



REPUBLIC OF NAMIBIA

**ENVIRONMENTAL QUESTIONNAIRE FOR  
MINING CLAIMS IN NAMIBIA**

**BEING APPENDIX A TO THE ENVIRONMENTAL CONTRACT**

**1. BACKGROUND INFORMATION**

- 1.1 Companies/Natural persons applying for **MINING CLAIMS** must complete this questionnaire. (Please fill in ALL questions).
- 1.2 The answers provided in this questionnaire shall be regarded as commitments which will become part of the **Environmental Contract** between the Holder and the Government of the Republic of Namibia, duly represented by the Ministry of Environment Forestry and Tourism (MEFT) and the Ministry of Mines and Energy (MME).
- 1.3 Once the Holder has completed this questionnaire MEFT and MME will either accept/reject/request further information regarding the environmental commitments made therein. MEFT and MME reserve the right to add further conditions.
- 1.4 Once agreed to by all parties concerned, the completed questionnaire shall form part of the **Environmental Contract**.
- 1.5 **Please attach a map of the mining claim area and a copy of the application to register mining claims.** Maps are included in Appendix 1 while Appendix 2 has the environmental Management Plan (EMP)

**2. Holder details**

2.1 Name of Holder	Mr. Nel Thomas Nakare Mukuve
	87062700495
2.3 Telephone, Fax, Cell Phone and/or E-Mail	Tel: N/A Fax: N/A Cell phone: +264 81 443 6956 nelmukuve@gmail.com
2.4 Postal Address Residential/Registered Address	P O Box 3343, Windhoek
2.5 Reference Number APP-0010420	NEPL No:                      Expiry:
2.6 Registered Number(s)	Mining Claims 73932, 73933 and 73934
2.7 Location (Farm, District, Region) of mining claim(s)	Farm Farm Sandamap Noord No. 115, Usakos, Erongo Region.
2.8 Group(s) of Mineral(s) to be mined	Semi-precious stones

*N.T.M.*

Number of people	Where will they live?
10 locals	To be accommodated in prefabricated temporary shelters.

### 3. Environmental commitments

#### 3.1 Pollution and Waste

3.1.1 What will you do with **normal litter** (e.g. Kitchen spoils, cans, bottles, paper, etc.)?

Different waste disposal bins will be provided with labels to allow sorting of domestic waste on site.

3.1.2 What **industrial waste** will be generated and what will you do with it (e.g. old machinery, vehicles, building rubble, batteries, paint, thinners, vehicle oil, etc.)?

Industrial waste will also go in separate bins, to be disposed off at an approved site. Where possible, waste will be reused, e.g. tyres made into usable finishes, waste rock will be used in progressive rehabilitation.

3.1.3 Describe what type of **toilet facilities** will be provided.

Movable ablution facilities and showers with septic tanks will be provided at the mining claims. These will be emptied by a contractor as required.

#### 3.2 Vehicle, earthmoving equipment, drilling and blasting

3.2.1 List the type and quantity of vehicles, earthmoving equipment, drilling equipment, and other machinery likely to be used on your mining claim (e.g. 2 x bakkies; 1 x bulldozer, etc.)

Vehicles: A maximum of four (4) 4x4 bakkies for use by the team working on the claims.

Earthmoving equipment: One (1) tipper truck to haul blasted waste material, one (1) excavator for digging, One (1) front end loader to put material into the hauling truck.

Drilling equipment: A drill rig will be contracted when necessary, to add value to exploration works, and when the need for blasting arises, drilling will be done to create charging holes.

3.2.2 Describe the environmental damage that is likely to result from the use of vehicles and machinery within the mining claim area (e.g. on the landscape in general, soil, vegetation, noise, dust, etc). Dust and noise pollution from moving vehicles and machinery, potential disturbance to vegetation, the pits and stockpiles could be a visual nuisance, open pits could pose a safety risk to residents and animals.

3.2.3 How will you control the movement of **vehicles and machinery** in order to minimise environmental damage? Vehicles and machinery will be restricted to existing roads as much as possible to avoid unnecessary disturbance on the environment, vehicles will be operated within working hours only to reduce noise pollution, excavated waste rock will be used for progressive backfilling of opened pits to reduce visual impact and risk of animals falling in.

3.2.4 Which routes will be used by vehicles to get to your mining claim and state whether you intend making new roads or tracks (both to your mining claim and within your mining claim)?

The mining claims will be accessed via the B2 national road, and onto D1930 gravel road to access Mining Claims 73932, 73933 and then onto the existing farm roads to get to Mining Claim 73934.

3.2.5 Will you do any blasting on your mining claim?

Yes:

No:

Unsure:

*N-T-M*

3.2.6 If "yes" above, explain how you intend minimising environmental impacts, including the safety of humans, livestock and wildlife? Occasional blasting will be done during production. A notice will be given well in advance to the residents. The area to be blasted will be demarcated and fenced off to keep animals out. Blasting will be done through a contractor, therefore no blasting equipment and explosives will be kept onsite.

### 3.3 Water

3.3.1 How much water do you intend using for various activities (e.g. human use, washing of equipment, washing sand/stones, dust control, gardens, etc.) and state how you intend saving water within each category of use.

Activity or category of use	Quantity of water needed per month (litres)	Water saving methods
Domestic use	3000	Using water wisely, re-using and recycling
Washing of aggregates/ stones	7000	This water will be stored to allow settling of fines. Clean water will then be re-used in washing.

3.3.2 Where will you get your water (e.g. river, own borehole, Water Affairs connection, etc.)?  
From an existing farm borehole.

3.3.3 Explain how you will minimise or completely avoid polluting any water source, including underground water. The project will entail physical separation during processing, which poses minimal risk to the water resources. However, elements of the operations that have the potential to contaminate water resources will be controlled. e.g. hydrocarbon spills will be cleaned up immediately, drip trays will be used when operating machinery, the diesel storage tank onsite will be mounted on a concrete lined floor.

### 3.4 Relations with neighbouring communities and/or the general public

3.4.1 Are there any people living in or near your mining claim?

Yes:  No:  Unsure:

3.4.2 If "yes", explain where these people live and describe their economic activities.

There are homesteads in the vicinity. Common activities are subsistence farming with sheep and small scale artisanal mining in the area and in the Erongo Mountains.

3.4.3 If "yes" in 3.4.1, explain what you will do to maintain a good relationship with such people.

I will be doing mining on these claims myself and I will allow local small scale miners to work on my claims and sell their produce to me at an agreed price.

3.4.4 Will the activities on your mining claim restrict the movement of other people in the area (e.g. the general public, tourists, farmers, local people, etc.)?

Yes:  No:

*N.T.M*

3.4.5 If "yes" for 3.4.4, please explain why their movements or access will be restricted.

### 3.5 Protection of plants and wildlife

3.5.1 How will you ensure that your activities will not cause unnecessary damage to **plants and wildlife** in or near your mining claim) e.g. hunting, plant collecting, fishing, etc.)

Maximum use of existing routes will be maintained to avoid unnecessary disturbance of plants and animal habitats. Gas stoves will be used to avoid collecting of firewood.

### 3.6 Historical, archaeological and cultural heritage (e.g. rock art, graves, monuments, fossils, sacred sites, historical buildings, etc.)

3.6.1 Are there any historical, archaeological or culturally important sites within your mining claim area?

Yes: \_\_\_\_\_ No:  Unsure: \_\_\_\_\_

3.6.2 If "yes", please describe briefly.

3.6.3 If such sites are known, how will you avoid damaging them?

3.6.4 If such sites are discovered after you have started working your mining claim, would you accept new conditions to this contract so that they can be properly protected?

Yes: \_\_\_\_\_ No: \_\_\_\_\_ Unsure: \_\_\_\_\_

### 3.7 Rehabilitation

3.7.1 When will you rehabilitate the environmental damage done during prospecting? (Tick the appropriate box)

I have no intention of rehabilitating any damage

Only after all prospecting has finally been completed  
 I don't know

3.7.2 Describe the programme of mining from the start and the methods to rehabilitate damage.

Desktop study, geological mapping of all three mining claims, to delineate the rock units associated with semi-precious stones. Mining will be done manually with prybars, picks, shovels, and buckets, localised quarrying, blasting, hauling, crushing, hand picking, washing, screening, or jigging. Backfilling of pits.

### 4. Existing Damage

Describe what environmental damage exists in your mining claim area now, in other words, damage caused by someone else before you began working on the mining claim. Where possible, provide evidence such as photos, statements, etc.

There are existing abandoned quarries or pits, and stockpiles of mined material, and abandoned machinery. Photos attached in Appendix 1B.

I hereby declare that the information provided in this questionnaire, is to the best of my knowledge, accurate and correct, and that I'm prepared to keep to the commitments stated therein.

