

**ENVIRONMENTAL MANAGEMENT PLAN REPORT FOR:**

**THE PROPOSED INDUSTRIAL MINERALS, DIMENSION STONE, PRECIOUS METALS, BASE  
AND RARE METALS MINERAL ON EPL NO.7576**

**USAKOS DISTRICT**

**ERONGO REGION – NAMIBIA**

COMPILED BY



**SS CONSULTANTS**

 [info@ssconsultants.com](mailto:info@ssconsultants.com)

## TABLE OF CONTENTS

<b>1. INTRODUCTION.....</b>	<b>1</b>
1.1. PROJECT BACKGROUND.....	1
1.2. PURPOSE OF THE EMP .....	2
1.3. ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP).....	4
1.4. LEGAL REQUIREMENTS.....	4
1.5. ASSUMPTIONS AND LIMITATIONS .....	5
1.6. REPORT STRUCTURE .....	5
<b>2. ROLES AND RESPONSIBILITIES .....</b>	<b>6</b>
2.1. PROPONENT’S REPRESENTATIVE .....	6
2.2. ENVIRONMENTAL CONTROL OFFICER .....	7
<b>3. ENVIRONMENTAL MANAGEMENT PLAN ACTIONS .....</b>	<b>8</b>
3.1. KEY POTENTIAL ENVIRONMENTAL IMPACTS TO BE MANAGED .....	8
PHASE 1: PLANNING AND DESIGN MANAGEMENT ACTIONS .....	10
PHASE 2: OPERATIONAL PHASE MANAGEMENT ACTIONS .....	14
PHASE 4: REHABILITATION AND DECOMMISSIONING MANAGEMENT ACTIONS.....	26
<b>4. CONCLUSION AND RECOMMENDATIONS.....</b>	<b>29</b>
RECOMMENDATIONS FOR MONITORING.....	30
<b>5. REFERENCES.....</b>	<b>30</b>

## LIST OF FIGURES

Figure 1-1: Locality Map for EPL 7576. ....2

## LIST OF TABLES

Table 2-1: Responsibilities assigned to the Proponent’s Representative for planning and design, operation and decommissioning phases.....6

Table 3-1: Summary of key potential environmental impacts per project phase .....8

Table 3-2: Planning and design management actions .....10

Table 3-3: Operation phase management actions .....14

Table 3-4: Decommissioning phase management actions .....26

## 1. INTRODUCTION

### 1.1. Project Background

The Ministry of Mines and Energy (MME) has granted the EPL 7576 to the proponent to undertake mineral exploration activities for the mineral groups of industrial minerals, dimension stone, precious metals, base and rare metals mineral. However, the proponent cannot commence with the exploration activities until the awarding of an Environmental Clearance Certificate (ECC). According to the Minerals (Prospecting and Mining) Act No. 33 of 1992 (Minerals Act), Section 67(1)(a) denounce that an EPL is for the purpose of conducting of mineral resource exploration. The mineral groups consist of various elements that fall under each group and listed in the Minerals Act Schedule 1.

According to Environmental Management Act (EMA) (2007) and its 2012 Environmental Impact Assessment (EIA) Regulations. It is mandatory that the proponent conduct an EIA for the project to identify all the possible impacts it may have on the environment, and in turn come up with an effective Environmental Management Plan (EMP) that would help to manage the impacts by the implementation of drafted mitigation measures. If the proponent does not carried out the EIA and EMP, then this implies that the proponent thus will not be awarded the ECC.

EPL 7576 is situated about 30 Km in the northwestern direction of Usakos town, within the Erongo region. Access to the area is via the B2 tarred road from Usakos to Arandis then take the D1930 dirt road that passes through the license Figure 1-1. The EPL covers a total surface area of about 353.552 hectares.

