



An Updated Environmental Management Plan

Prepared to Support an Application to Amend an
Environmental Clearance Certificate (ECC) to Allow for
Exploration and Mining of Industrial Mineral Groups on
Mining Claims with these Numbers: MC-67923, MC-
67921, MC-68561 & MC-68562

Omaruru District, Erongo Region

August 2023

INFORMATION SHEET	
Project Title Name	: An Updated Environmental Management Plan (EMP) Prepared in Support of an Application for an Amendment of an Environmental Clearance Certificate (ECC) to Allow for Exploration and Mining of Industrial Minerals on Four Mining Claims with these Numbers: MC-67923, MC-67921, MC-68561 & MC-68562 Omaruru District, Erongo Region
MEFT Application No.	: APP-002314
Applicant	: Mr Jeano Foelscher Box 67 KARIBIB Erongo Region Namibia
Report Status	: Final
Report Date	: August 2023

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ABBREVIATIONS AND ACRONYMS

BAT	-	Best Available Technology
dBA	-	Decibels
CapEx	-	Capital Expenditure
OpEx	-	Operational Expenditure
EC	-	Environmental Commissioner
ECC	-	Environmental Clearance Certificate
ERP	-	Emergency Response Plan
EIA	-	Environmental Impact Assessment
EMP	-	Environmental Management Plan
GPS	-	Global Positioning System
ha	-	hectare (1 ha = 10 000 m ²)
HPP	-	Harambee Prosperity Plan
IAPs	-	Interested and Affected Parties
m ²	-	square meters
MAWLR	-	Ministry of Agriculture, Water and Land Reform
MCs	-	Mining Claims
MEFT	-	Ministry of Environment, Forestry and Tourism
MHSS	-	Ministry of Health and Social Services
MME	-	Ministry of Mines and Energy
NCCI	-	Namibia Chamber of Commerce and Industries
NHC	-	National Heritage Council
LDV	-	Light Duty Vehicle
NSI	-	Namibia Standards Institute
PPE	-	Personal Protective Equipment
SSM	-	Small-scale Miners or Small-scale Mining
FM	-	Farm Manager
SHE	-	Safety, Health & Environment
SME	-	Small and Medium Enterprises
UNDP	-	United Nations Development Programme

LIST OF ROADS

B2	-	The route number for the main road starting from Okahandja up to Walvis Bay via the settlement of Wilhelmstal and towns of Karibib, Usakos, Arandis and Swakopmund.
C36	-	The route number for the secondary road that runs from B2 at the settlement of Wilhelmstal and joining C33 just before the town of Omaruru. C36 is a gravel road.
D1941	-	The route number for the district road starting from the C33 (just outside Karibib) to C36 (just north of Wilhelmstal) providing access to several farms in the Karibib district. D1941 is the shortest to the project site from Karibib.

DEFINITION OF TERMS

Accessory works	<p>Means any buildings, plant or other structure required for purposes of mining operations or for the disposal of any mineral mined in the course of any such operation, including</p> <ul style="list-style-type: none"> ❖ Any power plant, transmission line or substation; ❖ Any water boreholes, well, pipeline, pump station tank or dam; ❖ Any airfield, helicopter landing-pad, road, gate, rail or railway siding; ❖ Any workshop, hangar, store or office; ❖ Any explosive magazine; ❖ Any sampling plant, processing plant, smelter, etc. ❖ Any waste disposal site, and ❖ Any campsite or temporary or permanent, etc.
Beneficiation	In the context of this project means crushing, milling and thoroughly mixing of shale clay into a mouldable paste substance followed by extrusion and cutting of bricks, drying and firing.
Cumulative Impacts	In the context of quarrying, cumulative impacts would mean the impacts of quarrying activities which in themselves may not significant but may become significant when added to the existing and potential impacts resulting from similar or diverse activities or underrating in the area.
Environmental Component/Aspect	An attribute or constituent of the environment (i.e. air quality; waste management, seismicity, soil, groundwater; terrestrial ecology, noise, traffic, socio-economic) that may be impacted by the proposed project.
Environmental Impact	A description of the potential effect or consequence of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space.
Environmental Management Plan (EMP)	A working document which contains site specific plans to ensure that environmental management practices to eliminate and control environmental impacts are followed during the developmental phases of that site, project and or facility and would normally consist of construction phase, operational phase and decommissioning phases.
Environmental Monitoring	Means collection, evaluation and summarization of environmental data by continuous or periodic monitoring of certain qualitative and quantitative indicators characterizing the state of environmental components and their modification as a result of the impact of natural and anthropogenic factors.
Excavation	Means any trench, pit, shaft or other open or underground working made in the course of prospecting or mining operations, as the case may be, excluding any superficial excavations made for purposes of geochemical soil and rock sampling.
Waste	Means any waste rock, tailings, slimes or other residue derived from any prospecting operations, mining operations or processing of any mineral or group of minerals.
Good Mining Practice or Good Prospecting Practice	Means any practices which are generally accepted by persons involved in mining operations, prospecting operations, as the case may be, in other countries of the world as good, safe and necessary in carrying out any such operations in relation to a mineral or a group of minerals
Mineral Group	Means in relation to minerals, means the precious metals group, the base and rare metals group, the precious stones group, the semi -precious stones group, the industrial minerals group, the dimension stone group, the non-nuclear fuel minerals group or the nuclear fuel minerals group
Hazardous Waste	Any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have detrimental impact on health and the environment.
Base and Rare Metals Group	Include these minerals: aluminium, antimony, arsenic, beryllium, bismuth, cadmium, caesium, chromium, cobalt, copper, gallium, germanium, hafnium, indium, iron, lead, manganese, mercury, molybdenum, nickel, niobium, radium, "Rare Earths" or lanthanides, including the actinides, scandium and yttrium,

	rhenium, rubidium, selenium, tantalum, tellurium, thallium, tin, tungsten, vanadium, zinc or zirconium, but does not include any such minerals if such mineral is incidentally included in a mineral falling in any other group of minerals
Industrial Minerals Group	Includes these minerals: alunite, andalusite-sillimanite-kyanite, anhydrite, aplite, asbestos, barite, beryl (excluding beryl as a source of beryllium metal or as a semi-precious stone), boron minerals, calcium carbonate, celestite, clay (including bentonite and Fuller's Earth (Palygorsite and attapulgite), ball clay, halloysite, hectorite, kaolin, refractory clay), corundum, diatomite, dolomite, epsomite, feldspar, fluorite, garnet (for industrial purposes), graphite, gypsum, heavy mineral sands, iodine minerals, leucoxene, lithium minerals, limestone and marble, magnesite, mica, nepheline syenite, nitrate, olivine, perlite, phosphate, fossil guano, quartz (for industrial purposes), picture-stone, potash, pumice, pyrophyllite, salt, sepiolite, silica sand, soapstone, soda-ash and other sodium compounds, strontianite sulphur and pyrite, talc, vermiculite, wollastonite
Interested and Affected Parties	All persons who may be affected by the project either directly or indirectly, or who have an interest or stake in the area to be affected by the project, including neighbouring landowners & Road Fund Administration.
Lithium Ore	In the context of this report, Lithium Ore is produced by mining and crushing lithium bearing pegmatite and delivering the crushed aggregates to the port as 'Direct Shipping Ore' without having transformed (processed) the crushed rock into a concentrate.
Mining Claim	Means a claim not exceeding an area of 18 ha registered under section 36 of the Minerals Act and includes the renewal of the registration of any such claim.
Mitigation	Measures designed to avoid, reduce or remedy adverse impacts.
Non-compliance	Issues that are in direct non-compliance with the requirements, commitments and/or management measures as approved in the EMP.
Non-exclusive Prospecting Licence	Means a non-exclusive prospecting licence issued under section 21 of the Minerals (Prospecting and Mining) Act and includes the renewal of any such licence;
Prospecting	Means intentionally searching, whether by way of excavations or otherwise, for any mineral or group of minerals with a view to delineating or evaluating deposits or concentrations of any such mineral or group of minerals, but does not include mining
Prospecting Operations	Means any operations carried on in connection with prospecting, including any accessing, extraction or incidental winning of any mineral or group of minerals for the purposes of mineralogical examination, assaying, test work or marketability surveys;
Overburden	The soil layer that lies above the shale clay slates below 350 mm from the ground level. The first 350 mm layer of the overburden comprises of topsoil which supports the rooting system for vegetation and should be set aside and preserved for future rehabilitation.
Sensitive Area	A sensitive area or environment is described as an area or environment where a unique ecosystem, habitat for plant and animal life, wetlands or conservation activity exists or where there is high potential for ecotourism

1. BACKGROUND

1.1 INTRODUCTION

Mr Jeano Foelscher is a small-scale miners (SSM) who has been mining semi-precious stones (SPS) from his four Mining Claims (MCs), for a period of about seventeen (17) years now. The four MCs are pegged on a commercial farm situated in the Omaruru district in the Erongo Region and registered in the personal name of the SSM in terms of the Minerals (Prospecting and Mining) Act, administered by the Ministry of Mines and Energy (MME).

