Siting of roads should avoid the		impacts.
	traversing of tops of ridges and		I
	always use of existed roads rather		
	than creating new ones.		
	- Erected infrastructure should be		
	sited in depressions not on hill		
	tops or rises and should not be		
	visible from any major tourist		
	roads lookout points.		
Archaeological	- Adhere to practical guidelines	Management	Update Register of
Sites	provided by an archaeologist to	management	all archaeological
Sites	reduce the archaeological impact		sites identified.
	of mineral exploration activities.		sites identified.
	- Should any item of interest be		
	located, all activities need to		
	cease immediately at that		
	location, and notify the National		
	Monuments Council.		
Noise pollution	- Workers to wear earmuffs if	Proponent	Control amount of
roise ponution	working in noisy section	Management	noise
	- Management to ensure that noise	management	noise
	is kept within reasonable levels.		
Soil pollution	- The top soil needs to be removed	Project	Proper planning
Son ponution	and stockpiled	coordinator	and management
	- Stockpiled soil must be covered	Management	and management
	to prevent it from being	and park	
	windblown within three months	warden	
	- All hydro-carbon products need	warden	
	to be stored in a bunded area, to		
	avoid any accidental spillages.		
Flora	<ul> <li>A geologist should be consulted</li> </ul>	Management	Warning signs on
1'101 a	with respect to the viability of moving	and contractor	site and restored
	the trench to avoid destruction of fragile	and contractor	vegetation
	species.		vegetation
Fauna	- Strict employee's code of	Management	Regular
1° au11a	conduct including prohibition of	management	monitoring of any
	hunting or trapping or interfering		unusual signs of
	0 11 0 0		wild animal
	in any manner with any wild animals.		
	annais.		habitat.

	<ul> <li>No feeding of wild animals should be allowed.</li> <li>Litter should be prevented and adequately disposed of to prevent attracting scavenging wild animals.</li> </ul>		
Environment Health and Safety	<ul> <li>Train workers on personal safety and disaster preparedness.</li> <li>A well-stocked first aid kit shall be maintained by qualified personnel.</li> <li>Report any accidents / incidences and treat and compensate affected workers.</li> <li>Provide sufficient and suitable sanitary conveniences which should be kept clean.</li> <li>Conduct Annual Health and Safety Audits.</li> </ul>	Management	Provide sanitary facilities.
Fire preparedness	<ul> <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>	Management	<ul> <li>Proof of inspection on firefighting equipment</li> <li>Fire Signs put up in strategic places.</li> <li>Availabilit y of firefighting equipment.</li> </ul>
	DECOMMISSIONING PH	HASE	equipitient.
Solid waste	<ul> <li>Solid waste should be collected by a contracted waste collection company</li> <li>Excavation waste should be re- used or backfilled.</li> </ul>	Proponent and Management	Amount of waste on Site. Presence of well- maintained receptacles and central collection point
Noise & Air pollution	<ul> <li>Maintain plant equipment.</li> <li>Decommissioning works to be carried out only during daytime.</li> <li>Workers working in noisy section to wear earmuffs.</li> <li>Workers should be provided with dust masks.</li> </ul>	Proponent and Management	Amount of noise

Soil pollution	- The contaminated soil needs to be treated either by adding bacteria which break down spilled hydro-carbon, or by simply distributing the soil thinly in direct sunlight to naturally break down the hydro-carbons.	Proponent	
Disturbed	- Undertake a complete	Management	Management
Physical environment	environmental restoration program and introducing appropriate vegetation		
Occupational Health and Safety	<ul> <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</li> </ul>	Proponent	<ul> <li>Workers using Protective Equipment.</li> <li>Presence of a First Aid Box.</li> </ul>
Visual	decommissioning.		Rehabilitation of
pollution	<ul> <li>Rake the track or drag tyres to smooth tracks</li> <li>Removal of all construction equipment, surplus material and temporary structures, fences and works of every kind, and everything that was brought at the site.</li> </ul>		every foreign material at the site

## 6.5 Monitoring, Auditing and Reporting

### 6.4.1 Inspections and Audits

Performance against the EMP commitments will need to be reviewed throughout the project's life cycle, with corrective action implemented as needed, to guarantee compliance with the EMP and any Enviro-legal obligations. This will include conducting both the internal inspections/audits and external audits, documentation, reporting, establishing an environmental management systems, adhere to the drafted environmental policy, maintain the impact aspect register, drafting procedures and method statements by the relevant responsible mineral exploration staff and contractors, determining the relevant roles and responsibilities, and others.