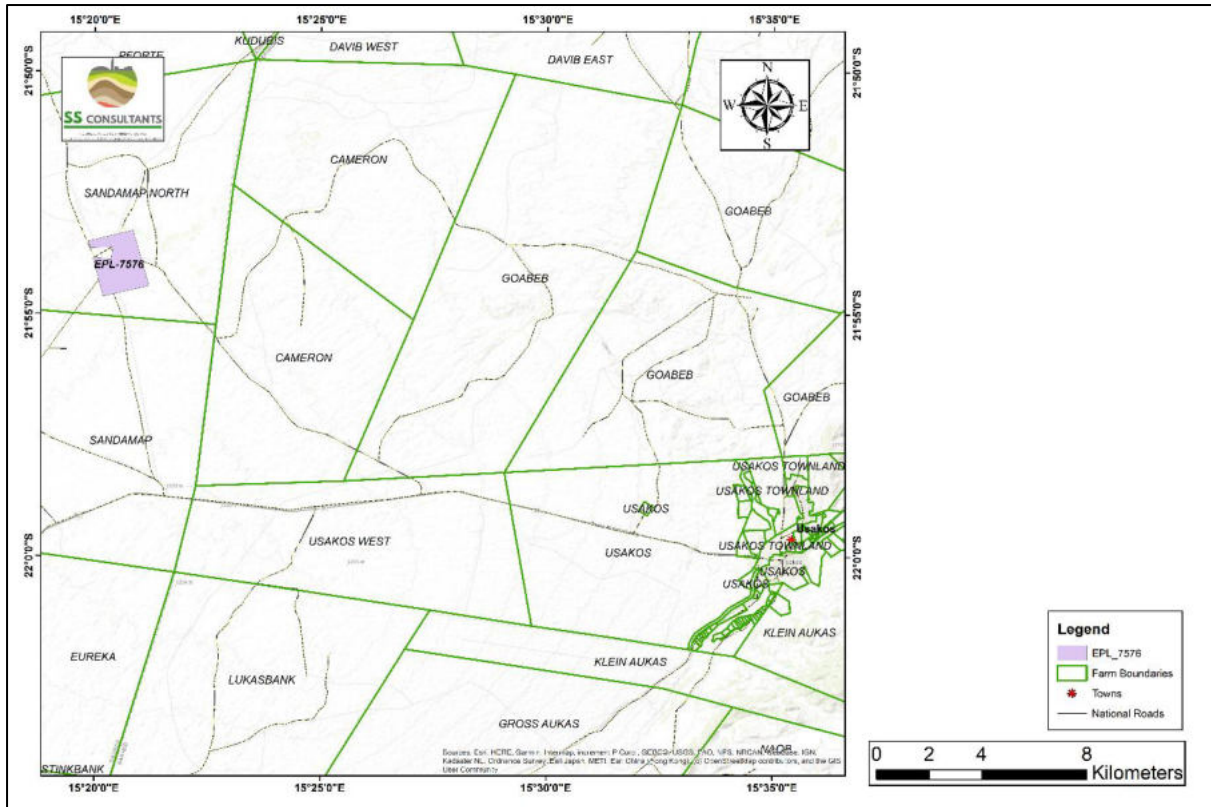


Figure 1-1: Locality Map for EPL 7576.

## 1.2. Purpose of the EMP

The EMP is a guidance tool for the implementation of the proposed project in this case to conduct exploration activities. The EMP can also be defined as an adoption of a mitigation hierarchy that anticipate to avoid, or where avoidance is not possible, minimize, or compensate/offset impacts that the project may have on the environment. In short, a ‘management plan’ is defined as:

*“...a plan that describes how activities that may have significant environments effects on the environment are to be mitigated, controlled and monitored.”*

As mentioned in the previous sub-section, before the project activities begin, an ECC is required based on an approved EMP. Which is according to regulation 8 of the Environmental Management Act’s (EMA) (7 of 2007) and the Environmental Impact Assessment Regulations (2012). It is mandatory that a draft of the EMP is included as part of the scoping Environmental

Assessment (EA) process.

The risks and impacts identified in the EIA are connected with the needed environmental management (EM) on the ground, during project implementation and operation. Noteworthy, EMP is a legally binding document and a person who breaches the provisions of this EMP may face imprisonment and/or a fine. Continuous EMP management should be adopted throughout the project's life to ensure that the implementation of the mitigations that are responsive to any change that may occur is effective and that the result of monitoring is positive throughout the project's life cycle.

The core focus of the EMP is to establish environmental action plans, which will define desired outcomes and measures to address the issues raised in the impacts identification process, and with estimates of the resources and responsibilities for implementation. The EMP document therefore gives continuous guidance on environmental management throughout the life- span of the proposed project; pre-operation (planning and design), operation and decommissioning.

The overall objectives of the EMP:

- To implement measures that will help avoid and/or minimise the adverse impacts of the proposed project
- To Ensure that regulatory authority stipulations and guidelines are complied
- To develop measures that enhance the value of environmental components where possible.
- To develop measures that protect environmental resources (biodiversity, ecosystem, natural resources and social aspects) as well enhance the value of environmental components where possible.
- Responding to unforeseen events and providing feedback for continual improvement in environmental performance.