*Nel Thomas Nakwe Makwe Windhoek*  
Mining Claim Holder Place

*17/02/2023*  
Date

## Appendix 1A – Maps

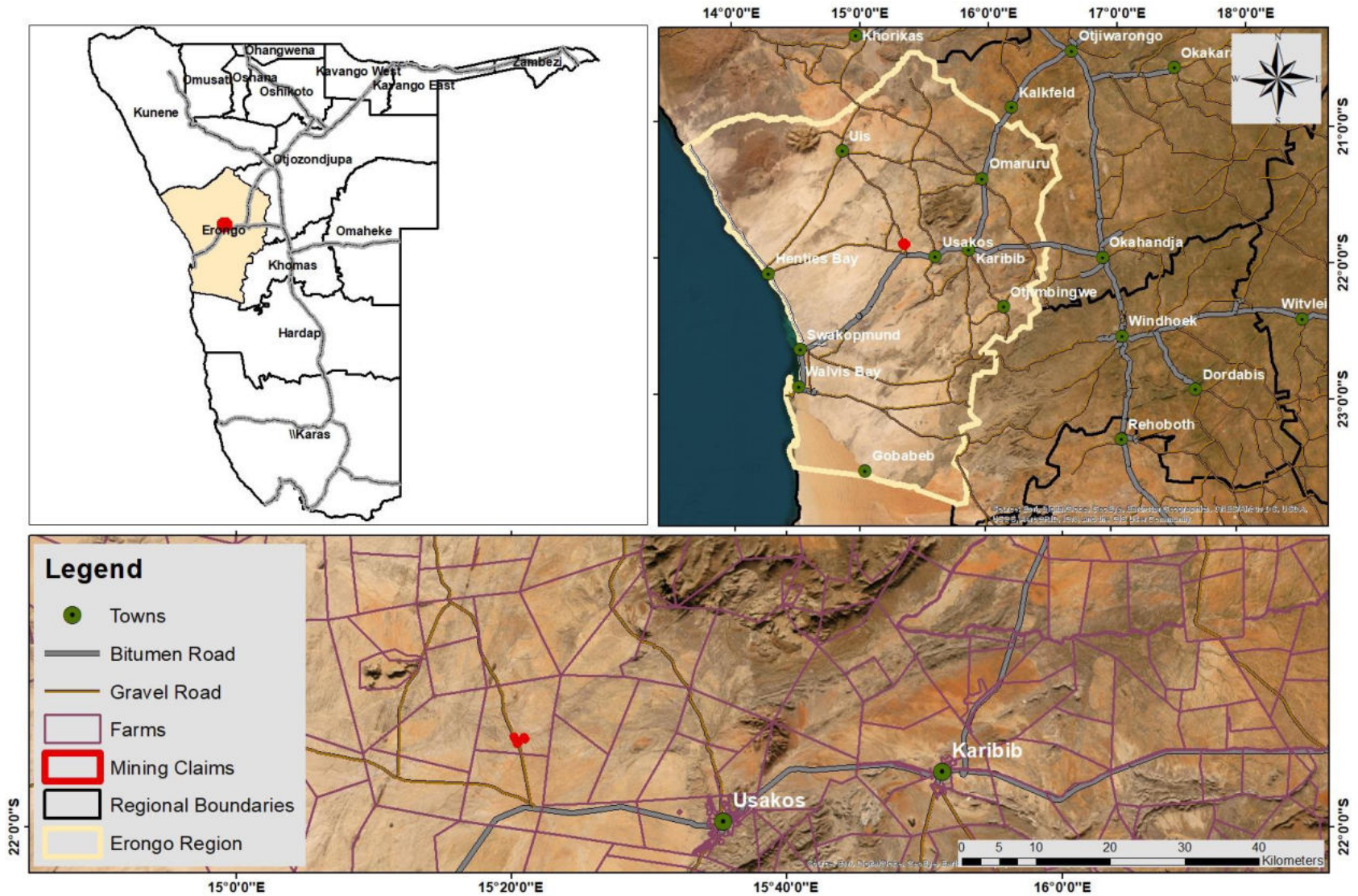


Figure 1: The regional location of Mining Claims 73932, 73933 and 73934 Usakos area in the Erongo Region.

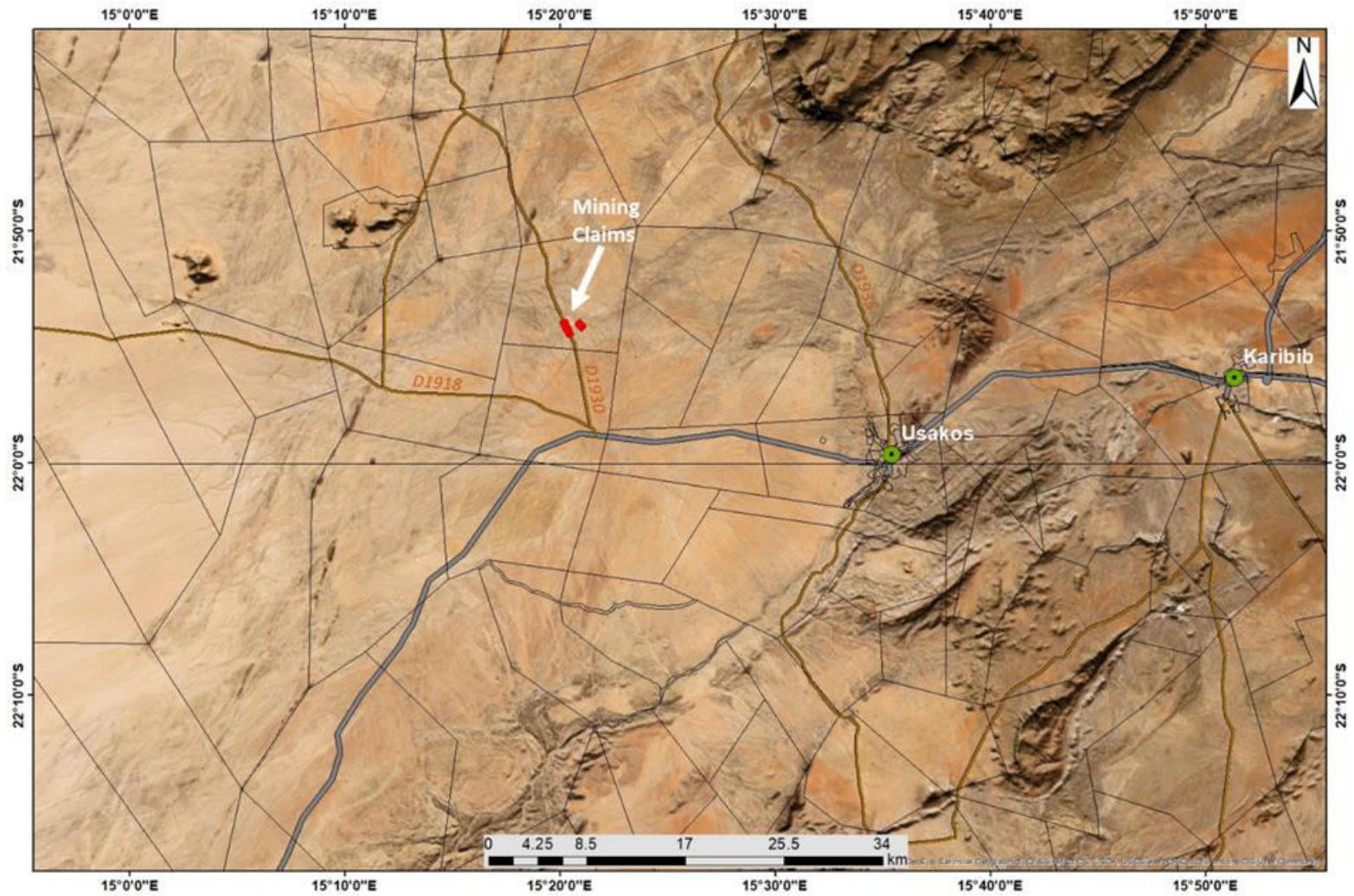


Figure 2: The location Mining Claims 73932, 73933 and 73934 Usakos area, with the Erongo Mountains about 35km to the northeast.

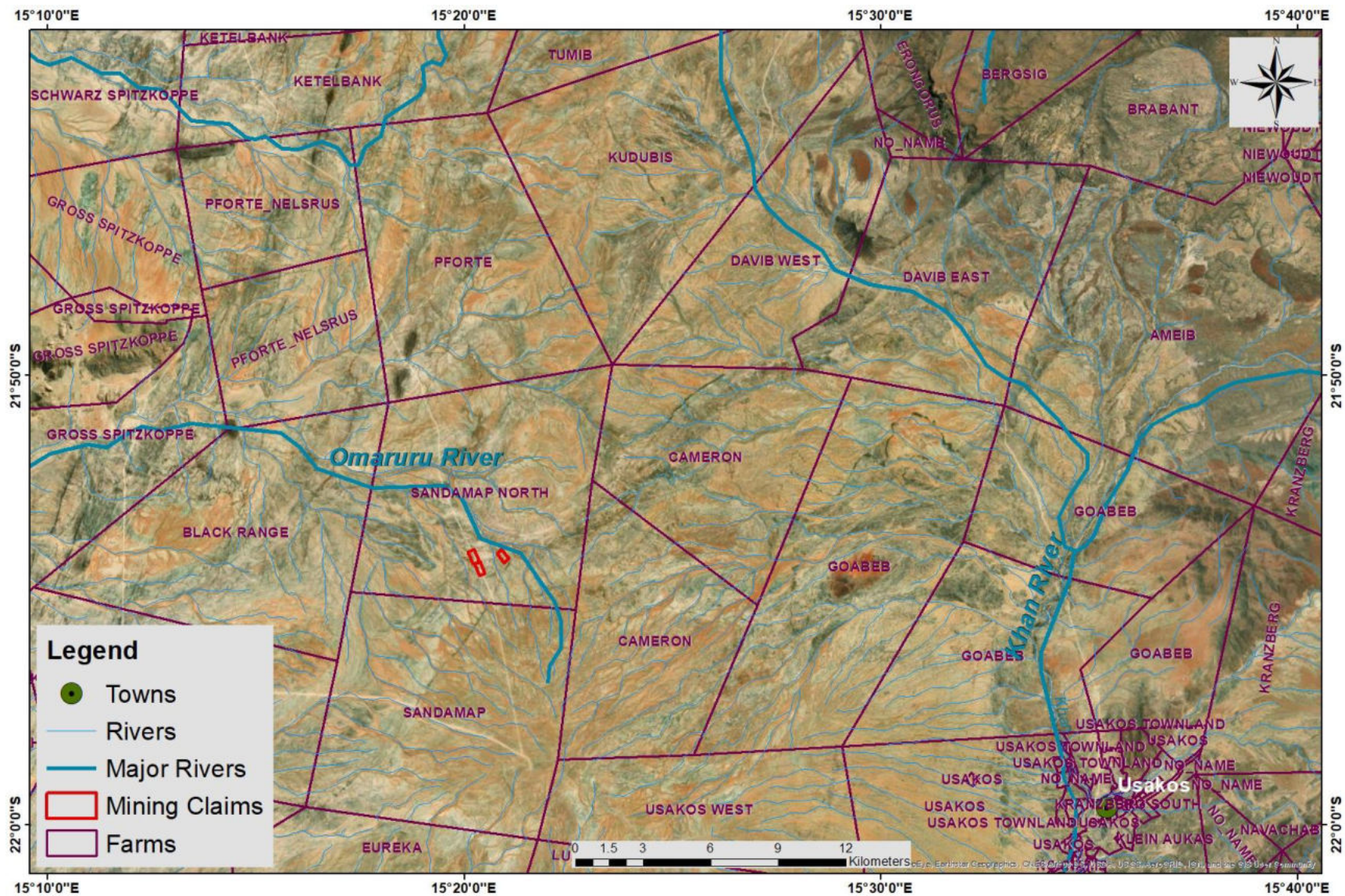


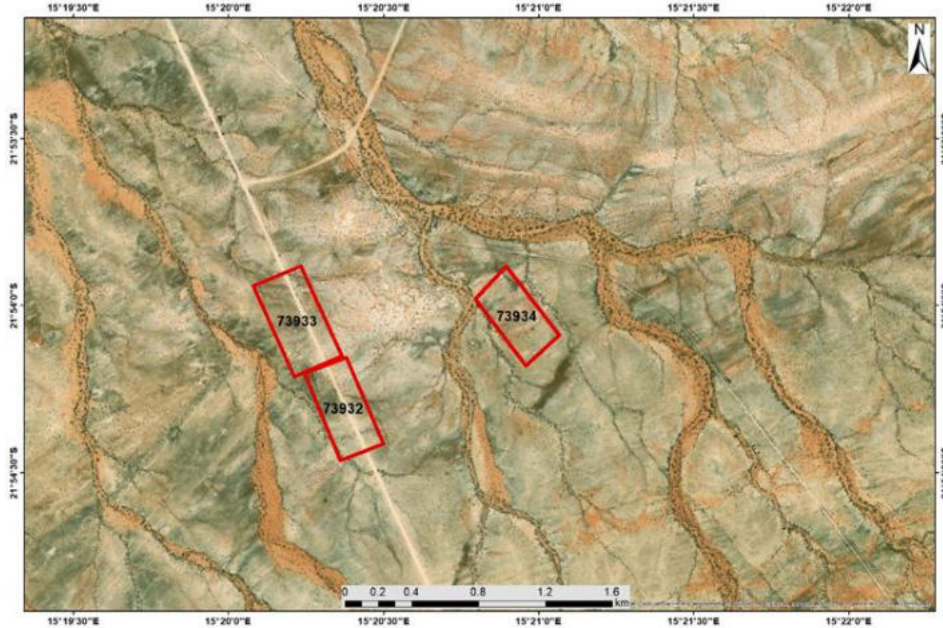
Figure 3: The location of Mining Claims 73932, 73933 and 73934 showing their occurrence on Farm Sandamap Noord.

