



ENVIRONMENTAL MANAGEMENT PLAN (EMP)

**MINERAL EXPLORATION ACTIVITIES OF BASE & RARE METALS, DIMENSION
STONE, INDUSTRIAL AND PRECIOUS METALS ON EXCLUSIVE PROSPECTING
LICENSE (EPLS) 8969 & 8970 LOCATED WEST OF UIS IN ERONGO REGION**

Version: Draft

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1 INTRODUCTION

1.1 Project Background

Appolos Tunomukumo Shimakeleni (Proponent) has applied for EPLs 8969 and 8970 at the Ministry of Mines and Energy (MME). As part of the EPLs application process, the Proponent is required to acquire an Environmental Clearance Certificate (ECC) to render approval of EPL ownership in order to carry out the proposed exploration activities on the EPLs. The target commodities for the proposed exploration activities are Base & Rare Metals, Dimension Stone, Industrial Metals and Precious Metals.

The EPLs are located approximately 120 km west of Uis in the Erongo Region (Figure 1), within the Dorob National Park (Figure 2). EPL 8969 is 17228.6365 ha in size, while EPL 8970 covers an area of 4328.6024 ha (combined area of 21 557.23891 ha).

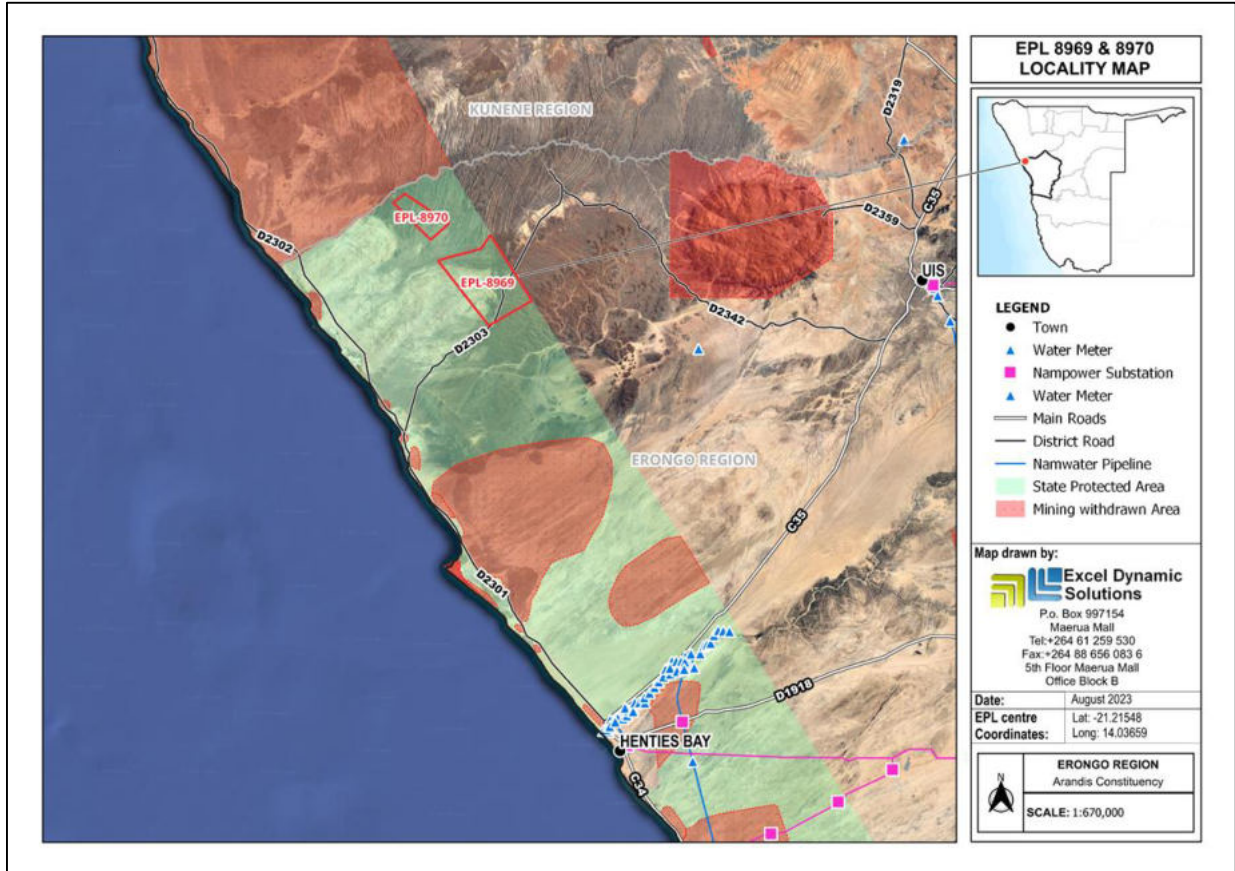


Figure 1 :Locality map of EPLs 8969 & 8970

According to 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 the EPLs 8969 and 8970 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 license, right of other forms of authorization, and the renewal of a license, right or other form of authorization, in terms of the Minerals (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.

This statutory document has been prepared in accordance with Section 8 of the EMA (No. 7 of 2007). The compilation of this EMP is one of the requirements (scope of work) presented to Excel Dynamic Solutions (Pty) Ltd by The Proponent. It is required of the Environmental Consultant to comply with the EMA and provide for the following:

- Prepare an explicit Environmental Management Plan to be used as a guideline to monitor compliance to the recommendations stipulated in the EIA and assist in managing and monitoring activities throughout exploration, and the maintenance of the proposed exploration activities and sites on the EPLs.
- The Environmental Consultant must clearly elucidate in the EMP the roles and responsibilities of the Proponent, contractors, and any other identified stakeholders.

1.2 Aim of the Draft Environmental Management (EMP)

Regulation 8(j) of the EIA Regulations (2012) requires that a draft Environmental Management Plan (EMP) shall be included as part of the Environmental Assessment (EA). A '**Management Plan**' is defined as:

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

An EMP is one of the most important outputs of the EA process. It synthesizes all the proposed management, mitigation and monitoring actions, set to a timeline and with specific assigned responsibilities. It provides a link between the impacts identified in the EA process and the

required mitigation measures to be implemented during exploration. It is important to note that an EMP is a statutory document and a person who contravenes the provisions of this EMP may face imprisonment and/or a fine. This EMP is a living document and can be amended to adapt to addressing project changes and/or environmental conditions and feedback from compliance monitoring.

The purpose of this document is, therefore, to guide environmental management throughout different phases of the proposed exploration activities, namely: planning, prospecting and exploration, and decommissioning & rehabilitation phase:

- **Planning phase** - This is the stage of the proposed project, where the Proponent prepares all the administrative and technical requirements needed for the actual works on the ground. The planning phase includes obtaining the necessary permitting and authorization from relevant national and local stakeholders (such as affected parties), facilitating the recruitment and procurement processes, etc., in preparation of the exploration activities (and site maintenance).
- **Prospecting and Exploration phase** - This is the phase where the Proponent will do prospecting and exploration activities for the target commodities and undertake related activities on site. It is also the phase where maintenance of the area, equipment and machinery are done by the Proponent.
- **Decommissioning and Rehabilitation** – This is the phase where the exploration activities on the EPL cease. The decommissioning of the EPL exploration activities may be considered because of poor results or declining in the focus commodity market price. Before the decommissioning phase, the Proponent will need to put site rehabilitation measures in place.
- **Environmental Monitoring Requirements:** To support and ensure that the proposed mitigation measures are achieving the desired results, a monitoring plan must be implemented alongside the mitigation plan.

This draft EMP will be used by the Proponent, employees and/or contractors to provide management measures to be undertaken during mining activities, address the environmental impacts identified in the scoping report and ensure that the impacts on the environment are avoided or limited.