### 6.4.2 Roles and responsibilities for environmental management

### 6.4.2.1 Communication between Parties

Emphasis will be put towards open communication between all parties, in order to reach a proactive approach towards potential environmental issues deriving from the project. This approach should guarantee that environmental impacts are anticipated and prevented, or minimised, rather than adopting a negative "policing" approach after negative impacts have already occurred. The importance of a proactive approach cannot be overemphasised, particularly in relation to preventing unnecessary tracks, and damage to vegetation (i.e. protected and endemic species) as these impacts cannot easily be remedied.

### 6.4.2.2 The Operating Company

The company is ultimately responsibility for all stages of the project and the impacts resulting from those activities. The responsible persons will be the company's Environmental Control Officer (ECO) and Managing Director to ensure that:

- The EMP and its environmental specifications are included in contractual documents and it is required that contractors, and subcontractors, consultants etc. do meet the EMP requirements;
- The company and all its subcontractors, consultants etc. comply with all Namibian legislation and policies and any relevant International Conventions;
- Compliance with the environmental specifications are enforced on a day-to-day basis;
- Environmental audits are conducted periodically by a suitably qualified ECO to confirm that the environmental requirements are properly understood and effectively implemented;
- Sufficient budget is provided to implement those measures that have cost implications;
- The site manager must commission tree surveys well in advance of planned road construction or drill pad preparation so that the necessary site visits by forestry personnel and forestry permits are acquired; and,
- Open an effective communication between all parties concerning environmental management on the project.

### 6.4.2.3 Site managers

Day-to-day responsibility for environmental management will be assigned to the ECO and Manager Field Operations site manager for the duration of all operational activities to:

• Be familiar with the contents of the EMP and applicable sections of the EIA and the measures recommended therein;

- Monitor compliance with the environmental specifications on a daily basis and enforce the environmental compliance on site by communicating the ECO's directions to all personnel involved;
- In the event of any infringements leading to environmental damage, personnel need to consult with the ECO and seek advice on any remedial measures to limit or rectify the damage;
- Maintain a record (photographic and written) of "before-and-after" conditions on site;
- Facilitate communication between all role players in the interests of effective environmental management

### 6.4.2.4 Environmental Control Officer (ECO)

Namib Enviro consultants cc must appoint a suitably qualified ECO who is responsible to:

- Undertake environmental audits of overall compliance with the environmental specifications. This should be done at least bi-annually for the warehouse.
- Submit a site inspection report to the Managing Director and
- Make recommendations for remedial action in cases of non-compliance with the environmental specifications.

### 6. 5.3 Environmental Management System Framework

The proponent and its contractors will create and implement an Environmental Management System (EMS) in order to apply Environmental Management Practices. The structure for compiling a project EMS is established in this section. All environmental management paperwork will be kept in a paper and/or electronic system by the applicable exploration manager. These will be classified into the following groups:

### a) Policy and Performance Standards

The EMP includes a draft environmental policy as well as accompanying objectives, targets, and pledges. These can be adjusted by the mineral explorer as needed.

### b) Enviro-Legal Documentation

The proponent will always have a copy of the approved environmental assessment and EMP documents. The exploration team will also save copies of the Environment Clearance

Certificate and all other related authorizations and licenses. In addition, a record of the project's applicable laws and regulations will be maintained and updated as needed.

### c) Impact Aspect Register

The Aspect-Impact Register with the Project Activity is based on this Draft EMP, which specifies the foreseeable project features and related possible effects of the proposed project. It should be noted, however, that more project aspects and related affects may occur during the project's life cycle and will need to be recorded in the Aspect-Impact Register. The impact identification principles outlined in the scoping study can be utilized to update the Register in this regard. During the project's life cycle, the applicable exploration manager can make changes to this approach as needed.

## d) Procedures and Method Statements

Procedures and method statements will be drafted by the relevant accountable mineral exploration employees and Contractors in order to influence the promises included within the EMP. These may include, but are not limited to:

- Standard operating procedures for the implementation of the environmental action plan and management program.
- Procedures for dealing with incidents and emergencies.
- Procedures for auditing, monitoring, and reporting, as well as
- EMP compliance method statements for ad hoc actions not explicitly covered in the EMP action plans.

## e) Register of Roles and Responsibilities

Relevant roles and duties will be identified during project planning and risk assessments. All environmental commitment duties and obligations must be documented in a register. The register must include pertinent contact information and be updated as needed.