Appendix 1B – Existing damages onsite



Figure 01: Some waste rock stockpiles, pits and scrap metals observed on the Farm Sandamaab Noord.





**Draft Environmental Management Plan (EMP) for the:**

**Proposed Exploration and Mining of Semi-Precious Stones on Mining Claims 73932, 73933 and 73934 Usakos area, Erongo Region, Namibia.**

<b>MEFT APPLICATION NO.:</b>	APP-00474
<b>PREPARED BY:</b>	OMAVI Geotechnical & Geo-Environmental Consultants P.O Box 1642, Windhoek Email: info@omavi.com.na Tel: 0814786303
<b>PREPARED FOR:</b>	Mr. Nel Thomas Nakare Mukuve P.O Box 3343 Windhoek Namibia
<b>DATE SUBMITTED:</b>	February 2023
<b>DOCUMENT VERSION:</b>	<b>FINAL for MEFT Evaluation</b>
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## **TABLE OF CONTENTS**

1	INTRODUCTION	1
1.1	Project Background and Location	1
1.2	Environmental Commitment and Environmental Management Plan (EMP)	5
2	PROJECT DESCRIPTION, ACTIVITIES AND PROCESSES	5
2.1	Proposed Activities, Exploration and Mining Technologies	5
2.2	Project Resources and Infrastructure	7
2.3	Current status of the site	9
3	Applicable Legislation: Authorisation (Permits and Licenses)	10
4	EMP IMPLEMENTATION AND RESPONSIBILITIES	12
5	ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN ACTIONS	14
6	RECOMMENDATIONS AND CONCLUSIONS	34

## **LIST OF FIGURES**

Figure 1-1: The regional location of Mining Claims 73932, 73933 and 73934 Usakos area in the Erongo Region. ....	2
Figure 1-2: The location Mining Claims 73932, 73933 and 73934 Usakos area , with the Erongo Mountains about 35km to the northeast. ....	3
Figure 1-3: The location of Mining Claims 73932, 73933 and 73934 showing their occurrence on Farm Sandamap Noord. ....	4

## **LIST OF TABLES**

Table 3-1: Applicable legislations in terms of permits or licenses for the proposed exploration and mining activities. ....	10
Table 4-1: EMP implementation roles and responsibilities. ....	12
Table 5-1: Management Plan Actions for the Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934. ....	15

## **LIST OF APPENDICES**

**Appendix 1:** Chance Finds Procedure (Archaeological and Heritage Management)

## **LIST OF ABBREVIATIONS**

<b>CFP</b>	Chance Finds Procedure
<b>DEAF</b>	Department of Environmental Affairs and Forestry
<b>EIA</b>	Environmental Impact Assessment
<b>EMP</b>	Environmental Management Plan
<b>EMA</b>	Environmental Management Act
<b>ECC</b>	Environmental Clearance Certificate
<b>MC</b>	Mining Claim
<b>MAWLR</b>	Ministry of Agriculture, Water & Land Reform
<b>MEFT</b>	Ministry of Environment, Forestry and Tourism
<b>MME</b>	Ministry of Mines and Energy
<b>NHC</b>	National Heritage Council of Namibia

# 1 INTRODUCTION

## 1.1 Project Background and Location

Mr. Nel Thomas Nakare Mukuve (hereinafter referred to as the Proponent), is the sole owner of Mining Claims 73932, 73933 and 73934 Usakos area, Erongo Region, Namibia and intends to undertake prospecting and eventual mining Semi-Precious Stones (tourmaline, aquamarine, geremia, etc.) on a small to medium scale. The Mining Claims 73932, 73933 and 73934 are located on Farm Sandamap Noord No. 115, which is about 30km northwest of Usakos, Erongo Region. The area with the mining claims can be accessed via the B2 national road, and onto D1930 gravel road to access.

The Mining Claims 73932, 73933 and 73934 cover areas of 13.0112Ha, 15.6894Ha and 11.5958Ha respectively. The map in **Figure 1-1 to Figure 1-3** below depicts the location of the mining claims, while **Table 1-1** summarises the approximate GPS coordinates of the mining claims.

Table 1-1: Approximate GPS Coordinates of Mining Claims 73932, 73933 and 73934.

Mining Claim	Latitude	Longitude
MC 73932	21° 54' 09"	15° 20' 23"
	21° 54' 12"	15° 20' 15"
	21° 54' 28"	15° 20' 21"
	21° 54' 25"	15° 20' 30"
MC 73933	21° 53' 53"	15° 20' 14"
	21° 53' 56"	15° 20' 05"
	21° 54' 13"	15° 20' 13"
	21° 54' 09"	15° 20' 22"
MC 73934	21° 53' 53"	15° 20' 53"
	21° 53' 59"	15° 20' 48"
	21° 54' 11"	15° 20' 57"
	21° 54' 05"	15° 21' 04"

Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934

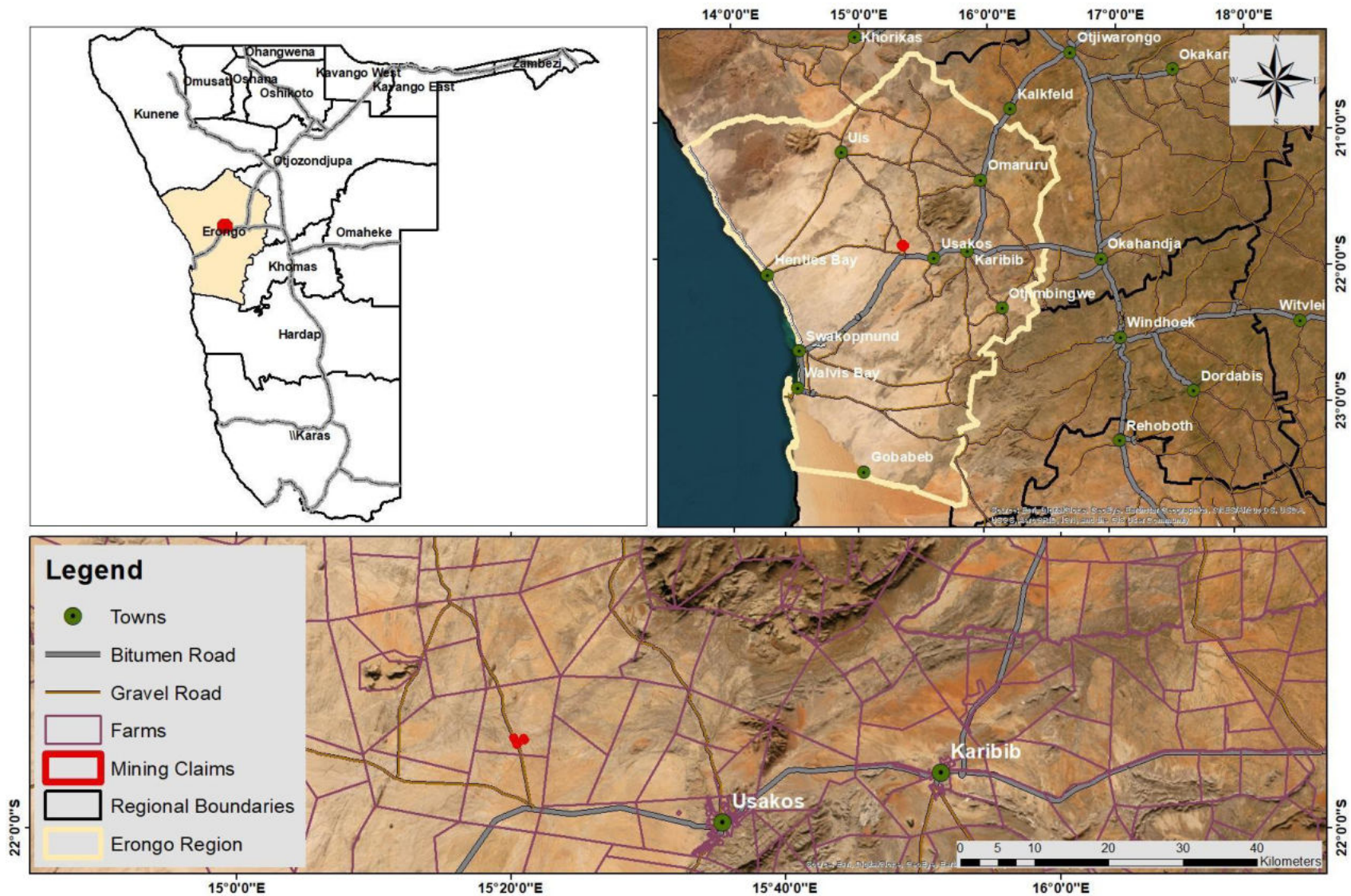


Figure 1-1: The regional location of Mining Claims 73932, 73933 and 73934 Usakos area in the Erongo Region.

Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934

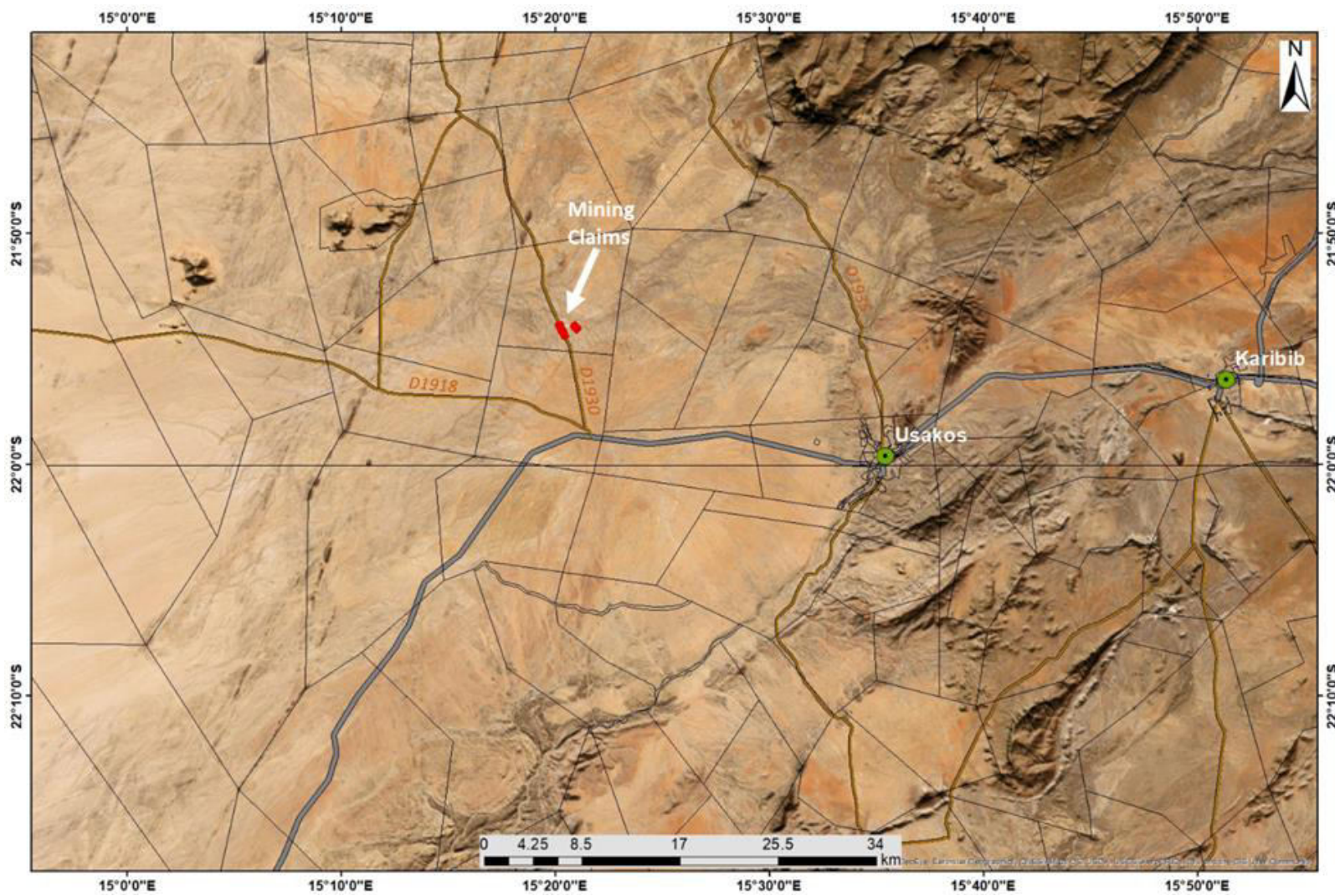


Figure 1-2: The location Mining Claims 73932, 73933 and 73934 Usakos area , with the Erongo Mountains about 35km to the northeast.

Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934

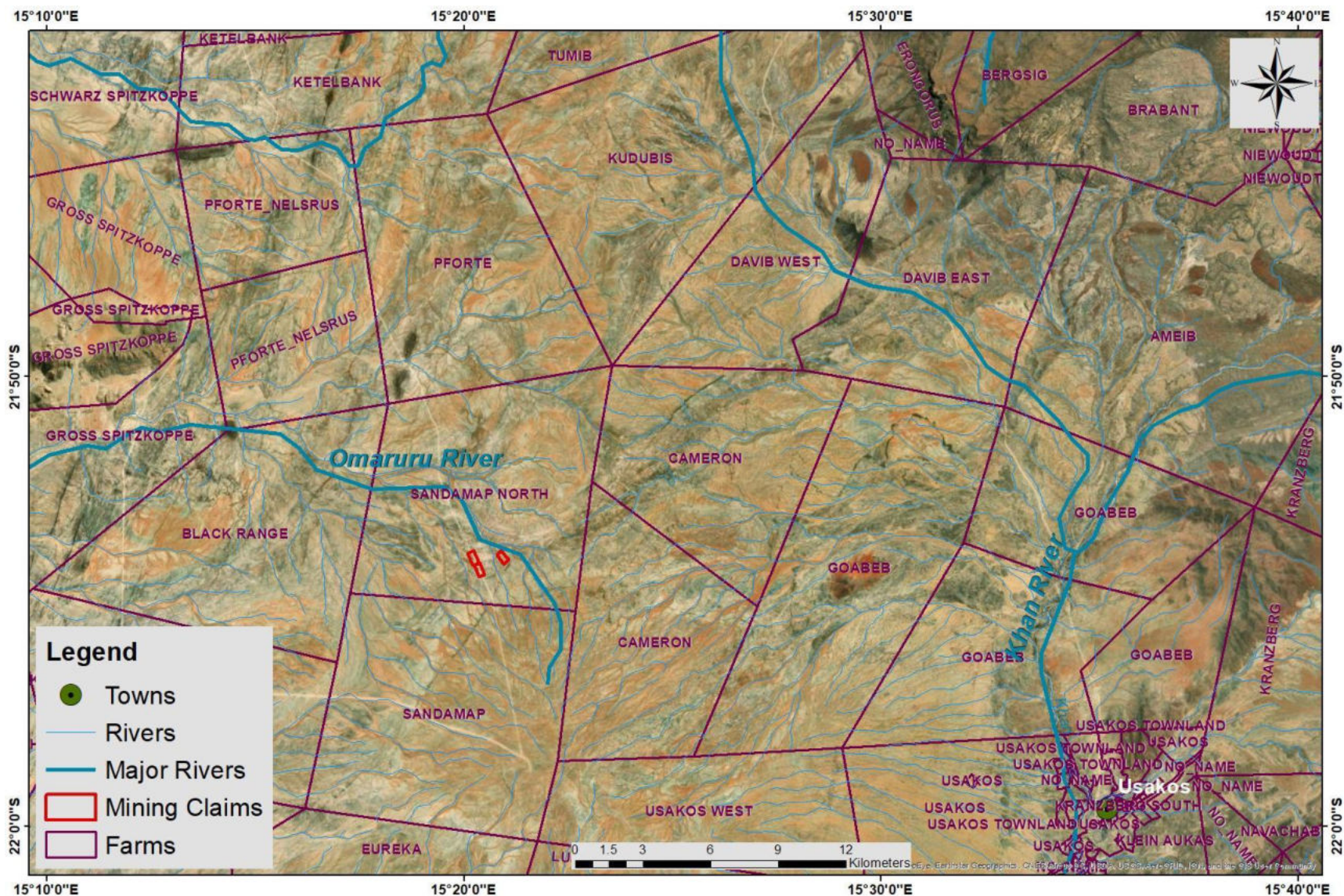


Figure 1-3: The location of Mining Claims 73932, 73933 and 73934 showing their occurrence on Farm Sandamap Noord.

## **1.2 Environmental Commitment and Environmental Management Plan (EMP)**

The Mining Claims 73932, 73933 and 73934 on which the exploration and mining of semi-precious stones are proposed to be undertaken were applied for by Mr. Nel Thomas Nakare Mukuve on the 08 November 2022. However, granting of these mining claims by the Ministry of Mines and Energy (MME) is subject to the issuance of an environmental clearance certificate (ECC) by the Ministry of Environment, Forestry and Tourism (MEFT). **For the Semi-Precious Stone group of minerals, the Environmental Management Act (Act 7 of 2007) requires that an Environmental Questionnaire be completed to form part of the Environmental Contract between the Holder (in this case, the proponent) and the government, duly represented by the Ministry of Environment, Forestry and Tourism (MEFT) and Ministry of Mines and Energy (MME).**

**The Questionnaire has been completed; however, this draft Environmental Management Plan (EMP) is an additional document to expand on the mitigation, control and monitoring of impacts that may arise from the proposed activities.** The purpose of this document is therefore to guide environmental management throughout the life-cycle of the proposed project. This document was prepared by OMAVI Geo-technical & Geo-Environmental consultants cc to support Mr Nel Thomas Nakare Mukuve's application and submission for an Environmental Clearance Certificate (ECC) to the Environmental Commissioner.

The status of Mining Claims can be accessed on the Namibia Mining Cadastral Portal upon searching on this link <https://portals.landfolio.com/namibia/>.

## **2 PROJECT DESCRIPTION, ACTIVITIES AND PROCESSES**

Works on Mining Claims 73932, 73933 and 73934 will adopt a systematic prospecting and mining approach in search for semi-precious stones, including tourmaline, aquamarine, fluorite, topaz, etc. This section discusses the activities to be undertaken for both exploration and mining stages as well as the required and associated infrastructure. It must be noted that these proposed activities are only to be undertaken once the ECC has been granted by the Environmental Commissioner.

### **2.1 Proposed Activities, Exploration and Mining Technologies**

The exploration program will commence with a review of geological maps as well as historical mining data of the area.



**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

- **Planning** - the period during which preliminary legislative and administrative arrangements are carried out in preparation of exploration activities and mining activities. The components that form part of this phase include obtaining land access agreements (consents) from landowners/occupiers, the preparation of sites to be explored, setting up project infrastructure.
- **Exploration** – exploration program will commence with a review of regional geological maps as well as historical data for the area. It is believed that the targeted commodities are associated with alkaline intrusives such as granitoids and pegmatites (**Figure 2-1**). Therefore, during this phase, geological mapping will be carried out by a competent and qualified geologist, aimed at locating suitable outcrops in the field and subsequently delineating rock units that host semi-precious stones. Knowledge will also be obtained from the small-scale mining activities in the area.



Figure 2-1: A typical pegmatite that hosts semi-precious stones.

- **Mining and Processing** – Mining of semi-precious stones will commence on a small to medium scale and will entail quarrying, which will be done manually with prybars, picks, shovels, and buckets. However, drilling and blasting will also be employed in localized zones where semi-precious stones are expected or were proven to occur. Thereafter, semi-mechanized hauling and hoisting will be employed to deliver the ore to the processing area, where it will be broken up, crushed, and concentrated by hand picking, washing, screening, or jigging.