1.3 Appointed Environmental Assessment Practitioner

To fulfill the requirements of the EMA and its 2012 EIA Regulations, the Proponent appointed Excel Dynamic Solutions (Pty) Ltd (EDS), an independent consulting company to conduct the required EA process on their behalf. This draft EMP will be submitted as part of the application for the proposed exploration method on the EPL to the Environmental Commissioner at the Department of Environmental Affairs and Forestry (DEAF), at Ministry of Environment, Forestry and Tourism (MEFT).

1.4 Environmental Assessment Legal Requirements

The content of the EMP must meet the requirements of Section 8 (j) of the EIA Regulations. The EMP must address potential environmental impacts of the prospecting and exploration activities on the environment throughout the project life cycle. It must also include a system of assessment for the effectiveness of monitoring and management arrangements after project implementation.

The Proponent, therefore, has the responsibility to ensure that the exploration activities as well as the EA process conform to the principles of the EMA and must ensure that employees act in accordance with such principles. **Table 1** below show the list of requirements for 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 of the EPL.

Table 1: Applicable legal requirements and permits to the activities of the EPLs 8969 - 8970

Legislation/Policy/Guideline	Relevant Provision	Implication for the Project and Contact Institution/Person
Environmental Management Act (EMA) No. 7 of 2007	<ul style="list-style-type: none"> The Act states that projects with significant environmental impacts are subject to an environmental assessment process (Section 27). The Act details principles, which are to guide all EAs. 	<p>The EMA and its regulations should inform and guide this ESA process.</p> <p>Should the ECC be issued to the Proponent, it should be renewed every three (3) years, counting from the date of issue.</p>
Environmental Impact Assessment (EIA) Regulations Government Notice 28-30 (Government Gazette 4878)	<ul style="list-style-type: none"> Details requirements for public consultation within a given environmental assessment process (Government Notice 30 Section 21). Details the requirements for what should be included in a Scoping Report (Government Notice 30 Section 8) and an Assessment Report (Government Notice 30 Section 15). 	
Minerals (Prospecting and Mining) Act (No. 33 of 1992)	<p>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.</p> <p>Section 54(2): details provisions pertaining to the decommissioning or abandonment of a mine.</p>	<p>The Proponent should ensure that all necessary permits and authorization for these EPLs are obtained from the Ministry of Mines and Energy (MME).</p> <p>Office of the Mining Commissioner Tel: +264 61 284 8167</p>

Legislation/Policy/Guideline	Relevant Provision	Implication for the Project and Contact Institution/Person
	Under this Act (Section 51 (1a)), a holder of a mineral license cannot exercise any rights on a private land until the holder has entered into an agreement with the owner regarding payment of compensation.	
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 litres or less in any container kept at a place outside a local authority area”	The Proponent should obtain the necessary authorisation form the MME for the storage of fuel on-site. Director – Petroleum Affairs Tel: +264 61 284 8291
Forestry Act 12 of 2001, Amended Act 13 of 2005	Prohibits the removal of any vegetation within 100 m from a watercourse (Forestry Act S22 (1)). The Act prohibits the removal of and transport of various protected plant species.	Should there be protected plant species, which are known to occur within the actual project site footprint, and require to be removed, a Permit should be obtained from the nearest Forestry Office (MEFT) prior to removing them. Contact Details at MEFT (Forestry Division Head Office), Director of Forestry: Tel: +264 (0) 61 208 7666
National Heritage Act (Act No. 27 of 2004)	The Act makes provision for the protection and conservation of places and objects of heritage significance and the registration of such places and objects. Part V Section 46 of the Act prohibits removal, damage, alteration, or excavation of heritage sites or remains, while Section 48 sets out the procedure for application and granting of permits such as might be required in the event of damage to a protected site occurring	Contact: The Director of the National Heritage Council of Namibia (NHC): OR Regional Heritage Officers at the NHC Tel: +264 (0) 61 301 903