An Environmental Clearance Certificate (ECC) allowing mining of SPS from the said MCs was granted to the SSM on 14 September 2022 and is valid until 14 September 2025. The ECC with the number ECC-AP10483 is attached to this EMP in **Fig. 1**.

During the course of SPS mining, traces of Industrial Mineral Groups (IMGs), e.g. Tin (Sn) and Tantalite (TO₂O₆) and Base and Rare Metals Group (BRMG), e.g. Lithium (Li) were discovered. All minerals indicated good grades that warrant further investigation. The SSM would like to conduct prospecting and exploration activities so as to ascertain the extent of mineralisation of such minerals on the four MCs. However, such minerals are not registered on the Mining Claim Certificate (MCC) held by SSM.

This EMP was prepared following a scoping assessment conducted into prospecting and exploration activities required to define BRMG and IMGs on the said four MCs. The purpose of the EMP is to serve as a standalone day-to-day management tool in which mitigation measures associated with exploration operations are provided.

1.2 DETAILS OF THE MINING CLAIMS (MCs)

The details of the four MCs are presented in **Table 1** below. The proposed exploration will have a footprint of about 5.7% (about 4 ha) of the total geographical area covered by the four MCs as shown in the table. In the event of any mineral discovery, the mining operation is projected to have a footprint of about 60% of 40 ha of the mining claim area.

Table 1: Details of the Mining Claims Held by the SSM

MC Registered No.	Date MC Pegged	Current MC Status	Coverage (ha)	Current Mineral Group	Proposed Mineral Groups
MC-67922	4 Oct 2007	Pending Renewal	15.22	SPS	BRMG & IMG
MC-67923	4 Oct 2007	Pending Renewal	19.53	SPS	BRMG & IMG
MC-68561	27 Oct 2010	Pending Renewal	18.51	SPS	BRMG & IMG
MC-687562	27 Oct 2010	Pending Renewal	17.70	SPS	BRMG & IMG
Total (ha)			70.21		
Exploration Core Drill Hole Footprint (5.70%)			4		
Estimated potential mining footprint – 60%			42	Exact footprint will be determined after exploration	

1.3 TERMS AND CONDITIONS ATTACHED TO THE MCs

The MCs were granted to the SSM by the Mining Commissioner who attached the terms and conditions presented in Table 2 below, for ease of reference and to provide a clear perspective with respect to the amendment sought to **ECC-AP1010483**.

Table 2: Terms and Conditions Attached to the Mining Claim by the Mining Commissioner

Terms & Conditions	Applicable Sections of the Minerals Act
The Mining Claim Holder shall:	
<ul style="list-style-type: none"> • Enter into a written agreement with the landowner 	(Section 52(1)(a)(i)).
<ul style="list-style-type: none"> • Exercise his rights reasonably and in such a manner that the rights and interests of the landowner or land occupier are not adversely affected, except to the extent to which such owner or occupier is compensated. 	Section 52
<ul style="list-style-type: none"> • Not erect or construct any accessory works on a mining claim area without the permission of the Mining Commissioner. • Maintain in good condition and repair all accessory works. 	Section 31(3)
<ul style="list-style-type: none"> • Carry on mining operations in accordance with good mining practices. 	Section 31
<ul style="list-style-type: none"> • Always maintain all mining claim beacons in good condition. 	Section 28(6) & (7)
<ul style="list-style-type: none"> • Take reasonable steps to warn persons who may from time to time be in the vicinity of any accessory works of any possible hazards. 	Section 41(1)(e) to (h)
<ul style="list-style-type: none"> • Give notice to the Mining Commissioner of the discovery of any mineral or group of minerals other than the mineral group to which his mining claim relates within 30 days of such discovery. 	Section 41(1)(j)
<ul style="list-style-type: none"> • Keep at an address in Namibia a proper record in relation to any mining operations for a period of not less than three years. 	Section 45(1)(i)
<ul style="list-style-type: none"> • Submit monthly reports to the Mining Commissioner within 15 days after the end of each month, (Section 45(1)(d)). 	Section 45(1)(d)
<ul style="list-style-type: none"> • Submit annual reports to the Mining Commissioner within 60 days after 31 December of each year, (Section 45(1)(e)). 	Section 45(1)(e)
<ul style="list-style-type: none"> • In the case of a natural person, give notice to the Mining Commissioner of any change of the address of such person within 30 days of such a change. 	Section 45
<ul style="list-style-type: none"> • Keep at an address in Namibia a proper record in relation to any prospecting operations for a period of not less than three years. 	Section 45(1)ii

1.4 RATIONALE FOR AMENDMENT

The SSM would like BRMG and IMG added on to his MCC to allow for exploration, and ultimately mining of such minerals. In terms of section 31 of Mineral Act, the holder of a mining claim is entitled:

- To carry on mining operations on such mining claim for any mineral or group of minerals in respect of which the mining claim has been registered.
- To carry on, on such mining claim in lieu of any mining operations, any prospecting operations in relation to any mineral or group of minerals for a period not exceeding six months from the date on which such mining claim is registered or upon the expiry of such period as maybe determined by the Mining Commissioner in writing.
- In conjunction with any mining operations referred to above, to perform any prospecting operations in relation to any mineral or group of minerals.
- Furthermore, the holder of a mining claim is entitled to remove any mineral or group of minerals other than a controlled mineral or sample of such mineral or group of minerals, for any purpose other than sale or disposal, from any place where it was won or mined in the course of mining operations or found, or incidentally won in the course of prospecting operations to any place in Namibia.

It should be emphasised here that, mining claims are exclusively granted to Namibian citizens only, who acquire such mining rights by first applying for Non-Exclusive Prospecting Licence (NEPL). The framers of MA have intended to promote the participation of Namibian citizens in the mineral resource sector of the country by making the mineral acquisition process less cumbersome to the citizens, which leads to the socio-economic development of the regions and ultimately that of the entire country.

Since mining is a high capital intensive undertaking, a MC holder is permitted to enter into a Mineral Agreement with persons who are non-Namibian citizens for the purpose of pooling resources together to undertake mining operations. It should be noted that the Mining Commissioner has to be notified of such agreements and in some instances approvals of the Minister may be required.



REPUBLIC OF NAMIBIA
MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

ENVIRONMENTAL CLEARANCE CERTIFICATE

ISSUED

In accordance with Section 37(2) of the Environmental
Management Act (Act No. 7 of 2007)

TO

Jeano Foelscher
P. O. Box 67, Karibib

TO UNDERTAKE THE FOLLOWING LISTED ACTIVITY

Mining Activities on Mining Claim No. 67922 - 67923 & 68561 - 68562 at
Omapyu Süd Farm 77, Omaruru, Erongo Region.

Issued on the date: 2022-09-14
Expires on this date: 2025-09-14

(See conditions printed over leaf)



Figure 1: ECC Granted for SPS Mining from the Mining Claims

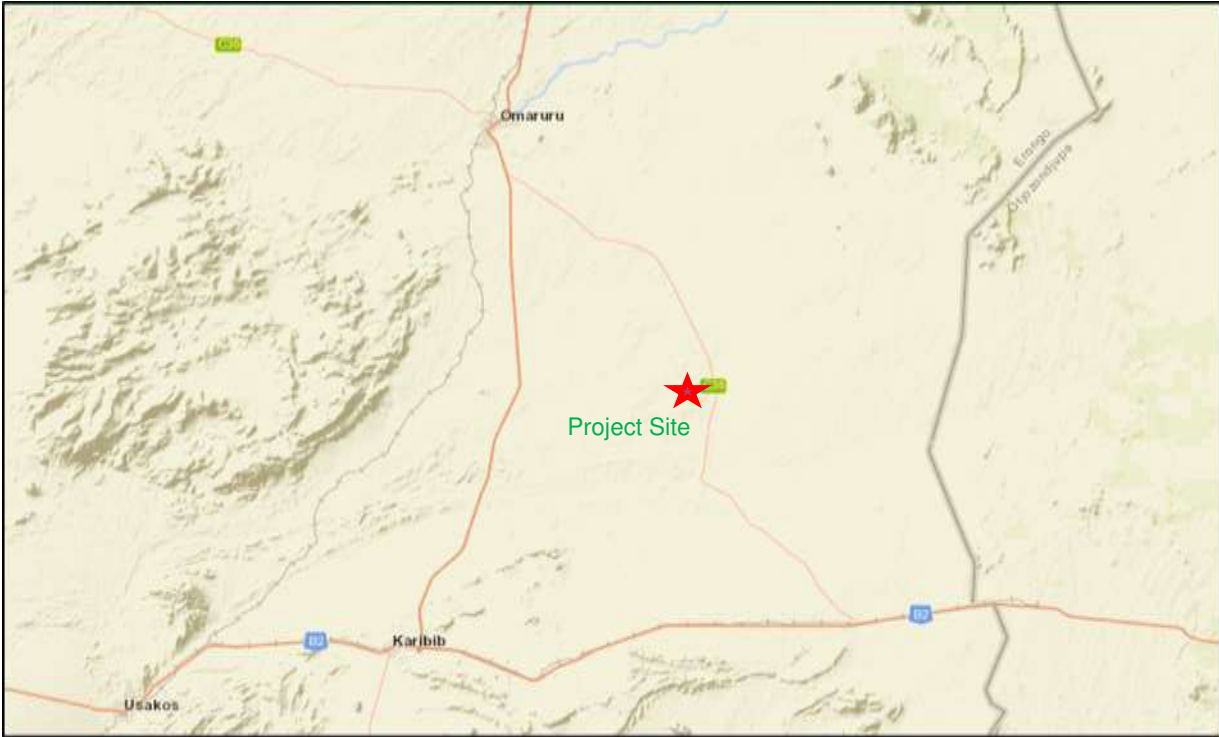


Figure 2: Project Location Map (Google Map)