The following phases are addressed in this EMP:

- **Planning and design (Pre-operation)** – Before the exploration activities commence, preliminary legislative and administrative arrangements have to be carried out. This is done to prepare for the proposed exploration activities.
- **Operation** - the period during which the exploration activities will be operational.
- **Decommissioning** – This phase is implemented when the proposed development's lifetime ends.

### 1.3. Environmental Assessment Practitioner (EAP)

SS Consultants, an independent environmental consultant was appointed by the proponent to undertake the required Environmental Assessment (EA) and an EMP for the proposed development. Following the Environmental Act of 2007, it is mandatory that the EMP is submitted together with the scoping EA report as supporting documents to the application for an ECC to the Environmental Commissioner (EC) at the Department of Environmental Affairs (DEA) of the Ministry of Environment, Forestry and Tourism (MEFT). The EMP will serve a guidance for the Contractors as well as the proponent to direct them during the proposed exploration operations. Which is to ensure that impacts on the environment are to be avoided where possible or limited.

### 1.4. Legal Requirements

The EMP must meet the requirements of Section 8 (j) of the EIA Regulations in order for it to be considered. The EMP must address all the identified potential environmental impacts of the proposed activity on the environment throughout the project life cycle. In addition, the EMP has to include a system for assessment of the effective monitoring and management arrangements after implementation. It is the responsibility of the proponent to make sure that the proposed activity as well as the EIA process comply with the principles of EMA and must ensure that any contractors appointed by them also conform to such principles.

## 1.5. Assumptions and Limitations

This EMP has been developed with the acknowledgement of the following assumptions and limitations:

- This EMP has been formulated in connection with the scoping-level Environmental Impact Assessment (EIA) conducted for the proposed development of EPL 7576 inclusive of an Archaeological and Cultural Impact Assessment Report.
- The mitigation measures recommended in this EMP document are based on the risks/impacts in the scoping report, which were identified based on the provided project description and site investigation. It is important to note that the EMP is adjustable throughout the project development, and can be amended if the scope of the project changes. This means that for any change in the scope of the project, the impacts will be reassessed and the mitigation measures will be formulated correspondingly.

## 1.6. Report Structure

The EMP pinned out the mitigation and management plans that must be executed and monitored for the proposed exploration activities on EPL 7576. The EMP addresses the following phases:

- **Pre-Operational (Planning and design) phase** - Before the exploration activities commence, preliminary legislative and administrative arrangement must be carried out. This is done with the reason of preparing for the proposed exploration activities;
- **Operation phase** - the period of which exploration activities will be in operation and conducted by the proponent and/or their contractors; and
- **Decommissioning phase:** when the proposed development's lifetime ends only than this phase shall be implemented.



## 2. ROLES AND RESPONSIBILITIES

The proponent carries the entire responsibility to ensure that the EMP is sufficiently implemented, as deemed necessary, and make sure that sound monitoring is done. Monitoring is critical in ensuring the fulfilment of all the commitments made in the EIA regarding the mitigation measures. The EMP and its monitoring programme is a continuous process that starts right at project's design, and continues through to development, operation, and decommissioning (if considered). The delegated responsibility for the effective implementation of this EMP will rest on the following key individuals, which may be fulfilled by the same person:

- Proponent's Representative
- Environmental Control Officer

### 2.1. Proponent's Representative

The Proponent can either manage all aspects of the planning and design, operation and decommissioning activities throughout the above mentioned phases referred to in this EMP, or assign the responsibility to a suitably qualified individual referred to in this plan as the Proponent's Representative (PR). The Proponent may decide to assign the role of a PR to one person for all phases of exploration. Alternatively, the Proponent can assign a separate PR for each component i.e. planning and design, operation, and decommissioning phase. The PR's responsibilities are included in **Table 2-1** below.

Table 2-1: Responsibilities assigned to the Proponent's Representative for planning and design, operation and decommissioning phases.

