

ENVIRONMENTAL MANAGEMENT PLAN REPORT:
FOR THE EXPLORATION OF BASE AND RARE METALS, DIMENSION STONE,
INDUSTRIAL MINERALS, NUCLEAR FUELS AND PRECIOUS METALS ON
EXCLUSIVE PROSPECTING LICENSE (EPLs) NO.9441 AND 9800
OMARURU AND KARIBIB DISTRICT, ERONGO REGION – NAMIBIA
APP No. 5076 AND 5077
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COMPILED BY



SS CONSULTANTS

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LIST OF ABBREVIATIONS

DEAF	Department of Environmental Affairs and Forestry
DWA	Department of Water Affairs
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPL	Exclusive Prospecting License
GG & GN	Government Gazette & Government Notice
MAWLR	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment, Forestry & Tourism
PPE	Personal Protection Equipment

1 INTRODUCTION

1.1 Project Overview

SS Consultants CC (herein referred to as the Consultant) has been appointed by Madini Exploration and mining cc(herein referred to as *the Proponent*) to apply for and obtain an Environmental Clearance Certificate (ECC). The Proponent intends to prospect/ explore for base and rare metals, dimension stone, industrial minerals, nuclear fuels and precious metals on EPL No. 9441 and 9800. Prior to commencing with proposed exploration activities, an Environmental Impact Assessment (EIA) process undertaken by the Proponent is required, thus the 'pending' status for the application rights for the proposed exploration activities for base and rare metals, dimension stone, industrial minerals, and precious metals on EPL No.9441 and 9800 as shown in **Figure 1-1** below.

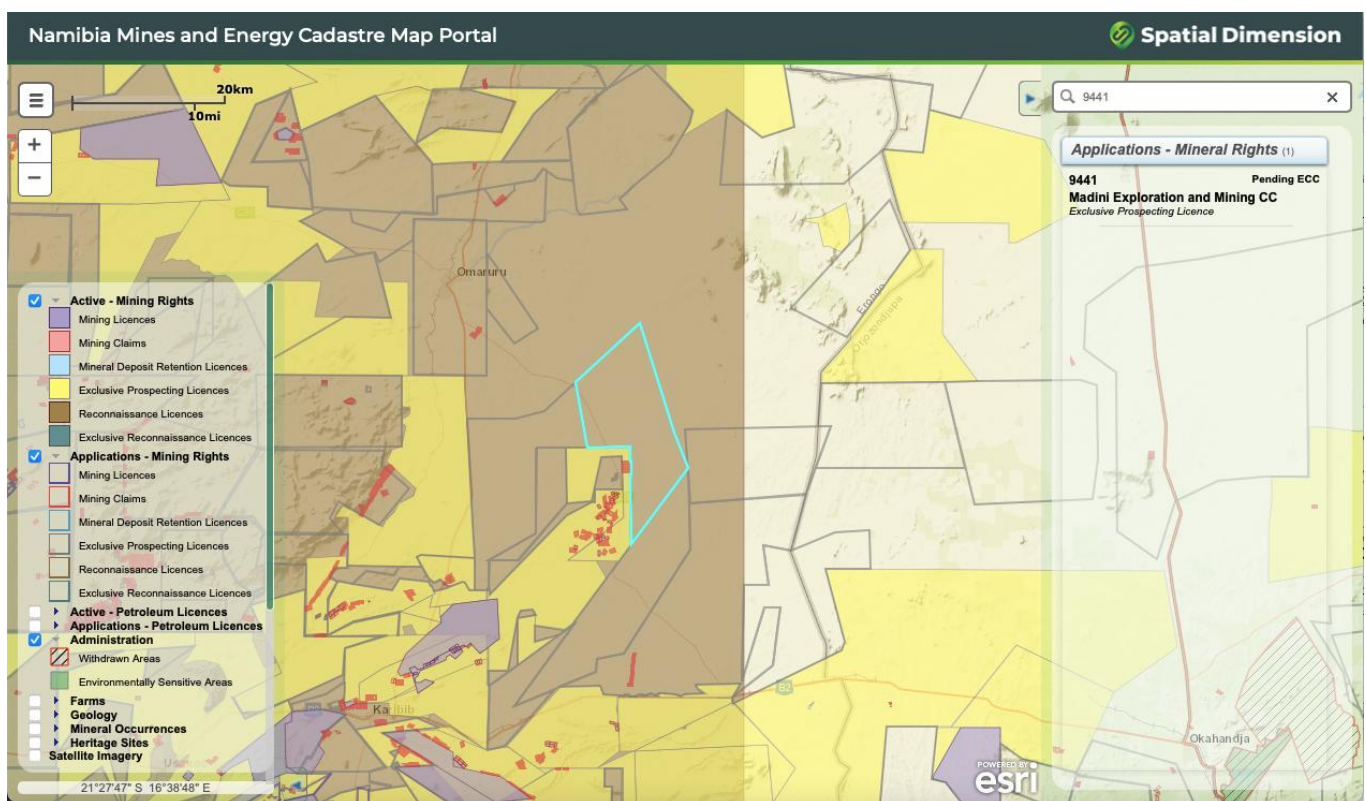


Figure 1-1: EPL-9441 on the Namibia Mines and Energy Cadastre Map Portal (source: <https://maps.landfolio.com/Namibia/>)