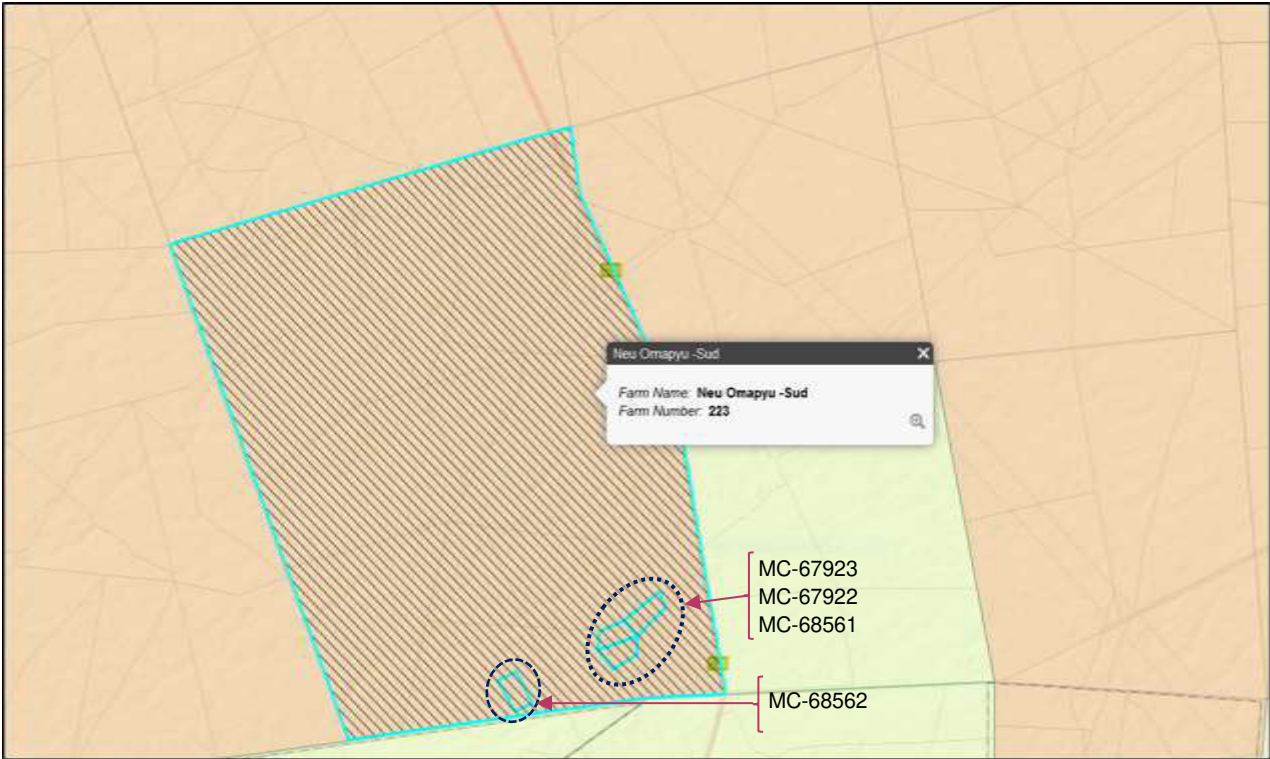


Figure 3: Location of the Mining Claims on the Farmland

2. ENVIRONMENTAL MANAGEMENT PLAN

This EMP is compiled to mitigate the environmental impacts associated with the exploration activities planned to take place on the four MCs pegged by the SSM. The proposed exploration work is intended to investigate any possible mineralisation of BRMG and IMGs on all four MCs that can be mined profitably. The EMP should be read in conjunction with the scoping assessment report prepared under application number #APP- 002314.

2.1 OBJECTIVES AND PURPOSE OF THE EMP

The objective of the EMP is to serve as a standalone tool to manage and safeguard the environmental impacts associated with the exploration activities. The underlying objectives are:

- To ensure compliance with applicable laws and regulations notably the Environmental Management Act, EIA Regulations and the Minerals (Prospecting and Mining) Act;
- To ensure compliance with the conditions attached to the ECC once the same has been amended by the EC;
- To implement practical measures to avoid, to minimise or to correct pollution and degradation of the environment;
- To avoid or minimise waste, and to re-use or recycle waste wherever possible;
- To apply a risk averse and cautions approach during all exploration activities;
- To anticipate and prevent negative impacts on the environment (physical, biological, social, economic and cultural) where these impacts cannot be prevented, such impacts must be minimised or remedied;
- To develop workable methods which ensure that the exploration operations are carried out in manner which is technically sound, socially acceptable and environmentally sustainable;
- To identify a range of mitigation measures which could reduce and mitigate the potential impacts associated with exploration activities to minimal or insignificant levels;
- To identify measures which ensure the optimisation of beneficial impacts to the broader community, and
- To create management structures which address the concerns and complainants of IAPs with regards to the environment.

It should be noted that the EMP is a dynamic document, flexible and responsive to new and changing circumstances i.e. it should be updated as and when required. Any substantive changes to the current scope of activities will require the amendment of the EMP.

2.2 DOCUMENTATION:

Copies of the ECC and Mining Claim Certificate should be readily available at the site office and presented upon inquiry to government officials and the landowner (Farm Manager). Any third party hired to perform any work on the project must be provided with a copy of the EMP and be made aware of its requirements. The same applies to the service providers with whom the proponent will be doing business.

2.3 ACCEPTANCE OF THE EMP

The acceptance of this EMP by the Environmental Commissioner will confer a legal obligation to the SSM as the MC holder to comply with the recommendations of EMP. Should the MC holder fail to comply with such requirements, it is deemed a contravention of the Environmental Management Act (Act No. 2 of 2007) and as such is criminally prosecutable.

2.4 IMPLEMENTATION OF THE EMP

The implementation of this EMP will be a recurring process that converts mitigation measures into actions and through monitoring, review and corrective actions, ensures conformance with the overall aims and objectives. These objectives are:

3. ROLES AND RESPONSIBILITIES

Various stakeholders – statutory and non-statutory will have different roles and functions to play in the implementation of this exploration project. In Table 3 below, is a list of statutory stakeholders who have direct bearings on the specific project as well as the roles and functions of the persons responsible for ensuring compliance from the side of the proponent.

Table 3: Roles and Responsibilities of Statutory Stakeholders

STAKEHOLDER	FUNCTIONS AND RESPONSIBILITIES
<p>The Environmental Commissioner (EC)</p>	<p>The Environmental Management Act (EMA) is implemented by the Environmental Commissioner (EC) in MEFT. The EC is responsible for ensuring and enforcing compliance with the relevant environmental legislations and regulations of EMA. Amongst the roles and responsibilities of the EC are to :</p> <ul style="list-style-type: none"> • amend the ECC and renewals thereof; • ensure overall compliance with the provisions of the EMP; • review this document and any revisions thereof; • undertake site audits at their discretion; • review the environmental audit reports; • review any major environmental related incidents/accidents, and • enforce the legal mechanisms for contraventions to the EMP.
<p>The Mining Commissioner (referred herein as MME)</p>	<p>Mr Foelscher is the beneficiary owner of four MCs pegged and registered in terms of the provisions of the Minerals Act. The Mining Commissioner is the person responsible for ensuring compliance of the provisions of the Minerals Act.</p> <p>Amongst the roles and responsibilities of the Mining Commissioner are to:</p> <ul style="list-style-type: none"> • allow the inclusion of BRMG and IMG on the MCC of the Mining Claim holder once an ECC is amended; • grant any future renewals of the MCs in terms of the Minerals Act; • undertake inspections/visits to the MCs at their discretion; • review exploration programme and mining plans when submitted to MME by the promoter; • receive and review annual mining reports submitted to MME by promoter; • accept, review and endorse any Mineral Agreements between the MCs and any third; • levy and collect royalty from mineral rights holders where applicable, • ensure that high standards of safety and health are upheld and maintained throughout the exploration programme , and • enforce the legal mechanisms for any contraventions of the Minerals Act pertaining to MCs.
<p>Mining Claim Holder (MCH)</p>	<p>As the promoter and mining claim holder, (Mr Foelscher) is responsible for, amongst other things, the following:</p> <ul style="list-style-type: none"> • to comply with all the terms and conditions attached to the MCs by the Mining Commissioner; • to ensure that any exploration programme and mining operations are conducted within the parameters of the relevant laws and regulations; • even if the exploration/mining is outsourced to a third party, the MC holder (Mr Foelscher) will have the overall responsibility in terms of the EMP; • to ensure that the necessary environment authorizations and permits are obtained and copies kept in the site office; • to ensure that any agreement for access and to conduct exploration activities on the three MCs is secured with the landowner. • to ensure that all the terms of the agreement between the MC holder and landowner are understood and complied with at all times. • to ensure that all parties working on the MCs, i.e. exploration subcontractor, exploration crew, employees, etc. are made aware of the terms of the agreement between the MC holder and landowner. • to compliance is maintained with all applicable legislations, regulations and policies pertaining to its sphere of operation;