Responsibility	Project Phase
Managing the Execution and monitoring of this EMP and updating and maintaining it when necessary	Throughout the lifetime of the project

Ensure environmental policies are clearly communicated to all personnel and that employees understand the guidelines of the EMP	Throughout the lifetime of the project
Management and monitoring of individuals and/or equipment on-site in terms of compliance with this EMP	Throughout the lifetime of the project
Issuing fines for contravening EMP provisions	Throughout the lifetime of the project

## 2.2. Environmental Control Officer

It is crucial that the proponent assigns responsibility for administering the on-site implementation of the entire EMP, from the planning and design phase to the operation and decommissioning phase, to a designated person, named herein as Environmental Control Officer (ECO). The Proponent may choose to assign this role to one person for both phases, or they may assign separate individual ECOs to oversee the implementation of the EMP during each phase. The ECOs will have the following responsibilities:

- Management and easing of communication between the Proponent, PR and Interested and Affected Parties (I&APs) regarding this EMP.
- Implementation of site inspections (recommended minimum frequency is monthly during exploration and bi-annually during decommissioning) of all areas with respect to the implementation of this EMP (monitor and audit the implementation of the EMP);
- Advising the PR on the removal of person(s) and/or equipment not adhering with the provisions of this EMP;
- Making recommendations to the PR with respect to the issuing of fines for contraventions of the EMP; and
- Conducting the annual auditing of the EMP and recommending additions and/or changes to this document.

### 3. ENVIRONMENTAL MANAGEMENT PLAN ACTIONS

The core reason for this EMP is to manage and monitor the identified mitigation measures and risks that may occur over the project lifetime. It delivers the recommendations from the Scoping Report in the form of Environmental Specifications that can be practically implemented and enforced on site so that there is avoidance and/or as minimal damage to the environment as possible. The analyses of the impacts and the creation of mitigation measures will likely identify a number of changes in the project design, implementation and closure. The EMP gives the commitments, which form the environmental contract between Proponent and the Government of the Republic of Namibia; represented by the Ministry of Environment, Forestry and Tourism (MEFT). The management measures proposed to mitigate the potential impacts are detailed in the action plans below.

#### 3.1. Key Potential environmental impacts to be managed

From the EA, the following potential impacts per project phase have been identified and are summarised in the tables under subchapters 3.1, 3.2 to 3.5 as well as in the Scoping Report.

Table 3-1: Summary of key potential environmental impacts per project phase

	<b>Project Phase</b>	<b>Potential impacts identified in the EA</b>
1	Pre-Operation	Biodiversity and archaeological impacts
2	Operation	Health and safety, soil, surface and groundwater contamination, wildlife disturbance, dust, noise, environmental degradation, erosion, archaeological and social impacts.
3	Decommissioning	Loss of employment and soil, surface and groundwater contamination.

The primary aim of the management actions of the EMP is to avoid the potential impacts where possible. Where impacts cannot be avoided, measures are put into place to ensure the

risks/impacts are minimised or offset.

Management actions must be performed to manage the potential impacts rated in the EA carried out for the proposed exploration development are presented in the following tables.

The management actions were formulated based on the three project phases:

- Planning and design phase (pre-exploration) (**Table 3-2**).
- Operation and maintenance phase management actions (during exploration activities)
- **Table 3-3**).
- Decommissioning phase (**Table 3-4**)

The proponent or the delegated personnel should evaluate these measures in detail and concede their commitment to the specific management actions detailed in the table of the next subchapters.

### Phase 1: Planning and Design Management Actions

The management requirements detailed in **Table 3-2** need to be implemented before any exploration activities commence on site. Also, necessary preliminary legislative and administrative arrangements must be set up in preparation for the proposed exploration activities.

Table 3-2: Planning and design management actions

Aspect	Management Requirement
Labour Recruitment	<p>Provisions designed to reduce the use of local labour should be inclusive within tenders concerning the:</p> <ul style="list-style-type: none"><li>• Provision to promote the fair treatment, non-discrimination, and equal opportunity of workers, and to establish, maintain, and improve the worker-management relationship, and promote compliance with national employment and labour laws.</li><li>• Provision stating that all unskilled labour derived from local communities should be included within tenders concerning the exploration operations.</li><li>• Specific employment procedures ensuring local firms enjoy preference during tender adjudication should be included within tenders that have to do with the exploration operations.</li><li>• Provisions promoting gender equality pertaining to recruitment should be included within tenders concerning the exploration operations.</li></ul>