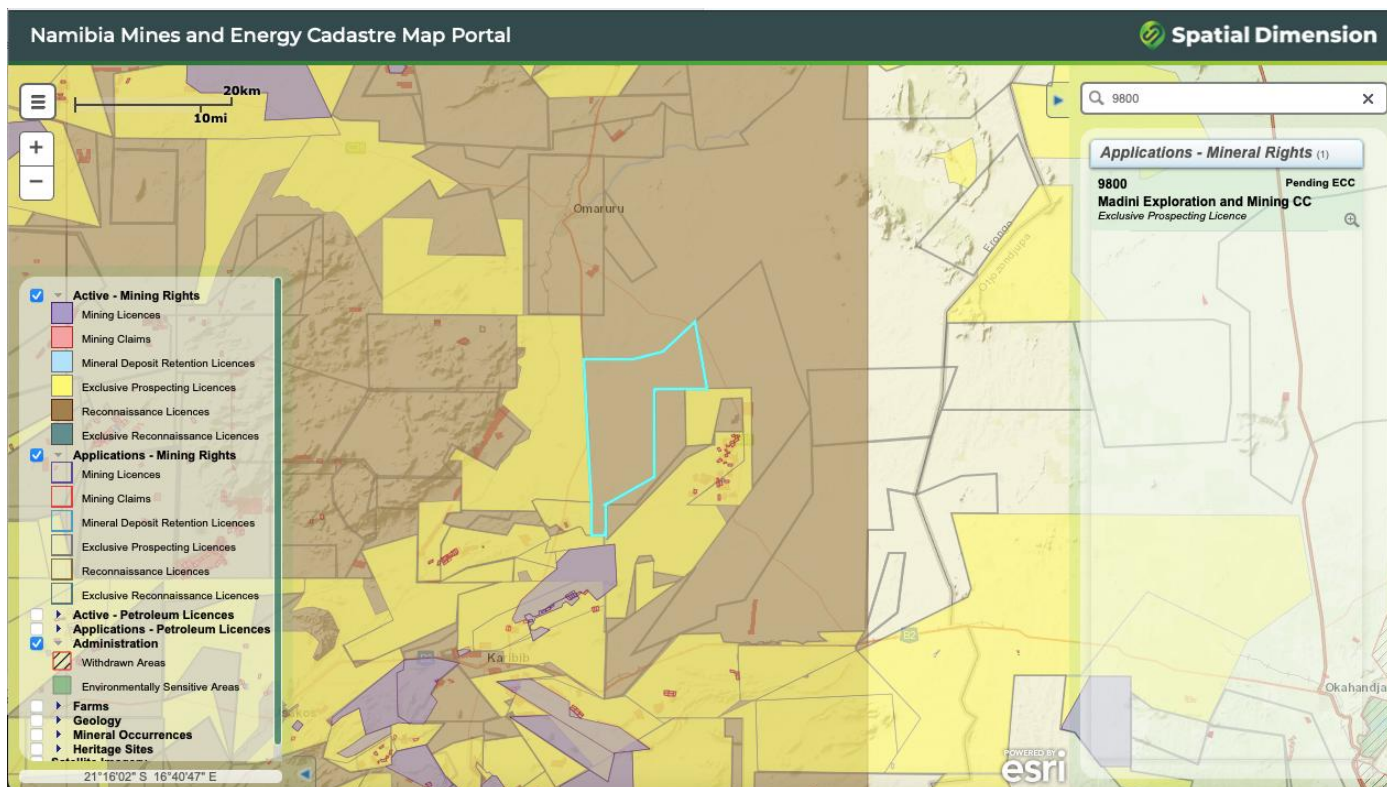


Figure 1-2: EPL-9800 on the Namibia Mines and Energy Cadastre Map Portal (source: <https://maps.landfolio.com/Namibia/>)

The EPL no.9441 and 9800 are located south of Omaruru town within a circa 220KM and north of Karibib about 46km in the Erongo Region as shown on the locality map in Figure 1-1 and Figure 1-2, respectively. The project areas cover areas of 19 898.17 hectares (Ha) and 19906.4 hectares (Ha), respectively, and are demarcated by fifteen and twenty two corner coordinates. The EPLs sit on commercial land as well as on state land. The EPL areas can be accessed from the B2 tarred road (from Okahandja to Karibib) through C33 and C36 roads (en route to Omaruru).