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

- **Decommissioning and rehabilitation** – The impact on the physical environment can be lessened by implementation of progressive / ongoing rehabilitation to be carried out by the Proponent. This will entail rehabilitation by backfilling of mined-out sites with waste rock. Additionally, once mining is completed, following the depletion of semi-precious stones, or should mining works be ceased, temporary structures associated with the project will be dismantled and removed.

## **2.2 Project Resources and Infrastructure**

- **Workers and accommodation** – For exploration, a qualified geologist will be hired to map the area and identify the rock units that host semi-precious stones. For mining, a team of The about ten (10) people will be employed to undertake mining and associated processes. Priority for employment will be given to the locals and only specialized skills will be imported. The workers will be accommodated in prefabricated temporary shelters to be erected onsite, subject to approval by the landowners.
- **Vehicles, Machinery and Equipment** - These will include about four (4) 4 x 4 bakkies, front-end loader, one (1) tipper truck to haul blasted waste material, one (1) excavator for digging. When the need for blasting arises, a drill and blast contractor will be brought in to undertake drilling to create charging holes for production blasting. Other supporting equipment will include a water tanker to store water onsite.
- **Power Requirements** – Vehicles and machinery will be diesel powered. Therefore, a trailer mounted diesel tank of about 20 000 litres will be kept onsite, designed and constructed according to the South African Bureau of Standards (SABS). This fuel/diesel will mainly be used in powering the tipper truck and excavator and occasionally, vehicles. A diesel bowser truck will be filling the onsite tank, as and when required. For domestic use, gas stoves will be used in cooking and heating, while a solar panel will be erected by the proponent to power electronic and electric appliances.
- **Roads** - The area with the mining claims can be accessed via the B2 national road, and onto D1930 gravel road to access Mining Claims 73932, 73933 and then onto the existing farm roads to get to Mining Claim 73934, which is within less than 1km from the others. The project will utilize existing roads and where necessary, temporary informal access routes will be created to gain access to the actual targeted sites.

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

- **Water supply** - At about 10 000 litres per week will be required, with about 3 000 anticipated to go towards domestic use while 7 000 litres is anticipated to go towards mining activities which will include washing of equipment and mined aggregates. This water will be sourced from the existing farm borehole seen in **Figure 2-2**. In both cases, water will be recycled and re-used as an attempt to conserve water. This approach might see a reduction in the amount of water requirements, which will mean lesser amounts to be abstracted.



Figure 2-2: A photo of the existing borehole on Farm Sandamab Noord.

- **Waste production and sanitation** – Different, well labelled waste containers will be provided onsite for waste sorting and safe disposal of generated waste. These will be collected as required and dumped at the nearest approved waste management facility in the area. In terms of sanitation, movable ablution facilities and showers with septic tanks will be set up and will be emptied as required according to manufacturers' instructions.

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

- **Personnel and site safety** - All workers will be equipped with adequate and appropriate personal protective equipment (PPE), that will be replaced or repaired to ensure that workers' occupational health and safety is not compromised. A minimum of two first aid kits will be readily available on site to attend to potential minor injuries. For safety and security reasons, the localized high-risk working sites will be demarcated and temporarily fenced off. Project vehicles will also be equipped with fire extinguisher as well as at the working sites in case of fire outbreaks.

**2.3 Current status of the site**

The site has been mined by small scale miners in the area and it is therefore not pristine. There are existing trenches, pits and stockpiles of waste rock as well as an abandoned truck. Some photos taken of the site. It must be noted that the previous damages will not be included in the rehabilitation to be undertaken in the current project.



Figure 2-3: Pits and waste rock stockpiles observed on the farm.

### 3 Applicable Legislation: Authorisation (Permits and Licenses)

This section covers information on the legal obligations (legislations, policies, and guidelines) that governs certain project activities, where permitting and/or licensing may be required from different applicable regulatory authorities - Please refer to **Table 3-1** below. The full list and description of the legal framework (where permits are required or not) is presented in the Scoping Report.

Table 3-1: Applicable legislations in terms of permits or licenses for the proposed exploration and mining activities

Legislation	Provisions	Contact Details
Environmental Management Act 2007 Environmental Impact Assessment (EIA) Regulations (EIAR) (GG No. 4878)	Activities listed in Government Notice (GN) No. 29 of GG No. 4878 require an Environmental Clearance Certificate (ECC). The amendment, transfer, or renewal of the ECC (EMA S39-42; EIAR Regs19 & 20). Amendments to this EMP will require an amendment of the ECC. <b><u>The ECC needs to be renewed every 3 years.</u></b>	<b>Mr Damian Nchindo (Ministry of Environment, Forestry and Tourism's Department of Environmental Affairs and Forestry (DEAF) – Chief Conservation Scientist)</b> <b>Tel: (061) 284 2701</b>
The Water Act 54 of 1956 The Water Resources Management Act No. 11 of 2013 (unpromulgated)	The Water Act 54 of 1956 was formulated to consolidate and amend the laws relating to the control, conservation and use of water for domestic, agricultural, urban and industrial purposes; to make provision for the control, in certain respects, of the use of sea water for certain purposes; for the control of certain activities on or in water in certain areas. <b>Provision for a Groundwater abstraction and use permit for to be reviewed as required.</b>	<b>Mr Franciskus Witbooi (Deputy Director: Water Policy and Water Law Administration.</b> <b>Tel: (061) 208 7158</b>
Mineral Prospecting & Mining Act (Act No. 33 of 1992)	Section 38 (1): Applications for renewal of registration of mining claims The Proponent should ensure that all the necessary permits/authorisation for small/medium-scale mining such as mining claim renewals are obtained from the Ministry of Mines & Energy (MME)'s Mine Directorate. Section 54(2): details provisions pertaining to the decommissioning or abandonment of a mine  Under this Act (Section 51 (1a)), holder of a mineral license cannot exercise any rights on a private land until the holder has entered into an agreement with the owner regarding payment of compensation	<b>Ms Isabella Chir-Chir (Mining Commissioner)</b> <b>Tel: 061 284 8167</b>  <b><u>The Proponent should enter into and sign access and land use agreement with respective affected farm owners as listed in the Stakeholders' (Interested and Affected Parties) list.</u></b>

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Legislation	Provisions	Contact Details
Road Traffic and Transport Act 52 of 1999 and its 2001 Regulations	Provides for the control of traffic on public roads and the regulations pertaining to road transport, including the licensing of vehicles and drivers.  <b>A site access road permit should be applied for and obtained from the Roads Authority and conditions set therein to be complied with, should any new routes be necessary.</b>	<b>Mr Eugene de Paauw (Roads Authority – Specialist Road Legislation)</b> Tel.: (061) 284 7027
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)	Regulation 3(2)(b) states that “No person shall possess or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area”	<b>Carlo Mcleod (Ministry of Mines and Energy: Acting Director – Petroleum Affairs)</b> Tel.: (061) 284 8291
Forestry Act (No. 12 of 2001)	Permits are required for the removal of protected plants species.	<b>The nearest Forestry Office (Ministry of Agriculture Water and Land Reform)</b>
Nature Conservation Ordinance No. 4 of 1975 (as amended)	Permits are required for the removal of protected plants species.	<b>Mr Joseph Hailwa (Director: Forestry), Tel: (061) 208 7663</b>
National Heritage Act (Act No. 27 of 2004)	The Act makes provision for the protection and conservation of places and objects of heritage significance and the registration of such places and objects. Part V Section 46 of the Act prohibits removal, damage, alteration or excavation of heritage sites or remains, while Section 48 sets out the procedure for application and granting of permits such as might be required in the event of damage to a protected site occurring as an inevitable result of development. Part VI Section 55 Paragraphs 3 and 4 require that any person who discovers an archaeological site should notify the National Heritage Council. Section 51 (3) sets out the requirements for impact assessment.  Should any objects of heritage significance be identified during the exploration or mining phase, the work must cease immediately in the affected sites and <b>the necessary steps taken to seek authorisation from the Council.</b>	<b>Ms. Erica Ndalikokule (Head: Heritage Management) – National Heritage Council of Namibia</b> Tel: (06) 301 903 <b>OR</b> <b>Mr Manfred Gaeb (Regional Heritage Officer) – National Heritage Council of Namibia</b> Tel:(061) 301 903
Labour Act 11 of 2007 Health and Safety Regulations (HSR) GN 156/1997 (GG 1617).	Adhere to all applicable provisions of the Labour Act and the Health and Safety regulations.	<b>No permit is required, but adherence to the Act’s Relevant Regulations is highly recommended.</b>

## **4 EMP IMPLEMENTATION AND RESPONSIBILITIES**

A list of specific responsibilities and duties to be undertaken by each are provided in **Table 4-1** below. It should also be noted that the above-mentioned roles are delegated roles and Mr Nel Thomas Nakare Mukuve is ultimately responsible for the implementation of the EMP.

Table 4-1: EMP implementation roles and responsibilities.

<b>Role</b>	<b>Responsibilities</b>
Site Manager (could be the Proponent)	<ul style="list-style-type: none"> <li>• Managing the implementation of this EMP and updating and maintaining it when necessary.</li> <li>• Ensure that relevant commitments contained in the EMP Action Plans are adhered to.</li> <li>• Maintain records of all relevant environmental documentation for the project.</li> <li>• Management and monitoring of individuals and/ or equipment on-site in terms of compliance with this EMP and issuing fines for contravening EMP provisions.</li> <li>• Cooperate with all relevant interested and affected parties/stakeholders.</li> <li>• Issuing fines to individuals who contravene EMP provisions and if necessary, removing such individuals from site.</li> <li>• Setting up and managing the schedule for the day-to-day activities.</li> <li>• Liaison with all relevant interested and affected parties/stakeholders.</li> <li>• Ensuring all incidents are recorded and documented.</li> <li>• Undertaking an annual review of the EMP and amending the document when necessary.</li> </ul>
Safety, Health and Environmental (SHE) Officer / Plant Operator	<ul style="list-style-type: none"> <li>• Planning and carrying out site inductions to the workers on-site and visitors to the worksite(s).</li> <li>• Conducting site inspections of all areas with respect to the implementation of this EMP (monitor and audit the implementation of the EMP).</li> <li>• Ensure that the requirements of the EMP are carried out during applicable activities throughout the project life span.</li> <li>• Advising the Project Manager on the removal of person(s) and/or equipment not complying with the provisions of this EMP.</li> <li>• -Undertaking an annual review of the EMP and recommending additions and/or changes to this document.</li> <li>• Monitor the overall implementation of the EMP.</li> </ul>
Public Relations Officer (PRO)	<ul style="list-style-type: none"> <li>• Liaising between the affected farmers (property owners) and/or occupiers of land and Mr Nel Thomas Nakare Mukuve.</li> <li>• Ensure effective communication with stakeholders (affected farmers or landowners or occupiers of land), media (if necessary) and the public.</li> <li>• Managing public relations issues.</li> </ul>