Legislation/Policy/Guideline	Relevant Provision	Implication for the Project and Contact Institution/Person
	<p>as an inevitable result of development. Part VI Section 55 Paragraphs 3 and 4 require that any person who discovers an archaeological site should notify the National Heritage Council. Section 51 (3) sets out the requirements for impact assessment.</p> <p>Should any objects of heritage significance be identified during the site clearing and excavations, the work must cease immediately in the affected sites and the necessary steps taken to seek authorisation from the Council.</p>	
The National Monuments Act No. 28 of 1969	The Act enables the proclamation of national monuments and protects archaeological sites.	
The Road Traffic and Transport Act No. 52 of 1999 and its 2001 Regulations	Provides for the control of traffic on public road and the regulations pertaining to road transport, including the licensing of vehicles and drivers.	Roads Authority- specialist Road legislation; Tel: +264 (0) 61 284 7072

1.5 Draft EMP Limitations

This EMP has been drafted with the acknowledgment of the following limitations:

- This EMP has been drafted based on the Environmental Assessment (EA) conducted for targeted prospecting and exploration activities on EPLs No. 8969 and 8970
- The mitigation measures recommended in this EMP document are based on the risks and impacts in the ESA Report, which were identified based on the project description as provided by the Proponent, site investigation and public input. Should the scope of the proposed project change, the risks and impacts will have to be reassessed and mitigation measures provided accordingly.

2 EMP IMPLEMENTATION, ROLES & RESPONSIBILITIES

The Proponent is ultimately responsible for the implementation of the EMP. However, the Proponent may delegate this responsibility at any time, as they deem necessary during the project phases. The roles and responsibilities of all delegates/parties involved in the effective implementation of this EMP are set out below:

2.1 Competent Environmental Monitoring Authorities (DEAF and Others)

The Department of Environmental Affairs and Forestry (DEAF) of the Ministry of Environment, Forestry and Tourism (MEFT) as the environmental custodian is responsible for enforcing compliance with the EMA, its regulations and full implementation of this EMP. The authority is also responsible for the reviewing of bi-annual reports submitted by the Proponent and grant ECC renewal after every 3 years following an environmental audit.

Further Monitoring institutions include but not limited to:

- **The National Heritage Council of Namibia:** for archaeological and heritage resources (sites and objects).
- **Ministry of Mines and Energy:** for compliance to the relevant prospecting and exploration requirements, including petroleum products' storage and handling on site.

2.2 The Exploration Manager (or the Proponent)

The Manager, who may also be the Proponent, is responsible for the following:

- Development and management of schedules for daily activities in compliance with the EMP.
- Managing and overseeing the implementation of this EMP, updating, and maintaining it when necessary.
- Ensuring that relevant commitments contained in the EMP Action Plans are adhered to.
- Ensuring the relevant staff is trained in procedures entailed in their duties.
- Through consultations and cooperation with the ECO/SHE officer, issuing fines to individuals who may be in breach of the EMP provision and if necessary, removing such individuals from the site.
- Setting up and managing the schedule for the day-to-day activities.
- Ensuring all incidents are recorded and documented.
- Undertaking an annual review of the EMP and amending the document when necessary.

2.3 Safety, Health and Environmental (SHE) or Environmental Control Officer (ECO)

The SHE or ECO (as appropriate) is responsible for ensuring that project activities are completed on time, efficiently and sustainably. The ECO/SHE Officer's duties and responsibilities include:

- Planning and carrying out site inductions to the workers on-site and visitors to the worksite(s).
- Ensuring compliance with relevant environmental and related authorisations and license conditions.
- Ensure that the requirements of the EMP are carried out during applicable activities throughout the project life span.
- Monitor the overall implementation of the EMP.
- Identifying and appointing of appropriately qualified specialists (were necessary) to undertake the programmes in a timeous manner and to acceptable standards.

2.4 Public Relation Officer (PRO)

The Public Relation Officer will be responsible for the following tasks:

- Liaison between the affected conservancy management (property owners) occupiers of land as well as the responsible members of National Parks/Traditional Authority.
- Ensure effective communication with stakeholders (landowners or occupiers of land), media (if necessary) and the public.
- Managing public relations issues.
- Preparing and submitting public relations reports, if required.
- Collaborating with personnel and maintaining project-related open communication among personnel.
- Cooperate with all relevant interested and affected parties/stakeholders.