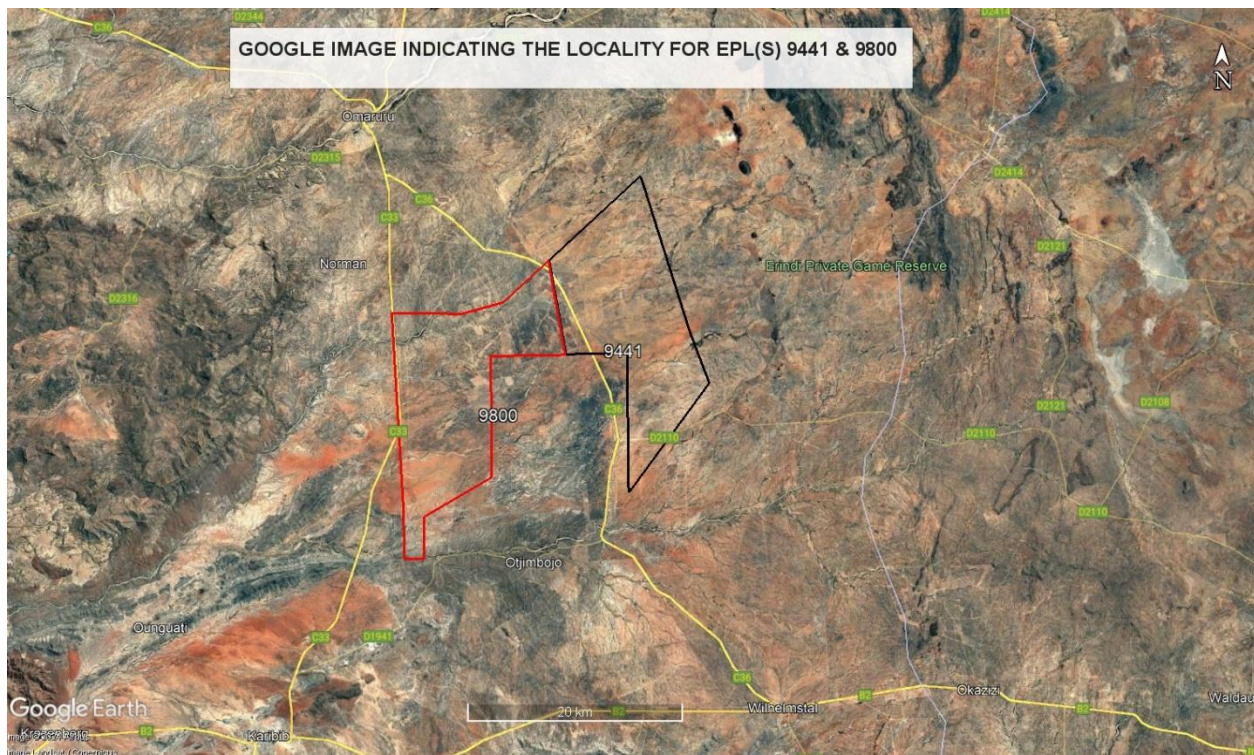


Figure 1-3: The locality map of EPLs-9441 and 9800 as seen on google

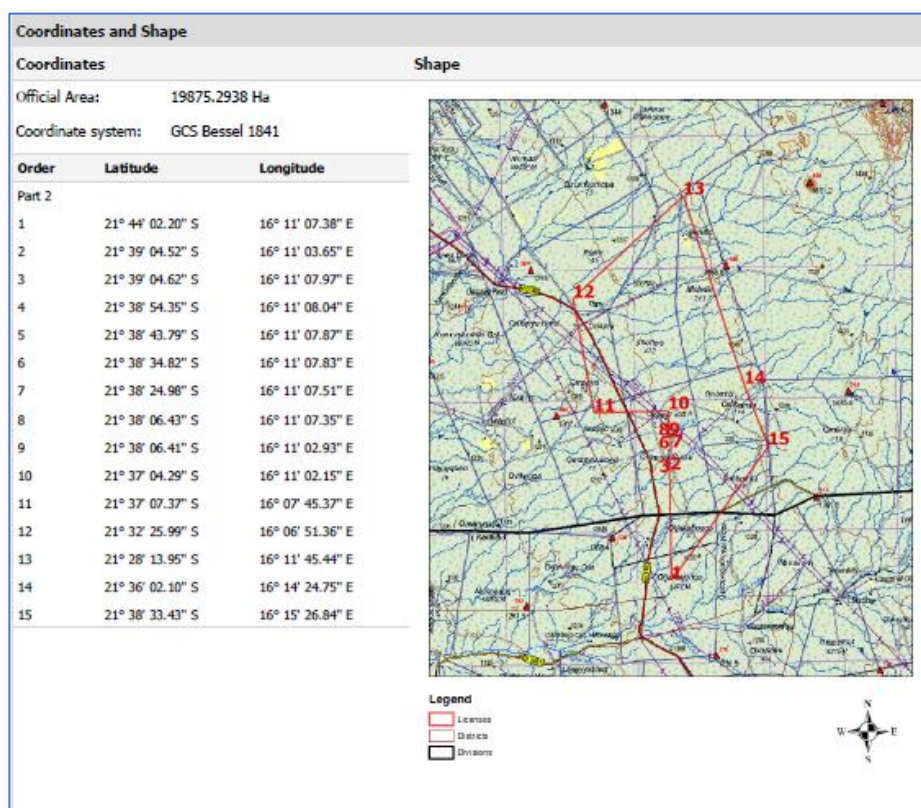


Figure 1-4: Map showing boundary coordinates for EPL-9441

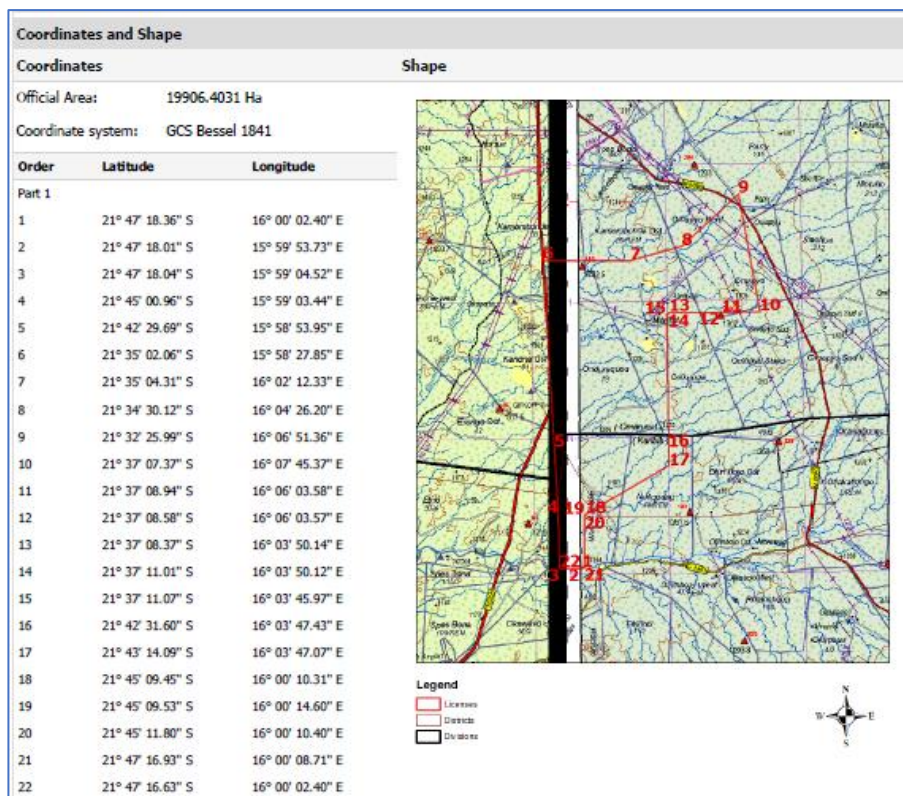


Figure 1-5: Map showing boundary coordinates for EPL-9800

Section 27 (1) of the Environmental Management Act (EMA) no.7 of 2007 and in line with Sections 32-37 of the EMA as gazetted in 2012, the proposed prospecting and exploration activities on EPL no. 9441 and 9800 form part of the listed activities that may not be conducted without an EIA being undertaken. The relevant listed activities as per EIA regulations are:

- 3.1 The construction of facilities for any process or activities which requires a licence, right of other forms of authorisation, and the renewal of the license, right or other form of authorisation, in terms of the Minerals Act (Prospecting and Mining Act, 1992).
- 3.2 Other forms of mining or extraction of any natural resources whether regulated by law or not.
- 3.3 Resource extraction, manipulation, conservation, and related activities.

The Proponent plans to conduct an exploration program on EPL-9441 and 9800, which will include both non-invasive and invasive exploration methods. Non-invasive exploration methods will include activities such as geological desktop studies, interpretation of aeromagnetic and remote sensing images, field mapping, ground geophysical surveys, and sampling of surface rock and soil. Invasive

exploration methods, include drilling (reverse circulation or diamond drilling) and pitting/trenching. The EPL is relatively flat with small undulating hills and is therefore easily accessible via minor car tracks within the area. This minimises the clearance of vegetation in the area needed for the access routes and working sites and for the installation and development of exploration drill holes. Noteworthy, the duration of exploration activities will be over the license tenure, which is valid for three (3) years, once an ECC has been issued for EPLs-9441 and 9800.

1.2 Purpose of the Environmental Management Plan

This document, the Environmental Management Plan (EMP) is prepared as part of the Environmental Scoping and Impact Assessment for the proposed exploration which was conducted in terms of the Environmental Management Act, 2007 (EMA) (Act No. 7 of 2007). An EMP is one of the important outputs of the Environmental Assessment (EA) process as it synthesizes all the proposed management, mitigation and monitoring actions, set to a timeline and with specific assigned responsibilities. It provides the link between impacts identified during the EA process and the required mitigation measures to be implemented during the exploration. It serves as a vital tool for ensuring sustainable development and the protection of natural resources. Its sole purpose is to guide and regulate human activities to minimize negative environmental impacts and promote the conservation of Namibia's unique ecosystems. It provides a link between the impacts identified in the EA process and the required mitigation measures to be implemented during exploration.

This EMP aims to safeguard the diverse ecosystems, including its rich wildlife, sensitive habitats, and environment. It identifies potential environmental risks associated with development projects and outlines measures to mitigate these risks, ensuring the long-term health and resilience of the environment. It provides management measures to address the environmental effects that have been identified in the Environmental Scoping Assessment report and to provide possible mitigation measures/recommendations to address these impacts.