STAKEHOLDER	FUNCTIONS AND RESPONSIBILITIES
	<ul style="list-style-type: none"> • to maintain an open and transparent communication with all stakeholders and authorities including reporting of any significant environmental incidents and or accidents; and • to appointment key staff members including an Exploration Manager (EM) in accordance with the labour laws.
Exploration Manager (EM)	<p>The operation entails prospecting and exploration as the main activity with related sub activities such as mining of bulk samples, loading and transport of such bulk samples for testing and analysis. There are therefore multiple tasks that have to be performed. In this connection, it is proposed that a person whose designation is that an Exploration Manager (EM) be appointed.</p> <p>The EM must be suitably qualified with appropriate experience. Among the duties and functions of the EM are to:</p> <ul style="list-style-type: none"> • ensure that the terms and conditions attached to the ECC and MCC are adhered to and copies of such documents kept at the site office; • draw up an exploration plan broken down into monthly plans with milestones that have to be achieved at certain time intervals; • appoint suitable staff and personnel for the operation in compliance with the labour laws of Namibia ensuring that a fair and transparent recruitment process is followed; • provide training to all personnel hired to work on the exploration campaign; • ensure that any third party who may be hired to work on the exploration is provided with a copy of the EMP and that the employees of such third party is well acquainted with the EMP; • maintain an open and transparent communication with all stakeholders and authorities including reporting of any significant environmental incidents and or accidents, • ensure that the employees do not engage in illicit activities such as poaching or chopping down trees in order to harvest firewood; • ensure that reports on the exploration programme are drawn up and submitted to the line ministry as provided in the Minerals (Prospecting and Mining) Act; • ensure that any complaint made by any stakeholder is recorded and corrective action taken; • effectively supervise and manage the exploration crew by ensuring that the terms of the access agreement as agreed with the landowner are complied with at all times, and • report any incidents and accidents occurring during the exploration program.

4. MITIGATION MEASURES FOR POTENTIAL IMPACTS

The mitigation measures recommended for those impacts identified during the scoping assessment are presented in this section of the EMP. Environmental Management Plans (EMPs) for which mitigation measures have been recommended with respect to the proposed activity – exploration activities to define IMG mineralisation on the four MCs.

4.1 MANAGEMENT MEASURES

Environmental management plans have been provided for those environmental impacts listed in Table 4 below.

Successful management measures will be ascertained by how well the proponent avoids, minimizes or mitigates those negative impacts that are associated with each environmental aspect.

Table 4: List of Activities and Potential Impacts

Environmental Management Plans
<p>EMP for the Planning and Mobilisation</p> <ul style="list-style-type: none">• Compliance Issues• Communication with Stakeholders & IAPs• Embracing green technology/decarbonisation
<p>EMP for Establishment of Support Infrastructure</p> <ul style="list-style-type: none">• Maintenance Yard/Workshop• Site Office• Areas for Meal Preparation and Eating• Ablution Facilities• On site Accommodation• Access Routes to Exploration Sites• Environmental Awareness
<p>EMP for Exploration Induced Impacts</p> <ul style="list-style-type: none">• The Ecosystem• Surface Water• Groundwater• Topsoil Protection and Soil Erosion• Land Use• Structural Damage to Farm Infrastructure• Landowner Security
<p>EMP for Generic Environmental Impacts</p> <ul style="list-style-type: none">• Noise Pollution• Air Quality (Dust impacts)• Waste Handling• Emergency Preparedness Plan<ul style="list-style-type: none">○ Fire Risk Plan○ Spill Management Plan• Heritage & Cultural Resources• Visual Intrusion
<p>EMP on Socio-economic Environment</p> <ul style="list-style-type: none">• Employment• Support to the Local Economy• Transfer of Skills and Technology
<p>EMP on Rehabilitation and Decommissioning</p> <ul style="list-style-type: none">• Planning• Rehabilitation of Exploration Sites• Rehabilitation of Campsite, Access Routes, Fencing & Gates• Inert Waste• Hazardous Waste

4.2 PRESENTATION OF MANAGEMENT MEASURES

The EMP for each identified potential impact has been presented in a table format as follows:

- ❖ First, the environmental impacts are listed in the first column
- ❖ Second, the objective which the management measure seeks to achieve is outlined without giving any specific targets.
- ❖ Third, various management measures or mitigation measures are presented in more details in the third column.
- ❖ Fourth, the timing when the intervention has to be made is provided, and
- ❖ Five, the person responsible to oversee that the recommended measures are implemented is provided.

Table 5: EMP for the Planning and Mobilisation

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
Compliance				
Not Applicable	All the necessary permits and licenses must be obtained in a timely manner and in place prior to starting with any exploration work.	<p>Ensure that all activities pertaining to exploration activities are compliant with applicable laws and regulations and that all the necessary licenses and permits are secured and in place.</p> <p>Copies of these documents should be kept on file at the site:</p> <ul style="list-style-type: none"> • a Valid ECC from MEFT; • a Valid Mining Claim Registration Certificate from MME; • an Access Agreement with the Landowner • Permission to establish Accessory Work from MME endorsed by the Landowner • Consumer Installation Certificate (in case more than 200 litres of fuel is stored on site) • A Water Abstraction Permit (in case water is sourced from a natural source) • Claim Beacons of each Mining Claim clearly readable and visible • Employment contractors signed by both parties and copies kept on file, 	Prior to starting with exploration activities	Promoter
Communication with Stakeholders & IAPs				
<ul style="list-style-type: none"> • Open communications enhance trust. • Lack of information or communication 	Develop open and transparent lines of communication with stakeholders and IAPs.	<ul style="list-style-type: none"> • Ensure that regular communication is provided to stakeholders and IAPs on the project and that opportunities are provided for IAPs to continue raising any concerns (complainants) about any aspect of the exploration activities / and mining operations that may be affecting them. 	Ongoing throughout the operation	Promoter /EM

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
causes mistrust which lead to operational disruptions		<ul style="list-style-type: none"> Devise and implement a stakeholder communication and engagement strategy where information sharing meetings are held with the landowner and key service providers. 	Ongoing throughout the operation	Promoter/EM
		<ul style="list-style-type: none"> Keep relevant stakeholders informed about the progress being made with exploration including any significant findings. 	Quarterly	EM/Promoter
		<ul style="list-style-type: none"> Comply with reporting requirements of the Mining Claims by submitting reports to the Mining Commissioner in the MME including significant findings. 	Monthly reports to be submitted	EM
		<ul style="list-style-type: none"> Comply with the terms of the ECC by providing reports to the office of EC. 	Bi-annual reports	EM
		<ul style="list-style-type: none"> Record any complaints received from IAPs in writing, investigate such complainants and take corrective actions. Provide feedback where warranted. 	When a complaint has been made	EM
Embrace Green Technology /Decarbonisation				
CO ₂ emission from activities	Strive to limit the carbon footprint of the exploration operation.	<ul style="list-style-type: none"> During the planning and mobilisation stages of the project, efforts should be made aimed at embracing the use of green technology for project such as this one. Green technology should be adopted when selecting equipment for the exploration campsite with emphasis given on the use of hybrid systems or those systems that can be powered by wind energy. Consider the use of solar powered equipment such as solar powered welding machines as opposed to conversional units. Where hybrid welding units are available, consideration should be given to procure such devices. Where corrugated iron sheeting is used as roofing materials, the orientation of such roofs should be such that solar panels can be installed on the rooftop to power office equipment, laptops, cellphones, security lighting, etc. Where possible, procure and install water recycling facilities including solar geysers instead of conversional geysers. Design the facility in a manner that provides adequate day natural lighting and uses energy saving bulbs. 	Plan prior to procurement	EM/Promoter

Table 6: EMP for the Establishment of on-site Support Infrastructure (Accessory Work)