Aspect	Management Requirement
Biodiversity	<ul style="list-style-type: none"> <li>• There should be a study done on the vegetation within those areas that will be affected by exploration activities and related infrastructure.</li> <li>• All trees (a “tree” is defined here as an indigenous woody perennial plant with a trunk diameter <math>\geq 150</math> mm) that occur within the development site should be surveyed and not removed from site.</li> <li>• Should there be a need to remove some of the trees that have not been registered and surveyed, the Proponent should apply for the licence to remove these trees from the local Forestry department (Ministry of Environment, Forestry and Tourism).</li> <li>• Large indigenous trees and protected tree species within to be kept the site should be surveyed and marked with red paint.</li> </ul>
EMP Implementation	<ul style="list-style-type: none"> <li>• A Proponent’s Representative (PR) that will act as their on-site implementing agent should be appointed. The PR should be responsible for ensuring that the Proponent’s responsibilities are executed effectively and comply to relevant legislation and this EMP.</li> </ul>
Consultation with affected farmers	<ul style="list-style-type: none"> <li>• There should be an ongoing informed consultation and participation with the affected communities prior to any exploration activities commencing on site in order to provide them with the following information</li> </ul>

Aspect	Management Requirement
	<ul style="list-style-type: none"> <li>○ Detailed work plan with regards to the exploration activities.</li> <li>○ Discussion of access agreements.</li> <li>○ Discussion of compensation (as necessary).</li> <li>○ Any other concerns or information requirements that the farmers may have.</li> </ul>
Agreements with community affected by the activity	<ul style="list-style-type: none"> <li>● Access agreements need to be made with the affected parties (community, local and traditional authorities) that most likely to be affected by the exploration activities in the area.</li> <li>● The agreement should include but is not limited to: <ul style="list-style-type: none"> <li>○ Compensation agreements (if necessary).</li> <li>○ Agreed upon working hours.</li> <li>○ An allegiance by the exploration company for the rehabilitation of the site when exploration activities are decommissioned.</li> <li>○ Agreement upon access to the site.</li> <li>○ Dedication to the adherence and implementation of the EMP.</li> <li>○ The Scoping Report and EMP for reference.</li> </ul> </li> </ul>
Archaeology	<ul style="list-style-type: none"> <li>● An archaeological expert must be appointed to conduct a detailed archaeological survey once targets have been identified for drilling and/or other mechanically-assisted exploration</li> </ul>

Aspect	Management Requirement
	<ul style="list-style-type: none"> <li>Once the exact locations of the exploration sites are determined, and should a heritage or archaeological site be uncovered, an Archaeological Chance Finds Procedure should be applied as outlined in Appendix K of the Scoping Report.</li> </ul>



## Phase 2: Operational Phase Management Actions

The management actions for the operational phase during which the exploration activities will take place are listed in

**Table 3-3.**

Table 3-3: Operation phase management actions

Environmental Feature	Impact	Management Actions
EMP training	Lack of EMP awareness and the implications thereof	<ul style="list-style-type: none"><li>• Employees appointed for exploration work must ensure that all personnel are aware of necessary health, safety, and environmental considerations applicable to their respective work, as per the management plan.</li></ul>
Monitoring	EMP non-compliance	<ul style="list-style-type: none"><li>• The ECO or the Proponent/Proponents Representative should monitor the implementation of this EMP.</li><li>• The Proponents Representative should inspect the site throughout the exploration at least on a monthly basis.</li></ul>

Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> <li>• Bi-annual audits should be conducted of site activities by an external ECO.</li> </ul>
Waste Management	Visual impact and soil contamination	<ul style="list-style-type: none"> <li>• The exploration site should always be kept clean.</li> <li>• All domestic and general waste accumulated daily should be cleaned and contained daily.</li> <li>• No waste may be buried or burned.</li> <li>• Waste containers (bins) should be emptied regularly and removed from site to the nearest municipal waste disposal site.</li> <li>• All recyclable waste needs to be taken to the nearest recycling depot.</li> <li>• A sufficient number of separate waste containers (bins) for hazardous and domestic / general waste must be provided on site.</li> <li>• Exploration workers should be sensitised to dispose of waste in a responsible manner and not to litter.</li> <li>• All the wastes must be removed from site after the completion of the project.</li> </ul>