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Role	Responsibilities
	<ul style="list-style-type: none"> <li>• Preparing and submitting public relations reports, if required.</li> <li>• Collaborating with personnel and maintaining project-related open communication among personnel.</li> </ul>
Archaeology personnel: for Chance Finds Procedure Implementation Roles	<p>The following personnel have been assigned responsibilities as per the Chance Finds Procedure (<b>Appendix 1</b>) provided in the Archaeological Assessment conducted for the proposed activities:</p> <ul style="list-style-type: none"> <li>• <b>Operator:</b> To exercise due caution if archaeological remains are found</li> <li>• <b>Foreman:</b> To secure site and advise management timeously</li> <li>• <b>Superintendent:</b> To determine safe working boundary and request inspection</li> <li>• <b>Archaeologist:</b> To inspect, identify, advise management, and recover remains.</li> </ul>
Department of Environmental Affairs & Forestry (DEAF: MEFT)	<ul style="list-style-type: none"> <li>• -The DEAF is responsible for enforcing compliance with the EMA, its regulations and full implementation of this EMP. The competent authority also reviews Bi-Annual reports and grant ECC renewal after 3 years.</li> </ul>
Ministry of Mines and Energy (MME)	<ul style="list-style-type: none"> <li>• -Ensuring the relevant and required permits and licenses are issued to the Proponent including site inspection, when needed. This includes renewal of the mining claim License.</li> </ul>
Department of Water Affairs: Ministry of Agriculture, Water and Land Reform	<ul style="list-style-type: none"> <li>• Responsible for the provision for a Groundwater abstraction and use permits, and ammendmenfor thereof.</li> </ul>
Ministry of Labour Industrial Relations and Employment Creation	<ul style="list-style-type: none"> <li>• Reponsible for all round well being of employees (including fair treatment, just compesation, safety and health).</li> </ul>
Site Workers, Contractors and Visitors	<p>The project workers have a personal responsibility of aiding the implementation of the EMP while present and working on site. Therefore, they will be required to adhere to the relevant management and mitigation measures to collectively protect the environment and promote environmental sustainability.</p> <p>Site visitors should be inducted on the site operational procedures, particularly environmental, health and safety measures.</p>

The Proponent should assess these commitments in detail and should acknowledge their obligation to the specific management actions detailed in the Tables of the following sections.



## **5 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN ACTIONS**

This chapter presents the environmental and social mitigations measures (management plan actions) and the list of legal requirements in terms of permitting and licensing for certain project activities. The aim of the management plan actions provided in the table below is to avoid potential impacts where possible, and where impacts cannot be avoided, measures are provided to reduce the significance of these impacts.

These management plan actions apply to the planning, exploration, mining and decommissioning phases of the project. These are summarised in **Table 5-1** containing environmental aspect for which the management actions are required, mitigation measures, key performance indicators, responsible person(s), resources or proof and the timeline of such management actions.

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Table 5-1: Management Plan Actions for the Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934.

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
<b>PLANNING PHASE</b>						
EMP implementation and training	Lack of EMP awareness and implications thereof	<p>A Comprehensive Health and Safety Plan for the project activities should be compiled. This will include all the necessary health, safety, and environmental considerations applicable to respective works on sites.</p> <p>An EMP non-compliance penalty system should be implemented on site.</p> <p>The Proponent should appoint an SHE Officer to be responsible for managing the EMP implementation and monitoring</p>	<p>All required Plans and systems are compiled and in place</p> <p>Safety, Health and Environmental (SHE) Officer is appointed</p>	Proponent	Records of EMP implementation Plans and Systems	Pre-exploration and mining phases (project activities)
Authorizations	Lack of Agreements, Permits/ Licenses	<p>All the required agreements and licenses or permits should be applied for and signed, respectively before commencement of work on the mining claims, or as required</p> <p>The permits, agreements referred to herein include land access &amp; use (by land/farm or property owners) for exploration and subsequent mining activities, borehole siting and drilling permits by both the DWA and property owners, as well as road access and petroleum storage permits</p>	<p>Applicable permits and licenses to obtained from relevant authorities and kept on site for records keeping and future inspections</p> <p>Agreements signed and obtained from landowners or occupiers of land</p>	Proponent	<p>Permits and License such as road access permit</p> <p>Signed Land Access and Use Agreements</p>	Prior to exploration, quarry development and mining
Communication between the Proponent and landowners or occupiers of land	Lack of communication (proper liaison) between farmers and Proponent with regards to land use	<p>The Proponent should appoint a Public Relation Officer (PRO) to liaise with the farmers/landowners.</p> <p>The PRO should be introduced to the farm owners and his or her contact details provided to them prior to undertaking</p>	A PRO is appointed	PRO Site Manager	<p>Complaints logbook</p> <p>PRO contact details to be provided to the affected farmers/landowners</p>	PRO appointment (Prior to project activities) and their responsibilities

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
		activities for easy communication during the exploration and eventual mining activities.  A clear communication procedure/plan which should include a grievance mechanism should be compiled				throughout the project activities
Employment	Creation of employment opportunities	Non-skilled labour should be sourced from the locally affected area, in accordance with procedures approved by the relevant authorities.  Equal opportunity should be provided for both men and women.	Number of locals employed for exploration and mining activities	Site manager  Ministry of Labour Industrial Relations and Employment Creation	Record of employees	Pre-project activities and when necessary, throughout
Specialised procurement of services	Exploration and mining contractors and services	All services related to exploration and mining activities such as blasting that the Proponent may need, preference should be given to local providers of such services. If not available locally, the services search should be extended to a Regional level (Erongo Region) and lastly, nationally, or international, if all efforts lead to no success.	Number of hired contractors	Site manager  Ministry of Labour Industrial Relations and Employment Creation	Record of hired or contracted companies or services providers	Pre-project activities and when necessary, throughout
<b>EXPLORATION AND MINING PHASES</b>						
EMP implementation and training	Lack of EMP awareness and implications thereof	EMP trainings should be provided to all new workers on site and to old workers (as a refresher) every 6 months.  All site personnel should be aware of necessary health, safety, and environmental considerations applicable to their respective work  The implementation of this EMP should be monitored.	Compliance monitoring conducted monthly for the exploration phase and annually for the mining phase and recorded  EMP Refresher training for employees/workers	SHE Officer Site Manager MEFT; DEAF MME	Monitoring reports ECC renewed on time Records of EMP training conducted	Throughout the exploration and mining phases

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
		<p>The site should be inspected, and a compliance audit done throughout the project activities.</p> <p>An EMP non-compliance penalty system should be enforced by MEFT, department of Environmental Affairs and MME.</p>	<p>every 6 6 months in both phases</p> <p>Timely renewal of the Environmental Clearance Certificate (ECC) every 3 years</p>			
Communication between the Proponent and landowners or occupiers of land	Lack of communication (proper liaison) between farmers and Proponent with regards to land use	<p>The PRO should be introduced to the farm owners and his or her contact details provided to them prior to undertaking activities for easy communication during the exploration activities and eventual mining.</p> <p>The Proponent should compile a clear communication procedure/plan which should include a grievance and response mechanism.</p> <p>The Proponent should enter into a written agreement with landowners before carrying out exploration and mining activities on their land.</p>	PRO is part of the project personnel	Site Manger PRO	Complaints logbook PRO contact details to be provided to the affected farmers/landowners	Throughout the project activities
Water Resources Use	Over-abstraction (water demand and availability)	<p><b>The Proponent should ensure the conditions of the existing Groundwater Abstraction and Use Permit (GWAUP) are complied with. Hence the proponent is expected to obtain a copy of that ECC and water permit for the existing BH so that they too can comply with the terms and conditions stipulated therein.</b></p> <p><b>The proponent must perform a pump test of the BH prior to operation in order to assess whether or not the meet their water demands</b></p>	<p>The Permit is applied for and obtained from the Authority</p> <p>Compliance with the Permit conditions, including timely renewals.</p> <p>Annual submission of water returns to the DWA.</p>	Site Manager	<p>Records of Permit issuance and renewals</p> <p>Groundwater Monitoring efforts</p>	<p>Pre-mining phase</p> <p>Throughout the mining phase</p>

Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
		<p><b>without straining water requirements of the community</b></p> <p>Water should be efficiently used by implementing water saving measures such as recycle and re-use where necessary and possible.</p> <p><b>This includes reusing water used in washing of aggregates, by allowing sedimentation for fines to settle out and clean water recovered be put back in the processing.</b></p> <p><b>Water to be pumped from the borehole on certain days of the week only (not every day) and store the required water in industry standard water tanks on site.</b> This is to avoid abstracting water from the borehole daily (which would stress the aquifers further) and allow the borehole water level some time to recover from the pumping.</p> <p>The site borehole water should be used efficiently, i.e. by limiting water use to the intended project activities only.</p> <p>Water conservation awareness and saving measures training should be provided to all the project workers in both phases so that they understand the importance of conserving water and become accountable.</p> <p>Groundwater Monitoring from existing boreholes should be undertaken at least once every quarter to pick up any changes in the quality of the water.</p>	<p>Permit to drill a new borehole is obtained and proof kept on site</p> <p>Proof/ recording/ quantification of water saving efforts.</p>			

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
Soils	Physical soil/land disturbance and loss of topsoil	<p>Overburden should be handled more efficiently during both exploration and mining operations to avoid erosion when subjected erosional processes</p> <p><b>To prevent creation of huge piles of waste rocks and having open pits for extended periods, concurrent backfilling must be undertaken.</b></p> <p>Soils that are not within the intended and targeted footprints of the site should be left undisturbed and soil conservation implemented as far as possible.</p> <p><b>Project vehicles and machinery should stick to access roads provide and or meant for the project operations but not to unnecessarily create further tracks on site by driving everywhere resulting in soil compaction.</b></p>	<p>No proliferation of informal vehicle tracks.</p> <p>No new erosion gullies.</p>	SHE Officer	Complaints logbook	Throughout the exploration and mining phases
Soils and water resources	Soils and water resources pollution	<p>Spill control preventive measures should be in place on site to management soil contamination, thus preventing and or minimizing the contamination from reaching groundwater bodies. Some of the soil control preventive measures are:</p> <ul style="list-style-type: none"> <li>-Identification of oil storage and use locations on site and allocate drip trays and polluted soil removal tools suitable for that specific surface (soil or hard rock cover) on the sites.</li> <li>-Vehicles, machinery, equipment, and fuel storage tanks should be maintained to</li> </ul>	<p>No complaints of pollutants on the soils and eventually in the water due to exploration and mining activities</p> <p>No visible oil spills on the ground or contaminated/polluted spots.</p>	SHE Officer Site Manager MEFT: DEAF	Complaints logbook Waste containers Non-permeable material to cover the ground surface at areas where hydrocarbons and potential pollutants are utilized.	Throughout exploration and mining phases