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
Construction of the Maintenance Yard /Campsite				
<ul style="list-style-type: none"> Vegetation clearance Habitat destruction Visual nuisance Tampering of soil Potential contamination of surface & groundwater 	Limit the extent of areas to be cleared for the construction of on-site support infrastructure within a site that has been clearly demarcated.	<ul style="list-style-type: none"> Site the maintenance yard (or campsite) on disturbed areas within the confines of one of the four Mining Claims held by the promoter. The maintenance yard selected must be big enough to accommodate all requirements of the exploration activities – machinery, equipment, vehicles, site office, ablution facilities, temporary accommodation for exploration crew, etc. Site the maintenance yard away from any visible sensitive areas such as dry river streams, slopes of mountains, elevated areas, etc. Try to position the maintenance yard out of sight of the gravel route C36 which is used by public including tourists All machinery and plants must be stored and parked at such a place when not being used. A designated section of the yard must serve as a workshop area where repairs and servicing of machines and equipment take place. The designated workshop section must be concrete lined and bunded. 	Examine before erecting a campsite and throughout the exploration period	Promoter /EM
Site Office				
<ul style="list-style-type: none"> Same above 	Ensure that proper records are kept at the site.	<ul style="list-style-type: none"> Establish container offices on the campsite where to perform administrative work for the exploration operation. Copies of the MCs and ECC must be kept at the site office. Ensure that an adequate number of fire extinguishers is provided and a first aid that is well stocked. Contact numbers for the nearest local police, nearest clinic, ambulances, etc. should be clearly displayed at the site office. All records pertaining to the exploration operation must be kept on files at the site office, e.g. number of people employed (locals and foreigners), number of core drill holes to be drilled, position of site drill holes on the Mining Claim, etc. must be kept at the site office. All records kept at the site office must be made available to GRN officials upon request. 	Prior to construction, throughout the operational lifespan of the activity	EM/Promoter
Ablution Facilities				
<ul style="list-style-type: none"> Potential pollution of groundwater & surface water sources Odour Unightly /Eyesore 	Provide ablution facilities that meet high standards of hygiene and cleanliness	<ul style="list-style-type: none"> Adequate ablution facilities should be provided in line with the number of people employed for the exploration activities. Ablution facilities must not be allocated within 100 m of any known stream channel, pond or any surface water. Consent of the landowner (Farm Manager) must be obtained prior to the construction of any ablution facilities. 	Prior to establishing and throughout the exploration phase	EM

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
		<ul style="list-style-type: none"> The ablution facilities should be designed by an experienced professional and constructed by an experienced contractor. Ablution facilities should be cleaned daily, kept well maintained such that any leaks which may occur are detected early and repair work done. 		
Areas for Meal Preparation and Eating				
<ul style="list-style-type: none"> Smoke Fire Risk Dust pollution Dirt attracts flies/rodents 	Provide a designated area for food preparation & eating by the exploration crew	<ul style="list-style-type: none"> The food preparation and eating areas must be protected against the elements (sun, wind and rain). Locate the food preparation and eating areas away from waste storage areas, hazardous materials stores, fuel storage and dispensing areas and any other activity that may contaminate food or impair comfort. An adequate number of waste bins must be provided to contain waste generated and emptied at least weekly. The eating area shall make provision for smoking area including seating and a fire proof sand filled container for extinguishing cigarettes. Keep the food preparation and eating areas neat and tidy at all times. 	During the construction and throughout the exploration period	EM
Onsite Accommodation				
<ul style="list-style-type: none"> Vegetation clearance Visual nuisance Sewerage impact Noise 	Ensure that onsite ablution that comply with standards and norms are provided	<ul style="list-style-type: none"> If personnel is allowed to reside on the campsite, the number of the people involved should be communicated to and agreed with the Farm Manager. Decent mobile accommodation (i.e. prefab containers, etc.) and cooking facilities should be provided for the personnel who choose to reside on the campsite. Movements of personnel in and out of the campsite during weekends, public holidays and after hours should be agreed with the Farm Manager. 	Ongoing throughout	EM
Access Routes to Exploration Sites				
<ul style="list-style-type: none"> Vegetation clearance Habitat destruction Visual nuisance Tampering of soil Dust 	Limit and confine the clearing of access routes within clearly demarcated areas.	<ul style="list-style-type: none"> Existing routes on the mining claims should be made to access exploration sites within such mining claims. Where a new route has to be made, efforts should be made to locate such route on disturbed areas of the mining claim as far as possible. When selecting the location/position of any new route, sensitive areas should be avoided as far as possible. When it is unavoidable to make use of existing routes with the mining claim, written consent has to be obtained from the Farm Manager to construct a new access route outside the mining claims. The route whose construction allows the least removal of bushes and trees (vegetation) should be selected. No more than two roads should be constructed to access an exploration site; 	Prior to exploration activities And Throughout the exploration	EM

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
		<ul style="list-style-type: none"> • All exploration vehicles should be operated on this road only and no off-road driving is allowed; • Speed limit on access route should be a maximum of 30 km/hr • Ensure that access routes are well maintained. 		
Environmental Awareness				
Positive benefits /impacts	All the personnel involved in the project must be aware and familiar with environmental requirements for the project.	<ul style="list-style-type: none"> • The proponent has the responsibility to ensure that all personnel working on the exploration are provided with an. The training should amongst other things, cover these aspects: <ul style="list-style-type: none"> ○ How the exploration activities can impact on the environment and what can be done to mitigate such impacts. ○ Exploration crew should be made aware of the appearance of possible archaeological or historical objects and what to do in the event of such objects having been unearthed during exploration activities. ○ Management and minimising of waste ○ Spill prevention and clean-up procedures ○ Responsible handling of chemicals and spills ○ Emergency procedures and incident reporting ○ Making staff aware of risk and dangers in regular tool box talks, and ○ Code of conduct. • Environmental awareness must be created through the use of signage, posters and regular tool box talks; • Create awareness of water conservation in environmental awareness training by highlighting simple water savings tips such as fixing leaks on hosepipes, etc. • Include observations of unnecessary water use during site inspections; • Encourage water recycling especially during drilling of core drill holes. • Where possible water should be recycled • Dust suppression should be made without causing water pooling and or water runoff from the exploration site. 		

Table 7: EMP for Exploration Induced Impacts

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
Impacts on the Ecosystem				
<ul style="list-style-type: none"> Loss or disturbance to vegetation from vehicles traversing areas or on-site activities; Disturbances to fauna including species of conservation concern, as a result of on-site activities; and Alien and invasive species establishing in disturbed areas. 	Ensure that minimal impact is caused on the ecosystem	<ul style="list-style-type: none"> Areas targeted for exploration drilling within each mining claim must be identified and their positions demarcated on the map for that specific mining claim. The shortest route to the drilling site must be determined from the existing internal routes on the mining claim. Efforts should be made to site core boreholes to be drilled on disturbed areas of the mining claim avoiding any sensitive areas. Existing routes within each mining claim must be used to access sites identified for exploration drilling. Where a new route has been made, such route must be well planned and clearly demarcated. Restrict movements of vehicles to existing roads and tracks, as far as possible; Impose and enforce speed limits on mining claim internal routes; Implement buffer zones or no-go areas within those mining claims where such sensitive areas exist. Where possible, exploration operations should be scheduled to take place during least sensitive periods, avoiding migration and nesting and or mating season. Train exploration crew members on the EMP. 	<p>Prior to setting up support infrastructure</p> <p>Throughout the project activities</p>	EM
Impacts on Surface Water Sources				
<ul style="list-style-type: none"> Altered surface water hydrological pattern Contamination of surface water sources 	Exploration activities may not contaminate surface water sources.	<ul style="list-style-type: none"> Where feasible adjust the final drill site location to accommodate any identified onsite environmental sensitivities such as already disturbed areas, dry water streams, river beds, etc. Locate surface sumps in such a manner that avoids or reduces potential contamination of surface water resources. The topography, natural drainage and site run-off into account should be taken into account when locating surface sumps. As a precautionary measure, a buffer (no-go area) between core boreholes / sump ponds and any surface water resources must be implemented . Ensure that an appropriate buffer is determined. 	Throughout the exploration phase	Promoter /EM