Environmental Feature	Impact	Management Actions
Hazardous Waste	Soil and groundwater contamination	<ul style="list-style-type: none"> <li>• All heavy operation vehicles and equipment on site must be supplied with a drip tray.</li> <li>• All heavy operation vehicles should be maintained regularly to avoid oil leakages.</li> <li>• Maintenance and washing of operation vehicles must happen only at a deputed workshop area.</li> </ul>
Wastewater	Groundwater contamination	<ul style="list-style-type: none"> <li>• Use of the toilets instead of the veld must be strictly adhered to.</li> <li>• If grey water can be collected from ablution facilities at the contractors' camp it should be recycled and: <ul style="list-style-type: none"> <li>○ Used for dust suppression;</li> <li>○ Used to water vegetable gardens or to support a small nursery in local communities (as and when agreed upon by such communities); and/or</li> <li>○ Used to clean equipment.</li> </ul> </li> <li>• All run off materials such as hydrocarbons, wastewater and other potential contaminants should be contained on site and disposed of</li> </ul>

Environmental Feature	Impact	Management Actions
		<p>in accordance with municipal wastewater discharge standards, so that they do not reach to ground or surface water systems.</p> <ul style="list-style-type: none"> <li>• Wastewater (excluding sewage) should be drained into lined / impermeable catch pits, big enough for daily / weekly usage without overflowing. Water from these catch pits should be removed from site to the nearest wastewater treatment facility by an approved wastewater removal company.</li> <li>• Groundwater impact awareness training should be given to the employees involved in this project phase.</li> <li>• There must be an established and maintained emergency preparedness and response system that facilitates space for responding to any accidental and emergency situations to prevent and mitigate any harm to people and the environment. This can account for major / minor spills and firefighting at the exploration site during exploration activities (with consideration of air, groundwater, soil and surface water).</li> </ul>

Environmental Feature	Impact	Management Actions
Soil	Soil contamination	<ul style="list-style-type: none"> <li>• Spill control preventative measures should be put in place to control soil contamination.</li> <li>• An impermeable liner should be placed on the site area in order to prevent contaminants from reaching to surrounding soils and groundwater systems.</li> <li>• Potential contaminants such as hydrocarbons and wastewater should be contained on site and disposed of in accordance to municipal wastewater discharge standards to ensure that they do not contaminate soils in the area.</li> <li>• Soil contamination should be monitored on site daily by PR and monthly by ECO.</li> <li>• ECO(s) should ensure that enough number of drip trays are available on-site and that these are utilised in the event of leakage from construction trucks or vehicles.</li> </ul>

Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> <li>Contaminated soils onsite that may have resulted from leakage/spillage from construction vehicles or equipment should be removed to a depth dependent on the size of the spill and replaced with clean soil. It must then be removed and disposed at a designated landfill site suitable to receive contaminated soil.</li> </ul>
Biodiversity	Loss of Biodiversity	<ul style="list-style-type: none"> <li>Recommendations and mitigation hierarchy as provided by the vegetation study with regards to the protection of biodiversity in the area should be adhered to during exploration activities.</li> <li>Trees with a trunk size of 150 mm and bigger should be surveyed, marked with paint (readily visible) and protected.</li> <li>The Proponent should only, when necessary, remove trees within the actual footprint of the specific exploration activities with permission if required. Trees that are not within the footprint should be left to preserve biodiversity in the area.</li> <li>If cleared, the numbers of protected, endemic and near endemic species removed should be documented.</li> </ul>

Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> <li>• Trees and plants protected under the Forest Act No 12 of 2001 must not be removed without a valid permit from the local Department of Forestry.</li> </ul>
Dust and noise	NUsakosance impacts	<ul style="list-style-type: none"> <li>• The contractor(s) should subdue dust associated with exploration activities by using a reasonable amount of water.</li> <li>• If feasible, wastewater should be treated to an acceptable water quality level, so that it can be used for exploration purposes (dust suppression).</li> <li>• Noise levels during exploration activities should be kept within the allowable standards for urban areas.</li> <li>• Noise levels should adhere to the SANS restrictions on noise.</li> <li>• The working hours should be restricted to between 08h00 and 17h00 due to the use of heavy equipment, power tools and the movement of heavy vehicles.</li> </ul>

Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> <li>• Noisy equipment should be off when not in use (when not needed) to avoid noise pollution on site and its surroundings.</li> <li>• Workers performing noisy tasks should put on the ear plugs and should be rotated regularly (work on shifts) to avoid exposing them to excessive noise for a long period of time in a day.</li> <li>• Workers should be equipped with personal protective equipment (PPE) such as earplugs to reduce noise exposure.</li> <li>• Workers should ensure that they wear the PPE at all times on work sites.</li> </ul>
Health and Safety	Health and safety impacts	<ul style="list-style-type: none"> <li>• The contractor(s) should ensure that all personnel are provided with personal protective equipment (PPE), such as coveralls, gloves, safety boots, safety glasses and hard hats at all times.</li> <li>• Workers should ensure that they wear the PPE at all times on work sites in an appropriate way.</li> <li>• Alcohol should be prohibited during working hours.</li> </ul>



Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> <li>• No workers should be allowed on site if under the influence of drugs and alcohol.</li> <li>• An appropriate location should be indicated on the site for the parking of operation vehicles.</li> <li>• Public access to the exploration site should be prohibit.</li> </ul>
Exploration labourers		<ul style="list-style-type: none"> <li>• The Proponent should ensure that locals from the surrounding areas are employed for any unskilled labour.</li> <li>• Exploration labourers should not be recruited on-site.</li> <li>• Portable toilets (i.e. easily transportable) should be available on site.</li> <li>• Separate ablutions should be available for men and women and should clearly be indicated as such.</li> <li>• Sewage waste needs to be removed on a regular basis to the nearest approved sewage disposal site.</li> <li>• Workers responsible for cleaning the toilets should be provided with latex gloves, rubber boots, overalls, masks and all the necessary PPE for cleaning.</li> </ul>

Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> <li>• No workers may reside on-site for the entire duration of the exploration period. Only a security guard will be allowed to sleep on-site (if there will be any).</li> <li>• The Proponent or contractor should draft a Communication Plan, which should outline as a minimum the following: <ul style="list-style-type: none"> <li>○ How stakeholders, who require ongoing communication for the duration of the exploration period, will be identified and recorded and who will manage and update these records.</li> <li>○ How these stakeholders will be engaged daily.</li> <li>○ Provision should be made for a grievance mechanism – outlining how to screen and assess the issues raised and determine how to address them, inclusive of further steps of arbitration if feedback is deemed unsatisfactory.</li> </ul> </li> </ul>

Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> <li>○ There should be continues engagement with the stakeholders and affected communities to ensure they are aware of the relevant communication channels and that they are part of the project decision making where needed.</li> </ul>
Water	Groundwater contamination	<ul style="list-style-type: none"> <li>• No wastewater / effluent should be allowed to leave the site premises without proper control.</li> <li>• These should be disposed of in accordance with municipal wastewater discharge standards.</li> <li>• Regular maintenance and surveil of exploration equipment and vehicles should be done to detect early spills or leakages.</li> <li>• An emergency responsive plan should be available for major / minor spills at the exploration site during operation activities (with consideration of air, groundwater, soil and surface water) to prepare the workers on how to respond in cases of emergences.</li> </ul>

Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> <li>• Groundwater impact awareness training should be provided to the employees involved in this phase.</li> </ul>
Wildlife and Stock animals	Disturbance of wildlife and stock theft	<ul style="list-style-type: none"> <li>• Working hours should be limited to during the day, thus enabling the wildlife to roam freely at night.</li> <li>• The contractor is to compile a Non-Theft Policy to which all workers are to comply with.</li> <li>• All exploration workers are to cohere to the Non- Theft Policy.</li> </ul>

#### Phase 4: Rehabilitation and Decommissioning Management Actions

The table below presents the management action for decommissioning phase.

Table 3-4: Decommissioning phase management actions

Environmental Feature	Impact	Management Actions
Employment	Loss of employment	<ul style="list-style-type: none"> <li>• The Proponent should make aware to the employees, of any intentions to cease the exploration activities, and the expected date of such well in advance.</li> <li>• The Proponent should raise awareness of the possibilities for work in other industrial sectors.</li> </ul>
Rehabilitation	Groundwater contamination	<ul style="list-style-type: none"> <li>• During the initial prospecting phase, only limited surface rock and soil sampling will take place and it is unlikely that any damage be left by this activity.</li> <li>• All waste, defunct samples, and any other remains from the site must be removed.</li> </ul>

		<ul style="list-style-type: none"> <li>• All sample bags, plastic waste, survey pegs, materials used for sump creation etc. from site at completion of sampling schedule must be detached.</li> <li>• Site should be turned back to as close as possible to its original condition.</li> <li>• Re-contour and rip the drill site before the site is finally decommissioned.</li> <li>• Fill holes, rip up, rake track, and spread stockpiled topsoil back over the entire new tracks made, to allow re-vegetation.</li> <li>• Make sure that the ECO has a site inspection prior to and after rehabilitation to check rehabilitation efforts of each drill site.</li> </ul>
--	--	---

## **Site closure and rehabilitation**

Rehabilitation is an action for restoring the privilege of a damage done by exploration activities. The core reason for rehabilitation is to revive a damaged/ disturbed environment close to its pre-exploration state. It is also planned to accommodate the access road, vehicle tracks around the site, vegetation removal, abandoned exploration drill holes, and restoration of areas covered by sampling stockpile and rock piles. The closure vision for the proposed project is to establish a safe, stable and non-polluting post- prospecting landscape that can facilitate integrated, self-sustaining and value generating opportunities, thereby leave a lasting positive legacy.