## f) Site Map

It is essential to keep an up-to-date map of the exploration site that shows all project activities. The following detail, in addition to the project layout, must be depicted:

- Material handling and storage
- Waste management (collection, storage, and transfer, among other things);
- Areas with a high level of sensitivity;

• The location of the incident and emergency equipment; and the location of the accountable parties.

g) Environmental Management Schedule

The applicable phase site managers and/or relevant Contractors must keep a schedule of environmental control actions. The exploration manager is responsible for keeping a master schedule of all such activities up to date. Environmental risk assessments, environmental management meetings, and other scheduled environmental actions include, but are not limited to:

- Handling, managing, and rehabilitating soils
- Waste removal
- Inspection and repair of incident and emergency response equipment
- Environmental education
- Participation of stakeholders; environmental inspections; and
- Auditing, monitoring, and reporting are all part of the auditing, monitoring, and reporting process.

### h) Change Management

The EMS must have a change management procedure in place. In this regard, environmental documentation, procedures and method statements, action plants, and other related documents will be updated and revised as needed to account for the following scenarios:

Changes in standard operating procedures (SOPs), scope changes, ad hoc activities, project phase changes, and duties or roles changes

### 6.6 Closure Plan

The proposed project's closing plan is to develop a secure, stable, and non-polluting postprospecting landscape that may support integrated, self-sustaining, and value-generating activities, leaving a positive legacy in the process. The closure plan's goals are to:

- Prioritizing the creation of a functional post-prospecting environment that allows for selfsustaining agricultural operations whenever possible.
- To promote the restoration of terrestrial and aquatic wetland biodiversity, when appropriate.

### 6.6.1 Alternatives Considered

Because this is an exploration project, the proposed project is not complicated, and the hazards associated with prospecting are well understood and may be mitigated once the project is completed. There are few alternatives for closure. There are just two activity possibilities for the closure plan that have been considered:

### **First alternative**:

Closure or backfill of boreholes with overburden removed during drilling (best option).

### Second alternative:

Leaving boreholes open to allow for groundwater recharge from surface run-off.

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

The restoration of a disturbed environment that has been deteriorated as a result of operations such as mining, road construction, or waste disposal to a land use similar to that which existed before the activity began is known as rehabilitation. This involves aesthetic concerns, so that a disturbed region does not stand out from the surrounding surroundings. Backfilling boreholes with overburden removed during development and covering with growth medium to produce vegetation is the preferred technique for preserving physical, chemical, and biological ecosystem functions in degraded environments. This option provides a number of benefits, which are listed below:

### Benefits:

- The site will be pleasing to the eye
- The location will blend in with the surroundings
- The site will be a suitable habitat for fauna and flora again
- The site will be safe and pollution-free

Option 1, which is to leave boreholes unbackfilled, carries the risk of these boreholes filling with water, which could attract wildlife and communities, resulting in drowning and the possibility of getting trapped in the declines. Backfilling is required to reduce these dangers.

### 6.6.3 Closure Assumptions

This closure plan was created using the minimal information available, including environmental data. During the operational phase, some of the already accessible data may need to be enhanced. To construct the suggested closure actions, numerous assumptions were made about general conditions, as well as the closure and rehabilitation of the site's facilities. These assumptions will be examined and amended as more information becomes available during operations.

The following are some of the assumptions that were utilized to create this plan:

- Once the last intended weight of minerals has been removed from the site for laboratory testing, the closing period will begin.
- The recommended prospecting sites will be followed to the letter in order to minimize potential consequences.
- Vegetation will be established in accordance with the native vegetation of the project area.
- Water management infrastructure constructed during the operational period will be kept for closure / end of project life if needed.
- There are few chances to build infrastructure on site, and any infrastructure that is created will be of minimal utility to the community. As a result, all structures will be demolished.
- All hazardous and household garbage will be carried offsite to licensed landfills for disposal.
- Existing roads will be utilized to the greatest extent practicable. Where access tracks have been built in the absence of roads, they will be restored and closed as part of the standard closure process.

### 6.6.4 Closure and Rehabilitation Activities

The remediation procedures that will be conducted when the projected prospecting activities reach the end of their life cycle are explained below:

### 6.6.4.1 Infrastructure

All infrastructure will be decommissioned, and the footprints will be repaired so that vegetation can grow. To minimize any surplus materials at closure, material inventories will be maintained at the end of prospecting activities. Equipment and materials of value that aren't needed for post-closure operations will be sold or removed from the site as much as possible. Scrap and salvageable equipment will be removed from the site and sold to recyclers.