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
		<ul style="list-style-type: none"> • Ensure that adequate maintenance of vehicles and machinery is employed throughout the exploration phase. • Maintain a high standard of good housekeeping practices (including spill prevention and response); and • Implementation of an adequate waste management plan is recommended. 		
Impacts on Groundwater				
<ul style="list-style-type: none"> • Altered hydrogeological pattern and groundwater availability • Contamination of groundwater 	Exploration activities may not contaminate groundwater sources	<ul style="list-style-type: none"> • Ensure suitable casing of core holes through the aquifer layers; • Select the least hazardous and / or bio-degradable additives and use the smallest volumes of these; • Use appropriate management and disposal of drilling fluids on surface; • As a precautionary measure, implementation of a buffer zone (no-go area) between core holes and active water production boreholes is recommended. • An appropriate buffer would need to be determined; • Adequate maintenance of vehicles and machinery; • Implementation of an adequate waste management plan; • Good housekeeping practices (including spill prevention and response), and • Monitoring of groundwater in active water boreholes in close proximity to exploration boreholes. 	Examine before erecting a campsite and throughout the exploration period	Promoter /EM
Topsoil Protection and Soil Erosion				
<ul style="list-style-type: none"> • Physical impact on soil (increases erosion and compaction) • Potential contamination of soil 	Strive to conserve topsoil and prevent soil erosion	<ul style="list-style-type: none"> • Topsoil should only be stripped from the areas as indicated below: <ul style="list-style-type: none"> ○ Any area which is to be used for the temporary storage of materials; ○ Areas which could be polluted by any aspect of the exploration activities; and ○ Areas designated for the erection of drilling platforms or core boreholes sumps or dumping of soil. • Stripping of topsoil should be undertaken in such a manner as to minimise erosion by wind or runoff. • Areas from which the topsoil is to be removed must be cleared of any foreign materials which could form part of the topsoil and contaminate such topsoil during its removal during. • Subsoil and topsoil should not be mixed during stripping, excavation, reinstatement and rehabilitation. Mixing subsoil and topsoil will compromise the usefulness of the topsoil for future rehabilitation. • Topsoil should be temporarily stockpiled, vegetated with indigenous grasses or 	Ongoing throughout the exploration work	EM

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
		<p>covered by a suitable fabric to prevent erosion and invasion of weeds.</p> <ul style="list-style-type: none"> Heavy vehicles may not ride over topsoil to avoid compaction. 		
Land Use				
<ul style="list-style-type: none"> Disruption of land user' activities; Reduction of trophy hunting activities; Impeded game viewing farming activities; Potential loss of income on land covered by mining claims; Potential loss of productivity on disturbed land. 	Keep disturbance to land use activities to the minimum.	<ul style="list-style-type: none"> Confine the exploration campsite, drilling sites and or access routes within the boundaries of the mining claims and to already disturbed areas. Demarcate drill sites in order to minimise the extent of the drilling footprint and to ensure livestock and wildlife are kept away from exploration activities; Any loss of income resulting from the land taken up by exploration activities should be determined between the landowner and the promoter and compensation accordingly agreed. Ensure adequate consultation with the landowner prior to and during on-site exploration activities; Rehabilitate areas disturbed by exploration activities in which no mineral finding was made, as soon as activities are completed to re-establish the pre-exploration land use. Land disturbed by exploration must be rehabilitated and freed up for farming operations. The land where minerals have been confirmed by exploration must be clearly demarcated. 	Prior to starting with exploration work and throughout	EM / Farm Manager
Structural Damage to Farm Infrastructure				
<ul style="list-style-type: none"> Damage to farm gates; Damage to farm fences; Damage to water pipelines on farmland Potential damage to farm internal routes. 	Ensure that exploration activities do not cause damage to farm infrastructure	<ul style="list-style-type: none"> Confine exploration activities to already disturbed areas within each mining claim. Maintain a decent buffer zone between farm infrastructure and exploration drill sites. Confine movements of machinery and exploration vehicles on existing farm routes and on mining claim internal routes. Any new access route which needs to be constructed must be well planned, clearly demarcated and written consent obtained from the Farm Manager/landowner. Any damage to farm infrastructure resulting from exploration activities must be reported to the Farm Manager/landowner and repaired effected at the cost of the promoter. Damaged infrastructure must be repaired to the satisfaction of the Farm Manager/landowner. Exploration crew should be made aware that they are on someone's private property and willful damage to infrastructure in not allowed. 	Prior to starting with activities and daily throughout	EM/ Farm Manager
Landowner Security				
<ul style="list-style-type: none"> Threat from increased number of 		<ul style="list-style-type: none"> Avoid the creation of new access points to the farm, as far as possible; Fence off the campsite and any laydown areas in order to prevent unauthorised 	Throughout the exploration phase	EM/ Farm Manager

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
<p>people on the farm;</p> <ul style="list-style-type: none"> • Uncontrolled access to farm property; • Potential theft; • Poaching; • Fire risk; 		<p>access. Strict access control and a method of identification of site personnel are required at all times.</p> <ul style="list-style-type: none"> • Access into and out of the farm should be through a single entry gate which is security manned. • Working hours should be kept between 07h00 and 17h00 and should be agreed with the Farm Manager. • The number of people involved with exploration operation who will be residing on the exploration campsite should be agreed with the landowner. • Each employee should have an identification card bearing his full names at all times. • Ensure that the exploration crew is under constant supervision and do not enter adjacent farms or areas outside the mining claims under any circumstances except on official business; • The supervisor or Exploration Manager should be notified of any visitors well advance. • Alert the Farm Manager/landowner of any suspicious movements on the farm by people who are not in the employment of the promoter. • Poaching or hunting of wildlife on the farm is strictly forbidden. 		

Table 8: EMP for Generic Environmental Impacts

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
Noise Pollution				
<ul style="list-style-type: none"> Noise from machines Noise from personnel 	Protect amenity values, operational efficiency by keeping noise levels within acceptable parameters.	<ul style="list-style-type: none"> All diesel-powered machinery should be well maintained and routinely serviced and defective silencers replaced. Limit non-routine noisy generating activities such as maintenance of machinery, plants and equipment to day-time hours. Machinery & plants that are used intermittently should be shut down between work period or throttled down to a minimum and not left running unnecessarily. This practice will reduce noise and at the same time conserve fuel. Maintain an appropriate buffer between exploration sites where drilling is taking place and the nearest receptor(s) should be maintained. Provide suitable PPEs to employees working in areas where noise levels are elevated. When possible and practical, work should be limited to daylight hours – between 06:00 and 18:00. Permission to work outside these times will require approval of the Farm Manager, No sound amplification equipment is allowed for use on the campsite unless in emergency situations. 	Ongoing throughout the operation	EM
Air Quality or Emissions (Dust)				
<ul style="list-style-type: none"> Dust Smoke 	Protect amenity values by ensuring that the air quality is not compromised	<ul style="list-style-type: none"> Exhaust emissions from exploration machinery and equipment must be minimised through regular maintenance and servicing, Any vegetation clearance during the establishment of the support infrastructure must be limited to area/sites that are identified and clearly demarcated. If fine building materials, such as sand, are to be transported on the back of tipper trucks, they must be adequately covered. A “complaints register”, consisting of all complaints received and actions taken in response to these complaints, must be maintained. A speed limit of 30km/h must not be exceeded when travelling on mining claims internal routes. 	Duration of the exploration phase	EM
Waste Handling & Disposal				
<ul style="list-style-type: none"> Pollution of the exploration campsite and surroundings; Visual intrusion; Health hazards, and Amenity nuisance. 	Enhance and protect amenity values by promoting a hygienic and waste-free working environment.	<p>Non-hazardous Waste:</p> <ul style="list-style-type: none"> Develop an in-house waste handling plan for the exploration operation which includes keeping various types of waste separate. Procure adequate waste bins for operation which should be colour coded for the temporary storage of waste. Non-biodegradable and recyclable waste (plastics, cans, bottles, packaging materials, metal scraps, etc.) should be stored in containers and disposed of on a regular basis to the waste facilities either at Karibib or Omaruru. Organic waste (food items, potatoes skins, etc.) should be stored in bins with secure lids 	Daily throughout the exploration project	EM

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
		<p>to prevent scavengers and wildlife from gaining access to such waste.</p> <ul style="list-style-type: none"> • Avoid wind dispersal of papers and plastics as it results in visual nuisance. Plastics can be fatal to animals when confused. • Scrap metals should be offered to scrap companies for sale. • Under no circumstances should waste be buried or burned on the property • Maintain a high standard of housekeeping. 		
<ul style="list-style-type: none"> • Leaks of fuel, oil, drill chemicals, • Spill • Contamination of surface and groundwater sources; 		<p>Hazardous Waste</p> <ul style="list-style-type: none"> • Develop a hazardous waste management plan for the exploration operation. • Ensure that training on the handling and management of hazardous waste is given to all prospective exploration crew /employees. • Any fuel spill that occurs should be contained and immediately cleaned up by scooping out the entire fuel/oil soaked soil and storing such in leak-proof container for disposal at the Karibib landfill facility. • Used oil, filters, fuel soaked soil, batteries, etc. should be placed a in leak-proof container for disposal in a responsible manner at Karibib landfill facility. • Fuel and refueling should be handled by properly trained personnel. 	Daily throughout the exploration phase	EM
Emergency Preparedness Plan				
<p>An Emergency Preparedness Plan (EPP) to ensure that impacts are limited and or addressed accordingly. The EPP should have these details as a minimum:</p> <ul style="list-style-type: none"> • Telephone number of the nearest police • Nearest Ambulance Services • Nearest Clinic/hospital • Emergency Response Person • List of emergencies that may arise • Procedure to follow in the event of emergency 			Prior to starting with exploration	Promoter EM
Fire Management Plan/Risk	Prevent potential fires occurring on site	<ul style="list-style-type: none"> • The exploration crew must take all responsible steps to prevent the accidental occurrence and spread of fire during the exploration activities. • Ensure that exploration crew is given the basic training on how to combat wild fire. • Avoid making open fire in the veld unless at designated areas of the campsite. • Batteries should be encased in protective covers and or insulated. • Adequate fire-fighting equipment should be readily accessible and kept in a good working order. • No smoking should be allowed in areas where there is a fire hazard, i.e. near fuel storage area. • The exploration crew must be made aware of the risk of fires, the procedure to be followed in the 	Ongoing throughout the project	EM