1.3 Phases of the proposed exploration activities

The core purpose of the Environmental Management Plan is to guide environmental management throughout the phases of the proposed exploration activities namely; planning, prospecting & exploration, and decommissioning & rehabilitation phase:

Phase	Management Requirement
Planning	The Proponent prepares all the administrative and technical requirements needed for the actual works on the ground. ▪ Obtaining the necessary permitting and authorization from relevant national and local stakeholders (such as affected parties), ▪ Facilitating the recruitment and procurement processes in preparation for the exploration activities (and site maintenance).
Prospecting & Exploration	The Proponent will do prospecting and exploration activities for the targeted commodities' groups and undertake related activities on site. ▪ Detailed search for and assessment of mineral resources, ▪ Maintenance of the area, equipment and machinery is done by the Proponent.
Decommissioning	The exploration activities on the EPL area cease ▪ The decommissioning of the EPL exploration activities may be considered due to poor results or declines in the focus commodity market price, ▪ Before the decommissioning phase, the Proponent would need to put site rehabilitation measures in place.

Environmental Monitoring requirements – They are needed to support and ensure that the proposed mitigation measures are achieving the desired results, a monitoring plan must be implemented alongside the mitigation plan.

The next chapter summarises the proposed project activities, entailing the systematic approach of the exploration techniques.

2 EXPLORATION TECHNIQUES

The Proponent plans to conduct an exploration program on EPL-9441 and EPL-9800, focusing on base and rare metals, dimension stones, industrial minerals, precious metals and nuclear fuel minerals (commodity addition). The program includes both non-invasive and invasive exploration techniques. Non-invasive techniques involve geological desktop studies, interpretation of aeromagnetic and remote sensing images, field mapping, ground geophysical surveys, and sampling of surface rock and soil. These methods aim to gather geological information without significant disturbance. The primary goal of non-invasive methods is to assess the need for more invasive exploration.

The exploration program will follow a systematic approach, starting with non-invasive methods to determine if invasive techniques are necessary. If non-invasive exploration yields positive results, indicating promising mineralization, detailed site-specific drilling, trenching, and sampling will be conducted. Throughout the program, environmental impacts will be minimized by using non-invasive techniques initially and following safety protocols for drilling and excavation activities. The exploration program aims to identify economically viable mineral deposits while ensuring responsible environmental management and adherence to regulations.

The proposed exploration activities will be implemented through the following sequential phases:

Table 2-1: Exploration activities phases

Phase	Exploration technique	Description
Phase 1	Desktop study and geological mapping	Thorough review of geological map data, on-site visual assessments of rocks, and the use of geospatial data to identify lithological units, geological structures, mineralization zones, and alteration zones.
Phase 2	Geophysical Surveys	Using various sensing technologies to collect subsurface data to detect and assess geological features, including mineralization
Phase 3	Geochemical Sampling	Collecting earth materials (rocks, soils, sediments) for analysis to determine the presence and quantities of different minerals.

Phase 4	Trenching and Pitting	Excavating an area to obtain a bulk sample of mineralization to understand its characteristics
Phase 5	Drilling and Core Sampling	Penetrating the ground and extracting rocks from different depths to verify the geology or obtain samples for further chemical analysis

3 POTENTIAL ENVIRONMENTAL IMPACTS

The key environmental aspects that could be impacted by exploration activities include:

3.1 Impact on Biodiversity (vegetation and wild animals in the area)

Vegetation removal to enable drill pads, access tracks sites on the EPL and establishment of project infrastructures and machinery may result in vegetation and animals disturbance as well as habitat destruction.

3.2 Soil erosion and compaction

Increased compaction of already sensitive desert soils and leaving them prone to erosion potential due to removal of already scarce vegetation and vehicle movements.

3.3 Air Quality

The potential dust and emissions emanating from project activities such as drilling, excavations as well as heavy vehicles moving on and around the site.

3.4 Visual

If done close to the roads, the unrehabilitated explored areas within the EPL may cause a contrast to the surrounding environment which may be visual nuisance to the travellers on the B2 and D1991. The presence of exploration vehicles and machinery close to roads may also be visually unappealing to travellers.

3.5 Noise

The noise from exploration activities such as drilling and excavation may be a nuisance to neighbouring farms as well as wildlife (animals) within the area resulting in the animals migrating away from noise areas of the EPLs.

3.6 Soil and Water resources

Potential contamination of site soils, surface and groundwater sources from fuel/chemical spills or poor management of wastewater (effluent), i.e., irresponsible and unauthorized discharge of wastewater.

3.7 Cultural heritage

Potential disturbance of archaeological or sacred sites, particularly the unmarked ones or in the subsurface.

4 LEGAL AND REGULATORY FRAMEWORK: PERMITS AND LICENSES

This chapter outlines all the relevant Namibian legislation, policies and guidelines that need to be adhered to for an effective EIA process. The review of the legal framework helps to inform the Proponent, affected, and interested communities, and the decision makers at the MEFT: DEAF about the requirements and expectations, as laid out in terms of these instruments, to be met so that the exploration activities could be conducted. This EMP was carried out based on the EMA No. 7 of 2007 and its EIA Regulations of 2021 (GG No. 4878 GN No. 30), and following the conditions set by EMA for obtaining an ECC for permission to conduct certain listed activities. The Proponent, therefore, has the responsibility to ensure that the exploration activities as well as the EA process conform to EMA's principles, and must equally ensure adherence to the regulations put in place by the Minerals (Prospecting and Mining) Act No. 33 of 1992 with regards to the exploration activities. The table below lists the regulatory requirements of an EMP as stipulated by Section 8 (e) of the EIA Regulations, primarily on specific approvals and permits that may be required for the activities required on the EPL. These are provided in Table 4-1.

Table 4-1 Legal and Regulatory Frameworks in terms of permits and licenses for the project activities.