Following the completion of demolition activities, a soil contamination investigation will be carried out. The goal is to identify potential contaminated locations and then create and implement appropriate remediation methods to ensure that soil contaminants are removed. The following actions will be taken to bring the situation to a close:

- Prior to undertaking any decommissioning work, all power and water services will be disconnected and certified as safe
- All remaining inert equipment and decommissioning waste will be disposed of at the nearest licensed general waste disposal facility
- Salvageable equipment will be removed and transported offsite prior to and during decommissioning
- All tanks, pipes, and sumps containing hydrocarbons will be flushed or emptied prior to removal to ensure no hydrocarbon/c is present

### 6.6.4.2 Boreholes

Boreholes will be backfilled with overburden stripped before prospecting activities begin. All overburden should be dumped into the vacuum, and the finished surface should be moulded to match the surrounding terrain while remaining free draining. After backfilling, a growth medium cover will be installed, and vegetation will begin to grow.

### 6.6.4.3 Roads

Existing roads will be utilized to the greatest extent practicable. • All signage, fences, and shade structures, as well as traffic barriers, will be removed as part of the road and parking area closure.

- All 'hard top' surfaces, as well as any concrete structures, must be ripped.
- All potentially contaminated soils must be identified and delineated for further treatment
- All haul routes treated with saline dust suppression water must be treated, with the upper surface pulled off and disposed of in authorized contaminated disposal places.

### 6.6.4.4 Remediation of Contaminated Areas

- All hydrocarbon-containing tanks, pipes, and sumps will be flushed or emptied, and removed soils will be treated according to the nature and amount of the pollution.
- The liquid storage tanks will be drained, the structure will be removed/demolished, and the sub-surface holes will be plugged; and
- All equipment used to store or transport chemicals will be cleaned and disposed of at a proper disposal facility.

### 6.6.4.5 Vegetation

Using non-invasive plants that meet the habitat's criteria, successful revegetation will help control erosion of soil resources, maintain soil productivity, and reduce sediment loading in streams (e.g. soils, water availability, slope and other appropriate environmental factors).

Invasive species will be avoided, and the area will be managed to keep them from spreading. On slopes, naturally occurring grassland species will be planted to combat the effects of erosion. These plants will increase soil holding capacity while also lowering runoff velocity. The flat areas will be re-vegetated with the goal of establishing a long-term ecology. Before vegetation is removed, the presence of protected plant species must be identified, and the necessary licenses for destruction or relocation must be secured.

### 6.6.4.6 Waste Management

Hazardous waste will be controlled, sorted, and disposed of, while non-hazardous garbage will be disposed of in a nearby permitted landfill site. Scrap and waste steel will be sold to recyclers. Wastes to be contained in animal-proof drums with a solid lid, and drums be in an enclosed fence, to prevent windblown debris from escaping, and scavenging animals from rummaging through the waste.

### 7. Public participation process

### 7.1 Overview

It is a norm that public consultation is required by legislation (EMA No. 7 of 2007) to be included in an EIA process, it is a major element of the EIA. By incorporating Interested and Affected Parties, public consultation ensures sound decision-making. As a result, the Public Participation Process (PPP) has been constructed to give Interested and Affected Parties (I&APs) the opportunity to learn more about the proposed project, provide input through document/report reviews, and raise any issues of concern during the PPP process.

### 7.2 Identification of Interested and Affected Parties (I&APs)

The EIA team identified I&APs and key stakeholders of the proposed project after the scoping process. The actions for public engagement in this EIA process have been incorporated into the overall approach of the EIA background information. I&APs were given the opportunity to register with the EIA team, and a separate database was built to store all of their names and correspondence information. It takes twenty-one (21) days for I&APs to be registered.

### 7.3 Distribution of Background Information Document (BID)

Pre-registered Interested and Affected Parties received a Background Information Document (BID), and the rest of I&AP were added to the public consultation database upon request. The BID gave a synopsis of the proposed project, as well as the project proponent and the entire EIA procedure to be followed.

### 7.4 Public Announcement

Notification of the start of the EIA process for the project was advertised in two Namibian national newspapers, Republikein and Confidente, in accordance with Section 21 (2) (c) of the EMA Act No. 7 of 2007. Attached as Appendix A. The advertisements essentially informed the public about the project and the EIA study, as well as inviting them to participate. In addition, the newspaper advertisements asked I&APs to register.

There was no issue raised, and the public was delighted and eager to help in any way they could because they see the development as very own.

## 8. Conclusion

The environmental evaluation came to the conclusion that the proposed project would not have any substantial environmental effects if the stated mitigating measures were carried out as planned. In order to reduce potential environmental impacts as outlined in the EMP, the EIA identified and evaluated potential environmental effects as well as appropriate mitigation and management methods to be used during the construction and operational stages of the proposed project.

As a result, Namib Enviro Consultants strongly advises that the Environment Clearance Certificate for the proposed project be approved and issued. 9. References

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Appendices Appendix A



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