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
		<p>ensure that they are in good condition thus preventing leaks and spills.</p> <p>-The oil storage and use locations should be visually inspected for container or tank condition and spills.</p> <p>-Maintain a fully provisioned, easily accessed spill kit. Spill kits should be located throughout the active project sites contain the floor dry absorbent material and absorbent booms, pads, mats. These would be suitable for ground surface areas that are covered mainly by hard rocks.</p> <p>-All project employees should be made aware of the impacts of soil pollution and advised to follow appropriate fuel delivery and handling procedures.</p> <p>-The Proponent should develop and prepare countermeasures to contain, clean up, and mitigate the effects of an oil spill. This includes keeping spill response procedures and a well-stocked cache of supplies easily accessible.</p> <p>-Ensure employees receive basic Spill Prevention, Control, and Countermeasure (SPCC) Plan training and mentor new workers as they get hired in each phase of the project.</p> <p>Exploration and mining site areas where hydrocarbons will be utilized, the ground surface should either be concrete lined (i.e., where permanent structures such as mechanical maintenance bays) or covered</p>				

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
		<p>with an impermeable plastic liner (e.g. an HDPE liner) (e.g., under working gensets), carefully placed so as to minimize risk of puncturing, to prevent any spillages from getting into direct contact with the soils and prevent eventual infiltration into the ground. Emergency spillage skips should be kept near all working mobile plant to help contain any spillages in case of accidental spillages.</p> <p>Project machines and equipment should be equipped with drip trays to contain possible oil spills when operated during exploration and mining works.</p> <p>All wastewater and hydrocarbon substances and other potential pollutants associated with the project activities should be contained in designated containers on site and later disposed of at nearby approved waste sites in accordance with MAWLR's Water Environment Division standards on waste discharge into the environment. This is to ensure that these hazardous substances do not infiltrate into the ground and affect the groundwater quality.</p> <p>In cases of accidental fuel or oil spills on the soils from site vehicles, machinery and equipment, the polluted soil should be removed immediately and put in a designate waste type container for later disposal as per the preceding bullet points. The removed polluted soil should either be completely disposed of or cleaned and returned to where it was taken from on site</p>				



**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
		<p>or can be replaced with a cleaner soil. This is to ensure that the pollutants contained in the soil does not infiltrate into the site soils and eventually reach to groundwater.</p> <p><b>The mobile fuel (diesel) storage tank should be parked on an impervious surface to prevent accidental fuel spills or leaks from spreading to the soil and eventually to groundwater.</b> Drip trays must be readily available on this trailer and monitored to ensure that accidental fuel spills along the tank trailer are cleaned on time (soon after the spill has happened).</p> <p>Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility.</p> <p>Washing of equipment contaminated with hydrocarbons, as well as the washing and servicing of vehicles should take place at a dedicated area, where contaminants are prevented from contaminating soil or water resources.</p> <p>The septic tank collecting waste water from the toilets and showers should also be inspected for any leakages.</p>				
Biodiversity	Loss of Fauna and Flora	<p><b>Flora:</b> The Proponent should avoid unnecessary removal of vegetation, thus promoting a balance between biodiversity and their operations.</p> <p>Vegetation found on the site, but not in the targeted mining areas should not be</p>	<p>No disturbance to unmarked areas.</p> <p>No complaints of livestock theft, snaring</p>	<p>SHE Officer Site Manager MEFT: DEAF</p>	<p>Barricading tape (to indicate working areas) Complaint logbook</p>	<p>Throughout the exploration and mining phases</p>

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
		<p>removed but left to preserve biodiversity on the site.</p> <p>Movement of vehicle and machinery should be restricted to existing roads and tracks to prevent unnecessary damage to the vegetation.</p> <p><b>No onsite vegetation should cut or used for firewood related to the project's operations.</b></p> <p>The Proponent should provide gas stoves for cooking and solar panel for powering electronic and electrical devices.</p> <p>The proponent must explore the possibility of transplanting or relocating vegetation found on the targeted rock units.</p> <p>Even if a certain shrub or tree is found along exploration and mining sites, this does not mean that it should be removed. Therefore, care should be taken when exploring and mining without destroying the site vegetation.</p> <p><b>Fauna</b></p> <p>Workers should refrain from killing species (big or small and all types) that may be found on and around the site.</p> <p>Workers should refrain from disturbing, killing or stealing locals' animals and killing small soil and rock outcrops' species found on sites.</p> <p>Environmental awareness on the importance of biodiversity preservation should be provided to the workers.</p>	<p>or killing related to the project personnel.</p>			

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
Illegal hunting	Illegal hunting of wildlife	<p>For future provision, should the wildlife re-appear in the area during good rainy seasons, no hunting by exploration and mining personnel on-site is allowed.</p> <p>Site personnel should refrain from killing/poaching or snaring or intentionally disturbing local animals that may be found on and around the exploration and mining sites.</p> <p>Personnel are not allowed to kill or in any way disturb local livestock.</p>	Incident reports of illegal hunting of wildlife by the crew.	SHE Officer Site Manager MEFT: DEAF	Complaints logbook	During site set up, and throughout exploration and mining phases
Aesthetics of the area	Visual impact	<b>Utilize waste rock to rock blind exposed rock faces and to backfill mined-out sites to promote progressive rehabilitation.</b> This will prevent having stock piles or having open pits which compromise the aesthetics of the area.	<p>No further major contribution to the visual impact in the area.</p> <p>No complaints from the locals regarding major eyesore due to unmanaged site restoration</p>	Site manager	Complaints logbook Record of progressive backfilling done to reduce landscape contrast	Throughout the exploration and mining phases
Health and safety	General health and safety associated with project activities in both phases	<p>The Labour Act's Health and Safety Regulations should be complied with.</p> <p>As part of their induction, the project workers should be provided with an awareness training of the risks of mishandling equipment and materials on site as well as health and safety risk associated with their respective jobs.</p> <p>When working on site, employees should be properly equipped with adequate personal protective equipment (PPE) such as</p>	Comprehensive health and safety plan for all exploration and mining activities compiled.	Site manager SHE Officer	Time, printing resources.	Prior to site setup activities and throughout the phases

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
		<p>coveralls, gloves, safety boots, earplugs, dust masks, safety glasses, etc.</p> <p>Heavy vehicle, equipment and fuel storage site should be properly secured, and appropriate warning signage placed where visible.</p> <p>An emergency preparedness plan should be compiled, and all personnel appropriately trained.</p> <p><b>Workers should not be allowed to drink alcohol prior to and during working hours as this may lead to mishandling of equipment which results into injuries and other health and safety risks.</b></p> <p>Workers should not be allowed on site if under the influence of alcohol.</p> <p>The site to be equipped with "danger" or "cautionary" signs for any potential danger or risk area identified on site.</p> <p>Temporary enclosed boundaries should be erected around high-risk area onsite for the duration of works in that area, to promote safety.</p> <p>All employees and contractors (personnel) to be trained on environmental awareness, the Proponent's internal Environmental Health and Safety Policy, Environmental Management Plan, and engagement with key stakeholders, specifically the key government ministries and farmers</p>				

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
Health and safety	Accidental fire outbreak	<p>Portable fire extinguishers should be provided on site.</p> <p>No open fires to be created by exploration and mining personnel.</p> <p>Potential flammable areas and structures such as fuel storage tanks should be marked as such with clearly visible signage.</p>	No wildfires recorded (due to presence of workers)	SHE Officer	Fire extinguishers (1 per vehicle) and 1 per working site	Throughout exploration and mining phase
Archaeology and heritage	Accidental disturbance and destruction of archaeological or heritage objects and sites	<p>Caution should be exercised when carrying out excavations associated with the exploration activities if archaeological/heritage remains are discovered</p> <p>Objects identified on the site to be of archaeological significance should not be disturbed but are to be reported to the project Environmental/Safety officer or National Heritage Council offices for further instructions and actions.</p> <p>Workers should be educated to not destroy or throw away but report (to the environmental/Safety officer) of any unknown object found/discovered on site.</p> <p>The worksite manager should familiarise themselves with the National Heritage Council's Chance Find Procedure (please refer to <b>Appendix 1 of this document</b>) and if uncertain about the procedure should receive training by a suitably qualified archaeologist with respect to the identification of archaeological/heritage remains and the procedures to follow in the</p>	Preservation of all artefacts that are discovered around project area	<p>SHE Officer</p> <p>Site Manager</p> <p>Archaeologist</p>	<p>Salvage equipment</p> <p>Flag tapes</p> <p>GPS (site marking)</p>	As and when required, prior to site setup activities and upon encounter

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
		event that such remains are discovered throughout the project activities' duration.				
Littering and waste management (general waste and sanitation)	Environmental Pollution	<p>Project workers should be sensitized to dispose of waste in a responsible manner and not to litter.</p> <p>After each daily works, there should not be waste left scattered on site, but rather be disposed of in allocated site waste containers.</p> <p>No waste may be buried or burned on site or anywhere else throughout the project lifecycle.</p> <p>All domestic and general waste produced daily should be contained until such that time it will be transported to designated waste sites on a weekly basis.</p> <p><b>The sites should be equipped with separate, well labelled waste bins for hazardous/ industrial and general waste/domestic until they can be transported and safely disposed off at the nearby approved and appropriate disposal sites.</b></p> <p>Waste sorting of domestic waste is encouraged, to allow recycling of bottles, plastics and paper.</p> <p>A penalty system for irresponsible disposal of waste on site and anywhere in the area should be implemented.</p>	No visible litter around the project area	SHE Officer Site Manager	Waste storage containers	Throughout exploration and mining phases.