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
		<p>event of a fire and they must have access to the relevant contact details of the nearest Fire and Emergency Services.</p> <ul style="list-style-type: none"> Clear a fire-break around the perimeter of the campsite if open fire is used. 		
Spill Management Plan	Prevent spills of hazardous products on site	<ul style="list-style-type: none"> In the event of a spill, quick and effective remedial action must be taken to ensure little or no significant impact occurs. Should a spill occur the correct reporting procedure is to be implemented. In the event of a hydrocarbon spill, the source of the spillage shall be isolated, and the spillage contained. The contaminated area must be unearthed to the point of infiltration. The entire fuel-soaked soil should be scooped and stored in a leak-proof container for disposal at an offsite licensed landfill site. In-situ treatment and rehabilitation of contaminated soil is not allowed. All contaminated soil and materials must be treated as hazardous waste and disposed of at a licensed facility. A spill prevention plan which includes the use of drip trays and training of personnel dealing with hazardous substances must be drawn up and implemented. Fuel/oil spill in excess of 200 liters is considered an emergency which should be reported to the line ministry. 	Duration of the project	EM
Archaeological and Cultural Resources				
<ul style="list-style-type: none"> Damage to items of cultural importance Destruction of artefacts Damage to graves 	Respect and protect heritage and cultural resources	<p>Graves of dead people (some marked and unmarked) are found on the farms in the district of Omaruru. Items of cultural interest dating back many years ago have been found in the area. It is therefore important that prospective employees are trained on the 'chance find' method.</p> <p>Action required from the individual who discovers an archaeological site or item:</p> <ul style="list-style-type: none"> If operating a machine, stop work immediately. Mark the site with flag tapes. Determine GPS reading if possible. Report findings to immediate Mining Supervisor. <p>Action by the Site Foreman or Supervisor</p> <ul style="list-style-type: none"> Visit site and ascertain if work can continue without any damage to the findings. Determine and mark exclusion boundary. Site location and details to be added to the project GIS for field confirmation by an archaeologist. <p>Action by Exploration Manager</p>	When a 'chance find' is made	<p>Machine Operator</p> <p>Foreman</p> <p>Exploration Manager</p>

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
		<ul style="list-style-type: none"> • Inspect site and invite officials from NHC to visit the site • Confirm addition of the item to project GIS. • Advise NHC and request written permission to remove findings from the working area. <p>Action by an Archaeologist</p> <ul style="list-style-type: none"> • Inspect site and confirm addition to project GIS. • Advise NHC and request written permission to remove findings from the working area. • Under the supervision of an archaeologist, recover, pack and label finding for transfer to National Museum. <p>If discovery is human remains proceed as follows:</p> <ul style="list-style-type: none"> • Actions as above. • Report find to the nearest Namibian Police • Report to NHC in Windhoek and invite them to the site • Field inspections by archaeologist to confirm that remain is human. • Advise and liaise with NHC and NamPol on removal. 		
Visual Impacts				
	Ensure that siting of support infrastructure does not result in negative impacts	<p>Support Infrastructure :</p> <ul style="list-style-type: none"> • Locate and site infrastructure away from sensitive and elevated areas. • Where possible infrastructure that can be painted should be painted with a colour that makes such infrastructure to blend in well with the natural surroundings. <p>Waste</p> <ul style="list-style-type: none"> • All general waste, which is temporarily stored on site must be done in windproof or sealable containers before being disposed of at a registered landfill site (Karibib or Omaruru). • Windblown papers and plastics around the campsite and exploration sites, campsite premises, workshop, etc. should be regularly picked up to avoid visual nuisance. <p>Disturbances</p> <ul style="list-style-type: none"> • Soil disturbance and any vegetation clearance should be limited to approved and demarcated exploration footprint. • Temporarily disturbed areas must be rehabilitated as soon as practically possible. <p>Lights</p> <ul style="list-style-type: none"> • Light areas where movements occur such as pathways and internal routes with low level light and avoid post top lighting. 	<p>Prior to establishing support infrastructure</p> <p>Throughout the exploration phase</p>	Promoter/EM

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
		<ul style="list-style-type: none"> Any security light installed at the campsite should direct light inwards and not outwards to the surroundings. Ensure that the layout of the lighting at the facility, its extent and intensity do not become a nuisance to the neighbouring properties or a safety hazard to animals at night. 		
Complaint Management				
	Establish and maintain a Complaint Registry at the site office	<ul style="list-style-type: none"> Develop processes and procedures to effectively address all complainants received; All complainants should be recorded in writing with the date, time and the complainant (unless the complainant choose to remain unanimous); All complainants will be acknowledged within 24 hours. Respond effectively to all complainants within 48 hours, unless additional information or clarification is required. When a member of the exploration crew is approached by a community member, the crew member should be polite and courteous and the community member referred to the relevant staff member who will deal with complainant. 	Throughout the duration of exploration	EM

Table 9: EMP on Socio-economic Environment

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
Employment Creation				
Positive impacts : <ul style="list-style-type: none"> • Salary, • Wages, • Benefits, etc. • Influx of job seekers on the farmland (negative) 	Optimize benefits to the local community without causing the influx of job seekers on to the farmland or neighbouring towns.	<ul style="list-style-type: none"> • Establish an employment strategy that is known and communicated to job seekers. • Aim to recruit as many unskilled, low-skilled and semi-skilled workers from the local area as much as possible so that labour intensiveness is maximised. • Hire without discrimination on the basis of gender, race, language, background, religion or political affiliations. • Prospective employees should be informed that work is for an exploration phase only and therefore temporarily. • To prevent the negative impacts of the potential influx of job seekers onto the farmland, recruitment of prospective employees must not be done at the project site but outside the farmland – either Omaruru or Karibib. • Prevent loitering and the construction of informal shacks on the campsite or in the vicinity of the construction camp and laydown areas. 	At the beginning of exploration and throughout the duration of the project	EM
Skills & Technology Transfer				
Positive impacts: <ul style="list-style-type: none"> • Knowledge, • Experience 	Ensure that skills and technology is transferred to new employees	<ul style="list-style-type: none"> • Provide on-the-job training opportunities to help employees to improve their skills level which ultimately leads to high productivity, reduced wastage, motivation, high morale and efficiencies. • Keep proper records on the number of employees trained. 	At the beginning & throughout	EM
Boost to Local Economy				
Positive impacts: <ul style="list-style-type: none"> • Increased buying power • Improved standard of living 	Support local businesses by doing business with them.	<ul style="list-style-type: none"> • Source and procure goods required for the exploration operation from local suppliers: spare parts, fuel, oil lubricants, etc. • Make use of local small-scale contractors for activities such bush clearing, installation of fencing, sanitation, etc. who are experienced and with good references. 	Throughout the operation	EM
Housekeeping Rules at the Campsite				
Negative impacts if poor managed of: <ul style="list-style-type: none"> • Theft • Poaching • Noise • Vandalism 	Promote a harmonious relationship at the campsite amongst the employees.	<ul style="list-style-type: none"> • No alcohol, drugs, firearms, dangerous knives, etc. must be brought to the campsite. • Stealing of company assets is strictly forbidden and offers will be dismissed. • No abuse of resources will be tolerated (water, fuel, toilet papers, etc.) • No poaching or harvesting of firewood by employees will be tolerated. • Accommodation of friends including boyfriends and girlfriends as well as children is not allowed. • Waste, both non-hazardous and hazardous at the campsite must be handled in the line with the provisions of that section in this EMP. 	Throughout the exploration phase	EM