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Environmental Management Act EMA (No 7 of 2007)	Requires that projects with significant environmental impacts are subject to an environmental assessment process (Section 27). Details principles which are to guide all EAs.	The EMA and its regulations should inform and guide this EA process. Should the ECC be issued to the Proponent, it should be renewed every 3 years, counting from the date of issue. For ECC amendment or cancelation, the MEFT should be notified.
Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878)	Details requirements for public consultation within a given environmental assessment process (GN 30 S21). Details the requirements for what should be included in a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15).	Contact details at the Department of Environmental Affairs and Forestry (DEAF), Ministry of Environment, Forestry and Tourism (MEFT), Office of the Environmental Commissioner: Mr. Timoteus Mufeti Tel: +264 61 284 2701

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Minerals (Prospecting and Mining) Act (No. 33 of 1992)	Section 48 (3): To enable the Minister to consider any application referred to in section 47 the Minister may (b) require the person concerned by notice in writing to (i) carry out or cause to be carried out such environmental impact studies as may be specified in the notice. Section 54 (2): Details provisions pertaining to the decommissioning or abandonment of a mine.	The Proponent should ensure that all necessary permits/authorizations, including the certificate for the EPL are obtained from the Ministry of Mines and Energy (MME). Contact person and details at the MME (Mining Commissioner): Mrs. Isabella Chirchir Tel: +264 61 284 8251.
	Section 52 (1) (a) requires mineral license holders to enter into a written agreement with affected landowners before exercising rights conferred upon the license holder.	The Proponent should timely enter into and sign access and land use agreement (consent) with the land user (custodian) MEFT's Wildlife & National Parks and affected farmer prior to undertaking any activities on the EPL (including mobilization).
Water Resources Management Act (No 11 of 2013)	Ensure that the water resources of Namibia are managed, developed, used, conserved, and protected in a manner. Therefore, a Groundwater Abstraction & Use Permit should be applied for. The Permit is required for all commercial and industrial water uses. Although, exploration is not entirely commercial, the associated activities such as drilling fall under industrial activities, thus, the need to apply for an abstraction permit (this would apply if the Proponent abstracts water outside the EPL area)	The Water Permit should be applied from the Ministry of Agriculture, Water and Land Reform (MAWLR) Department of Water Affairs (DWA): Contact: Mr. Franciskus Witbooi Division: Water Policy and Water Law Administration Division Tel: +264 61 208 7158

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
	For any project wastewater planned for discharge into the environment, a discharge permit should be applied for and obtained.	MAWLR, DWA' Water Environment Division Contact: Ms. Elise Mbandeka Tel: +264 61 208 7167
Nature Conservation Ordinance 4 of 1975	The conservation of nature; given that the exploration activities will be done in proximity to conservancy areas.	Adhere to the operational rules and regulation of the conservancy areas and ensure that consent is obtained from MEFT to carry out exploration. MEFT's Directorate of Wildlife & National Parks
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 license or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 liters or less in any container kept at a place outside a local authority area"	The Proponent should obtain the necessary authorisation from the MME for the storage of fuel on-site (Consumer Installation Permit). Ms. Maggy Shino (Ministry of Mines and Energy: Director – Petroleum Affairs) Tel: +264 61 284 8291
National Heritage Act No. 76 of 1969	Call for the protection and conservation of heritage resources and artefacts.	For any archaeological material, such as bones, unknown graves, old weapons/equipment etc. that may be found on the EPL, work should stop immediately, and the National Heritage Council (NHC) of Namibia must be informed as soon as possible. The Heritage Council will then decide to clear the area or decide to conserve the site or material. Contact Details at the NHC of Namibia: Mrs. Erica Ndalikokule – NHC Director Ms. Agnes Shiningayamwe (Heritage Officer) Tel: +264 61 301 903

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Forestry Act 12 of 2001, Amended Act 13 of 2005	The act prohibits the removal of any vegetation within 100 m from a watercourse. The act prohibits the removal and transport of various protected species.	Should there be a protected plant species, which are known to occur within the project site, these are required to be removed, and a permit should be obtained from the nearest Forestry office (Ministry of Environment, Forestry and Tourism (MEFT)) prior to removing them. Director of Forestry Mr. Johnson Ndokosho Tel: +264 61 208 7320

EMP Limitations

- This EMP report is based on the Environmental Assessment (EA) conducted for targeted prospecting and exploration activities such as base and rare metals, dimension stones, industrial minerals, precious metals and nuclear fuel minerals (commodity addition) on EPLs 9441 and 9800.
- The mitigation measures recommended in this EMP document are based on the risks/impacts in the ESA report which are identified based on the project descriptions as provided by the Proponent, site investigations and public input. Should the scope of the proposed projects change, the risks/impacts will have to be reassessed and mitigation measures provided accordingly.

4.1 Biodiversity protection and conservation

The region values biodiversity protection and conservation due to its rich ecological diversity and unique wildlife. Conservation and biodiversity protection in the Erongo region are essential for maintaining ecological balance and supporting sustainable development, making it a significant area for conservation efforts.

Below is how several key initiatives contribute to conservation efforts in the area

- **Conservation Areas:** The region is home to several conservation areas that protect diverse wildlife and habitats. These areas provide safe spaces for species to thrive in and help maintain ecological integrity. These include conservancies and private reserves.
- **Community Involvement:** Local communities play a significant role in conservation through initiatives such as community conservancies. These programs empower residents to manage natural resources sustainably while benefiting from ecotourism and conservation-related employment/opportunities.
- **Wildlife Monitoring and Research:** Scientific research and monitoring programs help track wildlife populations, migration patterns, and habitat health. These studies inform conservation strategies, and also ensure that interventions are based on data that is accurate.
- **Habitat Restoration:** Efforts are being made to restore and rehabilitate degraded habitats such as soil conservation, water resource protection and reforestation around Karibib and Omaruru. These initiatives assist in rehabilitating ecosystems affected by human activities or climate change.
- **Environmental Education:** Educational programs raise awareness about biodiversity conservation among local communities and schools in the EPL areas. These initiatives encourage responsible environmental stewardship and sustainable practices.
- **Sustainable Tourism:** Omaruru and Karibib promote sustainable tourism through various initiatives that balance environmental conservation, community involvement, and economic growth. Lodges and tour operators in the region often follow sustainable practices to minimize their environmental impact.
- **Partnerships and Collaboration:** Conservation efforts in Karibib and Omaruru involve partnerships between government agencies, NGOs, researchers, and local communities.

Collaborative projects help to enhance resource management and strengthen conservation initiatives.

The commitment to biodiversity protection and conservation in Karibib and Omaruru is crucial for maintaining the ecological balance and preserving the unique natural heritage of the region for future generations. By implementing these initiatives and fostering a culture of environmental stewardship, it ensures the sustainability of its rich biodiversity and ecosystems.

5 ENVIRONMENTAL SPECIFICATIONS AND MANAGEMENT MEASURES

5.1 Compliance with the Environmental Specifications

The activities will be conducted in an environmentally and socially responsible manner. The Proponent and all site personnel (drilling including contractors) will comply with the environmental specifications contained in this section.

- EMP trainings should be provided to all workers on the sites.
- A comprehensive Health and Safety Plan for the project activities should be compiled. This includes all the necessary health, safety, and environmental considerations applicable to respective works on the sites.
- The implementation of this EMP should be monitored bi-annually.
- The sites should be inspected, and a compliance audit done throughout the projects' activities, monthly and bi-annually for overall EMP implementation.
- An EMP non-compliance penalty system should be implemented on sites.
- The Proponent should appoint an ECO to be responsible for managing the EMP implementation and monitoring.
- The ECC should be renewed every 3 years. An application should be submitted at least 1 month before expiry date.