### **Site closure and rehabilitation activities**

All waste (such as hazardous and domestic) will be transported offsite for disposal in licensed landfills in Usakos or other surrounding towns like Karibib. Disturbed or/and contaminated areas will be cleaned up, treated where necessary and restored to its pristine state.

- ✓ Obliteration of camping structures.
- ✓ Unfastening of equipment on site.
- ✓ Removal of associated infrastructures such as storage tanks, solar panels and heavy-duty generators.
- ✓ Where access tracks have been established in cases where there are no roads, these will be rehabilitated and closed as part of normal closure actions in consultation with landowners.
- ✓ Existing secondary roads in the area should be used to prevent damages of the main road.
- ✓ The recovered topsoil and subsoil should be utilized to reconstruct the original soil profile

The rehabilitation actions intended to be undertaken during the recommissioning of the proposed exploration activities are described below.

## **Remediation of Contaminated Areas**

All soil contaminated with hydrocarbons, will be pinned down, excavated, and disposed in accordance with nearest town council disposal requirements at appropriate sites.

- ✓ Removed soils will be managed as determined by the nature and degree of the contamination.
- ✓ All equipment in which chemicals have been stored or transported will be cleaned and disposed of in a suitable disposal facility.

## **Waste Management**

Waste management activities will include:

- ✓ Hazardous waste will be managed handled, classified and disposed.
- ✓ No burring and burying of waste.
- ✓ Nonhazardous substances will be disposed in the nearby landfill sites.
- ✓ If required, temporary salvage yards will be fenced for security reasons, particularly where these are located close to public roads.

## **4. CONCLUSION AND RECOMMENDATIONS**

To conclude, based on the EM given in this EMP, the Consultants is confident that the proposed exploration activities, as described in the EA report be granted an Environmental Clearance Certificate. In adherence to EMP and if the project is monitored and given that all the legal requirements pertaining to this development are complied with. Lastly, provided that the EMP is implemented and that all the legal requirements pertaining to this development are complied with.

The Environmental Management Plan should be used as an on-site and on-going guiding document during all phases of the proposed project, and auditing should take place in order to ensure compliance with the EMP of the proposed project. Parties responsible for transgression of the EMP should be held responsible for any rehabilitation that may need to



be undertaken. Overall, the severity of potential environmental impacts of the proposed project activities on the receiving environment (physical, biological, socioeconomic environments and ecosystem functions) will have low probability of occurrence, localized extent, and low magnitude and temporally duration. This report should be viewed as a framework for integrating mitigation measures and applicable legal tools to ensure both compliance and protection of the environment and its ecosystem. It is therefore vital that the proponent provide adequate support for human and financial resources, for the implementation of the proposed mitigations and effective environmental management during the planned exploration activities.

### **Recommendations for Monitoring**

For the environmental impacts to be avoided and/or minimized, the monitoring measures below must be implemented:

- Monitoring to ensure provisions as set out in the EMP has been complied with.
- Non-compliance is to be recorded and discussed at weekly site meetings and timeous remedial actions taken.
- Should dust and noise complaints be received, abatement measures should be implemented such as water spraying, and continued communication should be held with the aggrieved parties until the noise and dust matters are clarified.

## **5. REFERENCES**

'ACACIA', 2002. Atlas of Namibia Project. Directorate of Environmental Affairs, Ministry of Environment and Tourism.

Ashmole, I., & Motloun, M. (2008). Mineral: the latest trends in exploration and production technology. In *Proceedings of the International Conference on Surface Mining* (Vol. 5, No. 8). Craven, D., & Craven, P. (2000). The Flora of the Brandberg, National Herbarium of Namibia, National Botanical Research Institute.

Schneider, G. & Seeger, K., 1992. Copper. In: s.l.:The Mineral Resources of Namibia, pp. 2.3, 1-172.