Table 10: EMP for Rehabilitation and Decommissioning

Environmental Impact(s)	Environmental Objective(s)	Management Actions/ Mitigation Measures	Timing /Frequency	Responsible Party
Planning				
No impacts	Ensure that rehabilitation is well planned and carefully executed.	<ul style="list-style-type: none"> A decommissioning and rehabilitation plan must be developed at the beginning of the exploration phase and periodically reviewed and revised during the duration of exploration activities. A budget for decommissioning must be developed and funds set aside for decommissioning and rehabilitation right from the beginning of the operation. Prior to decommissioning the landowner and other stakeholders should be informed and made aware of the intended plan. 	The plan must be ready prior to starting with exploration and reviewed throughout the duration of exploration activities	Promoter EM
Rehabilitation of Exploration Sites				
<ul style="list-style-type: none"> Soil erosion Visual nuisance Dust Potential contamination of surface and groundwater sources 	Minimise impacts	<ul style="list-style-type: none"> As soon as exploration activities are complete and the campsite vacated by personal not required for rehabilitation, the area must be rehabilitated by appropriate landscaping, levelling, topsoil dressing, land preparation, alien plant eradication and vegetation establishment; All exploration machinery, equipment, storage containers, temporary fencing, temporary services, fixtures and any other temporary works shall be cleared and completely removed from the exploration campsite; Materials that will not be used again must be sold if possible or completely removed, and Excavated or stripped surfaces should be covered with topsoil to allow for vegetation to grow. Any prospective berms diverting surface flow should remain to avoid any erosion of the soil cover. Excavated areas that are backfilled fully or partially, the infill materials must be contoured to blend in well with the natural surrounds. Complete backfilling may not be undertaken if the material required for backfilling is unavailable or the procurement of such materials will cause undesirable environmental impacts. Rehabilitation should be carefully executed without causing further undesirable disturbances to the environment. Core holes that are required for further investigation must be capped while those no longer needed must be sealed with cement. Rehabilitated areas should be regularly checked or monitored to assess the effectiveness of rehabilitation and vegetation regrowth. 	Rehabilitation period	EM Landowner
Rehabilitation of Campsite, Access Routes, Fencing & Gates				
Same as above		<ul style="list-style-type: none"> During the rehabilitation of exploration sites the campsite should remain active and preferably fenced in with access allowed via a single 		

		<p>locked gate. Fencing will prevent uncontrolled access by animals and humans.</p> <ul style="list-style-type: none"> • The campsite should be rehabilitated last because the personnel required for rehabilitation have to stay there. In the event of a mineral deposit having been discovered the can be mined profitably, the campsite maybe required for mining operations. • Access roads leading to exploration sites where no mineral discovery was made should be rehabilitated unless the landowner prefers to retain such roads for farming operations. • Access roads leading to exploration sites where mineral discovery was made should be retained for future mining operations of such minerals. • The surface of the access roads to be rehabilitated must be ripped deep to alleviate compaction and countered in order to restore natural drainage and to encourage re-growth of natural vegetation. • Liaise with the landowner if he wants the fencing around the campsite removed or if it should be retained for future farming operations. • Remove the fence around the campsite and any gates and fixtures and offer to scrap dealers for sale. 		
Inert Waste				
		<ul style="list-style-type: none"> • All inert waste and rubble should be cleared and removed from the construction site. After the material has been removed, the site must be re-instated and rehabilitated, and • All domestic waste shall be removed from the site and disposed of to an approved licensed waste disposal site 		
Hazardous Waste and Pollution Control				
		<ul style="list-style-type: none"> • All temporary fuel stores, hazardous substance stores, hazardous waste stores and pollution control sumps must be removed from the site; • Hazardous waste must be disposed of by a registered contractor to a registered waste site; • All pollution containment structures must be removed from site. Dispose of materials that will not be used again as hazardous waste; • All temporary sanitary infrastructure and waste water disposal systems shall be removed from site; and • Leaks, overflows and spills must be avoided, and any waste must be disposed of in an appropriate manner 		

5. MONITORING

The monitoring programme contained in this EMP shall be used to monitor the impacts associated with the project and to ensure that the mitigation measures are effective and sustainable

5.1 PHOTOGRAPHIC RECORDS

Photographic records should be kept and submitted with the audit reports. The photographic records shall include:

- Dated photographs of the sites to be impacted before construction commences,
- Dated photographs of the sites during construction on a monthly basis, and
- Dated photographs of all the sites after completion of construction seasonally.

5.2 ENVIRONMENTAL MONITORING

The monitoring program for this project is presented in Table 11.

5.3 REPORTS

One of the conditions of the MCs is for production reports to be submitted to MME monthly. With respect to monitoring of those environmental aspects that require monitoring as listed in Table 11, reports should be prepared and submitted to the office of the EC on a bi-annually basis from the date of issue of the ECC.

Table 11: Environmental Monitoring Programme

ASPECTS TO BE MONITORED	PARAMETER	LOCATION/WHERE	FREQUENCY				START DATE	REMARKS
			D	W	M	Y		
Ablution Facilities								
Cleaning	Visual inspection	Campsite	X				Throughout the exploration & rehabilitation phases	This will continue until rehabilitation is completed and
Leaking	Visual inspection		X					
Functioning	Test			X				
Meal Preparation and Eating Areas								
Dust	Visual inspection	Campsite	X				Duration of exploration and rehabilitation periods	Maintain a high standard of cleanliness
Tidiness/cleanliness	Visual inspection	Campsite	X					
Maintenance Yard								
Oil/fuel leaks	Visual inspection	Laydown areas of the campsite	X				Daily during working days	Pre-start checklist must be completed each day prior to using a machine or equipment
Storage areas: fuel, oil, batteries, chemicals, etc.	Visual/check	Campsite & laydown areas		X		X	Check at least quarterly and report annually	Access to be restricted to key personnel who are well trained and experienced
Fire extinguishers	Functionality	Laydown Areas				X	Throughout the duration of exploration	Personnel must be trained on how to use equipment
Waste								
Windblown papers & plastics	Handpicking	Around the campsite, access routes and exploration sites			X		Throughout the duration of exploration activities	PPE and collection bags to be provided
Handling & Storage	Maintain a waste manifest book to record volume of	All project sites/area Campsite & explosion sites	X				Throughout the duration of the project	Landfill site permits to be kept on file at the project site office

ASPECTS TO BE MONITORED	PARAMETER	LOCATION/WHERE	FREQUENCY				START DATE	REMARKS
			D	W	M	Y		
	waste leaving the site including recyclable							
Oil /fuel leaks	Visual inspections of machinery & vehicles used in exploration activities	Laydown areas	X				Throughout the duration of the exploration phase	Daily checklist should be completed each day a machine/vehicle is used
Disposal	Keep safe disposal certificates on file at the site office of Hazardous waste	All project sites		X			Duration of the project	Disposal certificates from landfill site to be kept on file at site office
Soil								
Topsoil stockpiles	Visual	Exploration sites			X		Duration of the project until topsoil has been used for rehabilitation	Take photographs of stockpiles before and after rehabilitation
Erosion	Visual	Where vegetation has been cleared				X	Check before the rainy season, during the rainy season and immediately after rainy season	Take photographs before the rainy season and after the rainy season
Exploration Sites (sites where diamond core drilling took place)								
Noise pollution	Hearing nuisance	Exploration sites when diamond core drilling	X				During core hole drilling operations	Any complainants received. Provide suitable PPEs
Dust generated	Visual nuisance	Exploration sites where diamond core drill works	X				During core hole drilling activities	Provide suitable PPEs
Capped or plugged core holes	Visual inspection					X	Check once yearly	For core holes that will be revisited in future where mineral has been intersected.
Cemented core holes	Visual inspection only					X	Check once yearly	For those core holes where nothing was intersected – to be permanently sealed.

ASPECTS TO BE MONITORED	PARAMETER	LOCATION/WHERE	FREQUENCY				START DATE	REMARKS
			D	W	M	Y		
Water recycling and re-use	Visual inspection	Exploration sites during drilling operations	X				During drilling operations	
Air Quality								
Dust	Visual inspection Nuisance	Access routes Exploration sites	X				Throughout the duration of exploration activities	Provide suitable PPEs to employees working in dusty areas
Flora								
Alien invasive vegetation	Any declared invasive species vegetation	All areas in which vegetation clearance occurred				X	All areas where vegetation disturbed	Take photographs before and after rehabilitation
Rehabilitation								
Visual inspection/observation where areas have been rehabilitated	Aerial cover Basal cover Vegetation species	All rehabilitated project areas: campsite, laydown areas, access routes, exploration sites, etc.			X		After rehabilitation has been completed	Take photographs before rehabilitation and after rehabilitation

6. DECOMMISSIONING

The promoter should develop a decommissioning plan right at the beginning of the exploration activities and commit to implement such a plan. It is also crucial for the decommissioning plan to make provision for unplanned closure, i.e. as a result of unfavourable economic circumstances, declined demand for the discovered BRMG or IMG.

It is also advisable to set funds aside for decommissioning.

7. CONCLUSIONS AND RECOMMENDATION

Although every attempt has been made to address all possible potential mitigation measures in this document, the EMP should be considered as a day-to-day management tool, which sets out the minimum environmental and social standards that are required, to minimise the negative impacts and maximize the positive benefits of the envisaged project.

The EMP should be reviewed on an on-going basis and any changes or amendments made communicated to the EC. Based on the scoping assessment it is incumbent upon the proponent, once all operational infrastructure and accessories have been established, to make a careful assessment of whether any modifications to the mitigation measures, as proposed in this EMP may be required, in order to improve the overall efficiency and applicability of the EMP to the prevailing operational circumstances.

Apart from the legal compliance, adherence to the recommendations in this EMP will result in a well-managed exploration operation, which in turn will minimise operational costs, and potential negative environmental impacts.

Ekwao Consulting is confident that the management measures outlined in this EMP are adequate to mitigate the impacts and threats to the environment and the general public.

It is recommended that the ECC be amended to include the exploration of BRMG and IMG on the four Mining Claims held by Mr Jeano Foelscher since 2007.