5.2 Training and Awareness

- All site personnel and site contractors will receive the training to equip them with the necessary knowledge to comply with the environmental specifications. The Exploration Manager will ensure that an appropriate level of training is provided at all levels of sites personnel.

5.3 Stakeholder Relations

- All site personnel should maintain good relations with the land custodians and members of the public. Any complaints received by the ECO should be addressed.
- There Proponent should appoint a Public Relations Officer to liaise with other land users.
- Compile a clear communication procedure / plan which should include a grievance and response mechanism and shared with stakeholders (nearby farms and other land users).
- Engagement for land use where necessary, farm access agreements should be done prior to mobilizing to the sites. This should be communicated at least 2 months before commencements of exploration activities.

- Stakeholders (land custodian) and neighbouring farmers (land users) should be kept posted on any changes, progress or delays on the project activities communicated or agreed upon.
- The issues or complaints raised by the stakeholders should be effectively attended to timely, and resolved amicably.

5.4 Permits

All relevant permits shall be applied for, signed and obtained from the relevant authorities before commencement of work on the respective EPLs. These include:

- Environmental Clearance Certificate (ECC) by the Environmental Commissioner at MEFT: DEAF, and should be timely renewed, amended (if changes arise in the project description), if needed, transfer the ECC by submitting the application to the Environmental Commissioner and or cancel it if the project is discontinuing.
- EPLs' certificates from MME and should be timely renewed as required.
- Wastewater (effluent) handling and discharge permit from the Water Environment Division at MAWLR.
- Fuel Storage onsite (Consumer installation certificate) in excess of 600 litres from the MME.
- The removal or relocation of rare and endangered plants will be conserved, and should it be removed or relocated it shall be done with the required permits from the Directorate of Forestry at MEFT.

5.5 Road Safety

The access roads can be dangerous at times due to dust from passing vehicles, poor camber, patches of loose sand, careless drivers and other external factors.

All drivers must be aware of these hazards and take precautions to avoid them. Such precautions will include, but not be limited to:

- Complying with speed limits onsite (maximum 40km/hour),
- Vehicles should be driven only on the existing access roads and necessary temporary access roads leading to EPLs' mapped sites, only.
- The transportation of project materials, equipment, and machinery should be limited to once or twice a week only and not every day.
- No driver is allowed to operate a vehicle while under influence of alcohol or narcotic substances – vehicle drivers should be in possession of a valid and appropriate driving licenses,

- Reducing speed considerably when visibility is poor,
- Project vehicles should be in a road worthy condition and serviced regularly to avoid accidents because of vehicle mechanical faults.
- Travelling with lights on even in daylight,
- Slowing down for animals and birds on the road, and
- Being cautious of other road users– taking into account reduced visibility due to dust.
- Drivers should drive slowly (40km/hour or less) and be on the lookout for wildlife.

5.6 Access Tracks and Soil disturbance

- Workers should refrain from driving off-road and creating unnecessary tracks that may contribute to the loss of grazing land
- No new tracks should be made unless there are no pre-existing tracks, any new tracks or extensions should be established with the permission of the MEFT and where the EPLs overlie a farm, the landowner should give consent prior to creating a track.
- The selected access and site roads should be clearly marked. A single road only should be used to and from each destination of the EPLs' sites. Turning points for vehicles should also be pre-selected and marked. Care to be taken to avoid damage to plants.
- Any elevated sites, or sites away from existing tracks should be accessed on foot instead of driving there (in a vehicle).
- Stockpiled topsoil and drill materials should be used to backfill the excavated and disturbed site areas.
- The topsoil that was stripped from active sites should be returned to where it was taken.
- Avoid soils that are not within the intended footprints of the EPL should be left undisturbed and soil conservation implemented as far as possible.

5.7 Conservation of Biodiversity (Fauna and Flora)

- Breeding sites for fauna species that may be found within the sites and nearby should not be disturbed.
- Access roads (including the existing ones) should be utilised appropriately in a manner that disturbs minimal land areas as possible, thus minimising fauna habitat destruction.
- Environmental awareness on the importance of fauna preservation should be provided to all sites' workers and contractors.

- Damage to all plants should be avoided at all costs.
- Vegetation should only be cleared when absolutely necessary, and the number of protected, endemic, and near-endemic species removed should be documented.
- Identify protected areas and ensure no harmful exposure to the biodiversity
- Animals on and around the site should not be disturbed, trapped nor killed.
- No killing of small soil and rock outcrops' species found on site.
- Ensure that exploration trenches and holes are secured (temporary fenced off) then backfilled after completing exploration works on them to prevent injuries to animals (by falling in trenches or holes).
- The project workers and vehicles should be limited to the actual EPLs' active sites only but not unnecessarily wander and drive around the area resulting in unnecessary faunal and floral disturbance.
- Avoid off-road driving as it leads to the destruction of site vegetation. Therefore, rather stick to provided and approved access tracks.
- Working hours should be limited to during the day, thus enabling the wildlife to roam freely at night. There should be no exploration to be carried out between 6pm and 07am, in other words No food stuff should be left lying around at the projects' sites as this will attract animals which may result in human-animal conflict.

5.8 Soils and water resources

- Employees must be trained on the correct hydrocarbon storage and handling techniques.
- Vehicles and machinery must be stored in bounded areas when not in use or a drip tray should be placed beneath potential leakage points.
- Drinking water abstracted from boreholes or supplied by carting should be used efficiently.
- Recycling and re-using of water on certain site activities should be encouraged, where necessary and possible.
- Water storage tanks should be inspected daily to ensure that there is no leakage, resulting in wasted water on site.
- Spill control preventative measures should be put in place to manage soil contamination at all projects' sites.
- All project employees should be sensitized about the impacts of soil pollution and advised to follow appropriate fuel delivery and handling procedures.
- Appropriate storage and handling of hydrocarbons on sites are essential.

- Potential contaminants such as hydrocarbons and wastewater should be contained at the sites and disposed of responsibly so that they do not contaminate soil/land surface and groundwater.
- An emergency plan should be available for major / minor spills at the sites during operation activities (with consideration of air, groundwater, soil and surface water) and during the transportation of the product(s) to the sites.
- Polluted soil should be removed immediately and put in a designate waste type container for later disposal.
- Any disturbance of the soil surface in the vicinity of the working sites must be minimised to prevent wind erosion. The footprint of the EPLs' site areas must be kept small as much as possible and existing access road are to be always utilised to avoid off road tracks
- All vehicles should be equipped with drip trays and where generators are used. These fuel consuming vehicles and machinery should be monitored to ensure that accidental fuel spills along are cleaned up immediately.
- Polluted soil must be collected and transported away from the sites to an approved and appropriately classified hazardous waste treatment facility.