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
	Wastewater generated by exploration and mining workers living on-site.	<p>Ablution facilities and showers should be erected onsite to avoid environmental pollution and contamination.</p> <p>Emptying of septic tanks should be done according to the manufacturer's specifications.</p> <p>Inspections should also be done around these facilities to ensure that leakages are attended to on time.</p>	Adequate toilet facilities on site.	SHE Officer Site Manager	Chemical toilets or excavator (pit creation), waste treatment agents/chemicals	At site setup and throughout exploration and mining phases
Vehicular Traffic	Traffic safety	<p>The proponent should obtain permission from the Roads Authority for any new access roads to be created.</p> <p>Drivers of all project phases' vehicles should be in possession of valid and appropriate driving licenses.</p> <p>Vehicle drivers should adhere to the road safety rules.</p> <p>Drivers should drive slowly (40km/hour or less), and on the lookout for livestock and wildlife.</p> <p>Ensure that the site access roads are well upgraded and in good condition to cater for vehicles travelling to and from site throughout the project's life cycle</p> <p>Project vehicles should be in a road worthy condition and serviced regularly to avoid accidents due to mechanical faults of vehicles.</p>	<p>No complaints from members of the public regarding vehicular traffic issues related to the project</p> <p>All personnel operating the project vehicles and machinery are appropriately licensed and possession of valid driving licenses.</p> <p>Demarcated areas for parking, offloading, and loading zones are on sites</p> <p>Site access road permits obtained, and requirements fulfilled</p>	SHE Officer Site Manager	None	<p>Throughout exploration and mining phases.</p> <p>Site access permit (s) to be applied for and obtained prior to commencement of exploration works</p>

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
		<p>Vehicles drivers should not be allowed to operate vehicles while under the influence of alcohol.</p> <p>Sufficient parking area for all project vehicles should be provided for and clearly demarcated on sites.</p> <p>The Proponent should make provision for safe materials and equipment offloading and loading areas on sites.</p> <p><b>To control traffic movement on site, deliveries from and to site should be carefully scheduled. This should optimally be during weekdays and between the hours of 8am and 5pm.</b></p> <p>Site access roads should be provided for in such ways that they do not interfere with other traffic movement and/or compromise traffic safety on the host farms</p>				
Air Quality	Dust generation	<p>Drill and excavating/blasting equipment should be regularly maintained to ensure drilling and excavation efficiency and so reduce dust generation.</p> <p>Dust masks, eye protective glasses and other respiratory personal protective equipment (PPE) accessories should be provided to the workers on site, specifically the ones exposed to dusty site area and activities.</p> <p>The impact mitigation measures should be covered in the relevant farm access agreement as required by law on</p>	<p>No complaints from the public about vehicle emissions and dust generation.</p> <p>Visible efforts to curb dust</p>	SHE Officer Site Manager	Complaints logbook Vehicle machinery mechanic	Throughout exploration and mining phases



**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
		<p>commercial farms. This should also be considered for resettled farms.</p> <p>The Proponent should ensure that the project activities schedules are limited to the given number of days of the week, and not every day. This will keep the vehicle-related dust level minimal in the area.</p> <p><b>Given that the Mining Claims are in the proximity of houses, blasting should be avoided on windy days.</b></p> <p>Reasonable amounts of water can also be used dust to minimise dust generation.</p> <p>The transportation of exploration and mining materials, equipment and machinery should be limited to certain days of the week only as so to reduce dust generated by heavy vehicles in the area.</p>				
Noise	Nuisance	<p>The transportation of exploration and mining materials, equipment and machinery should be limited to once or twice a week only, but not every day.</p> <p>Noise from project vehicles and equipment on site should be reduced to acceptable levels.</p> <p>The exploration and mining times should be set such that, no such activities are carried out during the night or very early in the mornings (to be limited between 8am and 5pm on weekdays).</p> <p>Project (exploration and mining) hours should be restricted to between 8am and</p>	Complaints from residents about excessive noise.	SHE Officer Site Manager	Complaints logbook	At site set up and throughout exploration and mining phases

Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
		<p>5pm to avoid noise generated by project equipment and the movement of vehicles before or after hours.</p> <p><b>During occasional blasting and drilling, workers should be equipped with personal protective equipment (PPE) such as earplugs to reduce noise exposure.</b></p> <p><b>If any drilling and blasting is planned, a notice should be issued to the land occupiers well in advance.</b></p> <p>Target exploration and mining sites that may be found to be within less than 1 km from the residence (farmhouses) should be avoided at all cost. This is done to preserve some tranquillity for the residents.</p>				
Social nuisance	Job seeking and crashes due to differing norms, culture, and values	<p>Priority of employment should be given to local people, and only if necessary and due to lack of skills in the area, out-of-area people can be given some of the work.</p> <p>The locals to be employed during the project phases should be provided with the necessary training of skills required for the project to avoid bringing in many out-of-area employees.</p> <p>The workers should be engaged in health talks and training about the dangers of engaging in unprotected sexual relations which results in contracting HIV/AIDS and other sexual related infections.</p> <p>Out-of-area workers that may be employed (due to their unique work skills) on site should</p>	<p>Correct and fair recruitment procedures are followed and practised.</p> <p>More local people are employed for both skilled, semi and unskilled works</p> <p>Out-of-area people only employed for specialized skills that are not found in the project area.</p> <p>No complaints of unfair recruitment procedures.</p>	<p>Site Manager</p> <p>PRO</p>	<p>Records of employees and their places of origins in relation to the site area</p>	<p>Pre-exploration and mining phases.</p> <p>In special cases, during the project phases, depending on the project needs</p>

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
		be sensitized on the importance of respecting the local values and norms, so that they can co-live in harmony with the local communities during the duration of their employment on site	Grievance and response records			
	Potential increase of prevalence of HIV and AIDS, as well as other sexually transmitted diseases (STIs) prevalence	<p>The workers should be engaged in health talks and training about the dangers of engaging in unprotected sexual relations which results in contracting HIV/AIDS and other sexual related infections.</p> <p>Provision of condoms and sex education through distribution of pamphlets. These pamphlets can be obtained from local health facilities.</p>	No new infections recorded linked to exploration and mining workers	SHE Officer	None	During site setup and throughout exploration and mining phases
	Private and Public Property intrusion and Disturbance or Damage	<p>Project workers should be educated on the importance of respecting the locals' properties by not intruding or damage their homes, fences or snaring and killing their livestock.</p> <p>Any workers or site employees that will be found guilty of intruding peoples 'privately owned properties should be called in for disciplinary hearing and/or dealt with as per their employer' (Proponent)'s code of employment conduct</p> <p>Project workers should be advised to respect the community and local's private properties, values, and norms.</p> <p>No worker should be allowed to wander in people's private yards or fences without permission.</p>	<p>Harmonious interaction between the project personnel and property owners.</p> <p>No complaints of property damaged, or intrusion caused by project personnel</p>	Site Manager PRO	Complaints logbook or records of grievances and how they were addressed	Throughout the exploration and mining phases.

Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934

Aspect	Impact	Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources Required	Timeline
		<p>Site workers are not allowed to kill or in any way disturb local livestock.</p> <p>No worker should be allowed to, without permission cut down or damage trees belonging either the farm owner, the neighbouring farms or in the already scarce community vegetation.</p>				
<b>PROGRESSIVE REHABILITATION AND DECOMMISSIONING PHASE</b>						
Rehabilitation	Disturbance and damaging of land site land	<p><b>All excavated pits related to the project activities should be and backfilled and the areas restored to as close to pre-mining as possible.</b></p> <p>All waste generated and store on site during exploration and subsequent mining activities should be disposed of at the respective nearest waste management sites.</p> <p>The stockpiled topsoil should be levelled during exploration activities and subsequent mining.</p> <p>Any temporary work camps setup should be dismantled, and the area rehabilitated as far as practicable, to their original state.</p> <p>Explored and mined-out areas on worksites should be progressively rehabilitated by stockpiling and backfilling.</p> <p>Provision of both financial and technical resources for progressive rehabilitation and post-exploration/mining activities should be made.</p>	<p>Capped boreholes and backfilled pits</p> <p>No sign of waste or littering seen on site and around site areas</p> <p>No stockpiled topsoil (topsoil is levelled after completion of each work)</p> <p>Campsite dismantled and materials taken away from site</p> <p>Visible signs of stockpiled topsoil</p> <p>Annual update of finances reserved for decommissioning</p>	Proponent	<p>Record of boreholes drilled, and pits excavated (if any)</p> <p>Waste containers on sites</p> <p>Photo records of backfilled sites</p> <p>Records of campsite</p> <p>Records of finances set aside for decommissioning activities</p>	Throughout exploration and mining

## **6 RECOMMENDATIONS AND CONCLUSIONS**

It is believed that the effective implementation of the contents of the Environmental Questionnaire, together with the present Environmental Management Plan (EMP) will see impacts avoided or reduced to acceptable levels.

Monitoring will not only be carried out to maintain the low rating of impacts' significance but to also ensure that all potential impacts identified in this study and other impacts that might arise during project implementation are properly identified in time and addressed.

It is therefore recommended that the proposed exploration and mining activities on Mining Claims 73932, 73933 and 73934 be granted an Environmental Clearance on condition that the recommended impact mitigation measures in this EMP and all the provisions in the Environmental Questionnaire are adhered to.

## APPENDIX 1: CHANCE FINDS PROCEDURE (AFTER KINAHAN, 2020)

Areas of proposed development activity are subject to heritage survey and assessment at the planning stage. These surveys are based on surface indications alone, and it is therefore possible that sites or items of heritage significance will be found during development work. The procedure set out here covers the reporting and management of such finds.

**Scope:** The “*chance finds*” procedure covers the actions to be taken from the discovery of a heritage site or item, to its investigation and assessment by a trained archaeologist or other appropriately qualified person.

**Compliance:** The “chance finds” procedure is intended to ensure compliance with relevant provisions of the National Heritage Act (27 of 2004), especially Section 55 (4): “*a person who discovers any archaeological .... object .....must as soon as practicable report the discovery to the Council*”. The procedure of reporting set out below must be observed so that heritage remains reported to the NHC are correctly identified in the field.

### Responsibility:

<b>Operator:</b>	To exercise due caution if archaeological remains are found
<b>Foreman:</b>	To secure site and advise management timeously
<b>Superintendent</b>	To determine safe working boundary and request inspection
<b>Archaeologist</b>	To inspect, identify, advise management, and recover remains

### Procedure:

#### Action by person identifying archaeological or heritage material

- a) If operating machinery or equipment stop work
- b) Identify the site with flag tape
- c) Determine GPS position if possible
- d) Report findings to foreman

#### Action by foreman

- a) Report findings, site location and actions taken to superintendent
- b) Cease any works in immediate vicinity

**Environmental Management Plan: Exploration and Mining Activities on Mining Claims 73932, 73933 and 73934**

Action by superintendent

- a) Visit site and determine whether work can proceed without damage to findings
- b) Determine and mark exclusion boundary
- c) Site location and details to be added to project GIS for field confirmation by archaeologist

Action by Archaeologist

- a) Inspect site and confirm addition to project GIS
- b) Advise NHC and request written permission to remove findings from work area
- c) Recovery, packaging and labelling of findings for transfer to National Museum

In the event of discovering human remains

- a) Actions as above
- b) Field inspection by archaeologist to confirm that remains are human
- c) Advise and liaise with NHC and Police
- d) Recovery of remains and removal to National Museum or National Forensic Laboratory, as directed.