No washing of hydrocarbons contaminated equipment onsite. The washing and servicing of vehicles is prohibited at the sites.

5.9 Wildlife Poaching

- Project workers should refrain from killing or snaring local livestock that may be found on and around the projects' sites.
- No animal or bird is to be captured, killed or harmed in any way. Anyone caught violating this law will face suspension from the project and could be liable for prosecution.
- Poaching of wildlife is strictly prohibited and is punishable by law. Incorporate a No-tolerance rule for poaching in every employment contract and ensure that the workers understand the seriousness of this.

5.10 Occupational Health and Safety

- All project personnel should receive a detailed induction upon joining the project and on a regular basis, if necessary, refresher training should be provided.
- Project workers should be inducted with an awareness training of the risks of mishandling equipment and materials on sites as well as health & safety risk associated with their respective jobs.

- All project personnels should be equipped with adequate and appropriate personal protective equipment (PPE) such as coveralls, gloves, safety boots, earplugs, dust masks, safety glasses. These are crucial to prevent potential injuries and excessive inhalation of dust or harmful gases.
- Eating, drinking, and smoking while working with any materials that are flammable should be forbidden.
- Heavy vehicles, equipment and fuel storage sites should be properly secured, and appropriate warnings signage should be placed visibly.
- Ensure that after the completion of the exploration, holes are capped and closed off and that trenches are backfilled and levelled.
- Good personal hygiene is encouraged (e.g., washing hands before eating) to prevent ingestion of potentially hazardous or radioactive materials.
- An emergency preparedness plan should be compiled - the project sites should be equipped with fully first aid kit onsite and two to three people should trained on how to administer first aid on others.
- Marking disturbance areas and buffer zones to avoid unnecessary impacts.
- Installing sediment controls around holes and access roads
- Implement a spill response plan and providing spill kits at all work sites and ensure that two to three personnel are trained on how to use it.
- All risk exposes areas should be temporarily fenced off and marked as such.
- All loads should be securely fastened on vehicles when transported or structures where loads are stored.
- Engage workers in sexual health talks and training about the dangers of engaging in unprotected sexual relations which results in contracting HIV/AIDS and other sexual related infections.
- The site should be provided with condoms and sex education through distribution of pamphlets and health trainings. These pamphlets can be obtained from the nearest local health facility.

5.11 Visual impact

- The EPLs' portions or areas close to the roads (C33 and C36) should be progressively rehabilitated during exploration over the shortest timescale possible to ensure that there is no prolonged visible and excessive land disturbances.
- All access roads leading to the EPL should have speed limits of no more than 40km/h to minimise the amount of dust generated by the vehicles. This in turn will also minimise any potential air quality concerns in the vicinity of the project.
- Utilize stockpiled topsoil to partially back fill explored sites, thus, minimizing visual impacts.
- Consider a phased exploration and direct placement of overburden (topsoil and waste rocks) and other site-derived materials to allow progressive restoration around the margins of the explored site areas

5.12 Waste management

- Sensitize workers to dispose of waste in a responsible manner and not to litter.
- No wastes should be left onsite or scattered around after each daily works.
- All solid waste should be contained onsite until such that time it will be transported to designated waste sites.
- No waste may be buried or burned on site or anywhere else.
- The site should be equipped with separate waste bins for hazardous and general/domestic waste.
- Oil spills should be taken care of by removing and treating soils affected by the spill.
- Implement a penalty system for irresponsible disposal of waste on sites and/or anywhere in the project areas.
- Ensure careful storage and handling of hydrocarbons onsite.
- Potential contaminants should be contained on sites and disposed of in accordance with municipal wastewater discharge standards so they do not contaminate surrounding soils and eventually groundwater.
- Implement an emergency plan for major/minor spills on the sites.
- No open defecation is allowed on and around the EPLs' sites.
- Sewage waste should be stored as per the portable chemical toilets supplied on site and regularly disposed of at the nearest treatment facility
- Provide sufficient portable toilet facilities for workers onsite.

5.13 Air quality

- Vehicles should not be driven at a speed more than 40km/h onsite to avoid dust generation.
- A reasonable amount of water should be used on gravel roads, using regular water sprays on gravel routes and near exploration sites to suppress the dust.
- Dust masks, eye protective glasses and other respiratory personal protective equipment (PPE) such as face masks should be provided to the workers at drilling sites.
- Excavating equipment should be regularly maintained to ensure drilling and excavation efficiency as well as to reduce dust generation and harmful gaseous emissions.

5.14 Fire outbreaks

- Portable and serviced fire extinguishers should be provided onsite.
- No open fires to be created by project personnel onsite or anywhere in the environment.
- Open fires are prohibited onsite.
- Smoking personnel should be provided with a designated for such and ensure that the cigarettes' fire is completely put out to and disposed of in allocated bins and not in the environment.
- Potential flammable structures like fuel storage tanks should be marked as such with clearly visible signage.
- Raise awareness to workers on the impact of careless handling of fires and flammable substances in the fire.

5.15 Noise

- Noise from operations' vehicles and equipment on the sites should be at acceptable levels.
- When operating the drilling machinery onsite, workers should be equipped with personal protective equipment (PPE) such as earplugs to reduce exposure to excessive noise.
- Exploration activities should only take place between 07h30 and 17h00 only and not in the night or morning hours before 07h30.
- Avoid flying aircrafts directly over human settlements.
- Consult with the relevant stakeholders when would be the best suited time to fly prior to commencing with the flights.

5.16 Archaeology and heritage resources

- A “No-Go-Area” should be put in place where there is evidence of sub-surface archaeological materials, archaeological sites, gravesites, historical, rock paintings, cave/rock shelters or past human dwellings. It can be a demarcation by fencing off or avoiding the site completely by not working closely or near the known site.
- Avoid intentional damage to or destruction of any outcrop that harbours caves or rock shelters, painting. These should be marked and the sites should be adjusted to avoid them.
- An archaeological expert must be appointed to undertake a detailed archaeological survey once targets have been identified for drilling and/or other mechanically-assisted exploration, and prior to the commencement of any such activities.
- All works are to be immediately ceased should an archaeological or heritage resource be discovered during activities onsite.
- The Proponent and Contractors should adhere to the provisions of Section 55 of the National Heritage Act in event significant heritage and culture features are discovered while conducting exploration works.
- The project should adopt an Archaeological Chance Finds Procedure (Appendix I) to cater for unexpected discoveries of archaeological remains in the course of exploration.
- The National Heritage Council of Namibia (NHCN) should be consulted/engaged to advice on the removal, packaging and transfer of the potential archaeological resource.
- Show overall commitment and compliance by adapting “minimalistic or zero damage approach”.

5.17 Compliance Monitoring

During exploration activities, the company ECO will conduct site compliance inspections at least once a month. After each inspection the ECO will compile an EMP compliance report for regular submission to the Exploration Manager and biannually to the MEFT or as required.

6 ENVIRONMENTAL MANAGEMENT PRINCIPLES

On principle, the EMA provides for the promotion of sustainable management of the environment and the use of natural resources by establishing principles for decision making on matters affecting the environment. In this manner, this section of the EMP presents the principles to be adhered by the Proponent and involved personnel. The participants to the exploration activity will be expected to conduct all their activities in an environmentally and socially responsible manner. This includes all consultants, contractors, and subcontractors, as well as transport drivers, visitors, and individuals involved in the mineral exploration project who enters the exploration regions.

The Proponent will ensure that all project participants adhere to the following principles:

- All employees will be obliged to undertake activities in an ecologically and socially responsible way,
- Safeguard the health and safety of project personnel and the public against potential impacts of the project. This includes issues of road safety, precautions against dangers on site and potential hazards,
- Promote good relationships with the surrounding settlements and other stakeholders,
- Wise use and conservation of environmental resources, giving due consideration to the use of resources by present and future generations,
- Prevent or minimize environmental impacts, and
- Minimize air, water, and soil pollution; and conserve biodiversity.

6.1 Environmental Management Roles and Responsibilities

6.1.1 The Operating Company (the Proponent)

The Proponent is ultimately responsible for the implementation of the EMP. However, the Proponent may delegate at any time, as they deem necessary during the projects exploration activities. It is also the Proponent's responsibility to appoint an Environmental Control Officer (ECO) and their responsibility to ensure that:

- The EMP and its environmental specifications are included in contractual documents and it is required that contractors, and subcontractors, consultants etc. do meet the EMP requirements,

- The company and all its subcontractors, consultants etc. comply with all Namibian legislation and policies and any relevant International Conventions,
- Advising the PR on the removal of person(s) and/or equipment not complying with the provisions of the EMP
- Making recommendations to the PR with respect to the issuing of fines for contraventions of the EMP.
- Compliance with the environmental specifications is enforced on a day-to-day basis,
- Environmental audits are conducted periodically by a suitably qualified ECO to confirm that the environmental requirements are properly understood and effectively implemented,
- Sufficient budget is provided to implement those measures that have cost implications,
- The site manager must commission tree surveys well in advance of planned road construction or drill pad preparation so that the necessary site visits by forestry personnel and forestry permits are acquired, and
- Open an effective communication between all parties concerning environmental management on the project.
- Ensure that the exploration activities on the sites are conducted in accordance with the International System Organisation (ISO) standard 14001: 2015.

6.1.2 Exploration (Operations) Manager

The day-to-day responsibility for environmental management will be assigned to the ECO and Exploration Manager for the duration of all operational activities. The responsibilities for the Exploration Manager will be to:

- Ensure that all relevant commitments contained in the EMP Action Plans are adhered to.
- Be accustomed with the contents of the EMP and applicable sections of the EIA and the measures recommended therein,
- Monitor compliance with the environmental specifications on a daily basis and enforce the environmental compliance on site by communicating the ECO's directions to all personnel involved,
- In the event of any infringements leading to environmental damage, personnel need to consult with the ECO and seek advice on any remedial measures to limit or rectify the damage,
- Maintain a record (photographic and written) of "before-and-after" conditions on site, and

- Facilitate communication between all role players in the interests of effective environmental management.
- Review the EMP annually.
- Issuing fines to individuals who may be in breach of the EMP provision and if necessary, removing such individuals from the EPLs' sites.

6.1.3 Environmental Control Officer (ECO)

A suitably qualified ECO will be appointed and will be responsible for:

- Undertaking environmental audits of overall compliance with the environmental specifications. This should be done at least bi-annually.
- Submitting a site inspection report to the Exploration Manager;
- Advising the Exploration Manager on interpretation and implementation of the environmental specifications as required, and
- Making recommendations for remedial action in cases of non-compliance with the environmental specifications or the EMP requirements in general.

6.2 Environmental Management System Framework

The Proponent and its contractors will create and implement an Environmental Management System (EMS) to apply Environmental Management Practices. The structure for compiling a project EMS is established in this section. All environmental management paperwork will be kept in a paper and/or electronic system by the applicable exploration EMP.

These may include, but are not limited to:

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

6.3 Register of Roles and Responsibilities

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

6.4 Communication between Parties

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

7 ENVIRONMENTAL MONITORING PLAN

The project monitoring is conducted under the EMP and includes:

7.1.1 Project readiness monitoring

Monitoring to check progress on project readiness and close gaps through corrective actions.

7.1.2 Operational monitoring

This is required as part of the operations of the subproject and will be undertaken by the relevant government department or a nominated private sector operator.

7.1.3 EMP and Environmental quality compliance monitoring

To be conducted by the appointed external Environmental Consultants to verify EMP compliance during project implementation. To be conducted by a competent authority or person appointed by the Proponent, involving the collection and analyses of air quality, noise and water quality data at designated monitoring locations for assessing compliance with applicable environmental quality and emission standards.

8 CONCLUSION

The Environmental Management Plan (EMP) presented in this report outlines the proactive measures that will be implemented to effectively mitigate the potential environmental impacts of the proposed exploration and possible test mining operations within EPLs-9441 and 9800. The EMP details a comprehensive management strategy to address environmental concerns and ensure responsible and sustainable practices throughout the projects' lifecycles.

By adhering to the Environmental Regulations of 2012 and the provisions set forth by the projects' proponent, the approach and methodology for the EIA will be rigorous and thorough.

The implementation of the EMP is essential to minimize negative effects on the environment while maximizing positive outcomes. It will focus on employing best practices, innovative technologies, and environmental safeguards to protect the natural surroundings and the well-being of local communities.

By following the EMP guidelines, the projects aim to enhance the overall ecosystem services and value of the EPLs-9441 and 9800 and their vicinity. This means conserving and protecting biodiversity, water resources, and cultural heritage, while simultaneously contributing to sustainable economic development. Therefore, this EMP embodies the project Proponent's commitment to responsible and environmentally conscious practices. Through the implementation of the EMP and the rigorous EIA process, the project aims to strike a balance between exploration and environmental conservation, ensuring a harmonious coexistence between human activities and the natural environment.

APPENDIX I: CHANCE FINDS PROCEDURE

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 objectmust 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:

Operator:	To exercise due caution if archaeological remains are found
Foreman:	To secure site and advise management timeously
Superintendent	To determine safe working boundary and request inspection
Archaeologist	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

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.