2.5 Archaeology: Chance Finds Procedure (CFP) Implementation Roles

The following personnel have been assigned responsibilities as per the Chance Finds Procedure (**Appendix 1**) as per the provided Archaeological and Heritage Assessment Studies conducted for the proposed activities:

A. Operator

To exercise due caution if archaeological remains are found

B. Foreman

To secure site and advise management timeously

C. Superintendent

To determine safe working boundary and request inspection

D. Archaeologist

To inspect, identify, advice management, and recover remains.

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

3 ENVIRONMENTAL MANAGEMENT & MITIGATION ACTION PLANS

The environmental management and mitigation measures (management plan actions) provided to mitigate the potential adverse impacts associated with the proposed project and its activities are presented in this chapter. The aim of these plans of action is to avoid potential impacts where possible, and where avoidance is impossible, measures are provided to reduce the impacts' significance (as presented under the impacts' assessment chapter of the scoping report).

3.1 Key potential negative impacts

The summary of key identified potential adverse impacts for which the measures have been developed are as follows:

- Physical land or soil disturbance
- Impact on local biodiversity (fauna and flora) and habitat disturbance
- Potential impact on water resources and soils particularly due to pollution
- Air quality issue, potential dust from surface excavation, and drilling
- Potential occupational health and safety risks associated with the movement / operating of machinery and equipment on site,
- Vehicular traffic safety and impact on services infrastructure such as local roads,
- Vibrations and noise associated with drilling activities may be a nuisance to locals,
- Environmental pollution through different types of waste generated on the site,
- Impact on archaeological or cultural heritage resources,

- Potential social nuisance and conflicts between landowners and or neighbouring land users and the Proponent.

3.2 The Management and Mitigation of Potential Key Negative Impacts

The management and mitigation measures (action plans) for the potential adverse impacts are presented in **Table 2** for the planning, prospecting and exploration (operational and maintenance) phases.

The required management and mitigation plan actions have been presented under **Table 2** in terms of (a) environmental aspects and issues for which management actions are required, (b) proposed impact mitigation measures, (c) Key Performance Indicators (KPIs) for monitoring success levels of management actions, (d) responsible person(s) for implementing the proposed management actions, € resources required for implementing management actions and monitoring, and (f) implementation timeframes for the proposed management actions.

Table 2: Management and Mitigation Measures for the Planning, Prospecting & Exploration Phases

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
PLANNING PHASE						
EMP implementation and training.	Lack of EMP awareness and implications thereof	<ul style="list-style-type: none"> -A Comprehensive Health and Safety Plan for the project activities should be compiled. This will include all the necessary health, safety, and environmental considerations applicable to the respective works on site. -An EMP non-compliance penalty system should be implemented on -site. -The Proponent should appoint a SHE officer to be responsible for managing the EMP implementation and monitoring. 	<ul style="list-style-type: none"> - All required plans and systems are compiled and in place. Safety, Health and Environmental (SHE) officer is appointed. 	-Proponent	-Records of EMP implementation plans and systems	Pre-exploration (project activities)
Authorizations	Lack of Agreements, Permits/ Licenses	<ul style="list-style-type: none"> - All the required agreements and licences or permits should be applied for and signed, respectively before commencement of work on the EPL, or as required. - The permits, agreements referred to herein include land access & use within the National Park (Dorob National Park) for exploration (as the area falls within their 	<ul style="list-style-type: none"> -Applicable permits and licenses to be obtained from relevant authorities and kept on site for record keeping and future inspections. -Agreements signed and obtained from landowners or occupiers of land prior 	-Proponent	-Permits and Licenses	Prior to exploration

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		jurisdiction) as well as petroleum storage permits from Ministry of Mines and Energy (MME).	to the planned commencement date -Onsite petroleum storage permits obtained (if required).		Signed Land Access and Use Agreements	
Communication between the Proponent and landowners or occupiers of land	Lack of communication (proper liaison) between landowners and the Proponent with regards to land use.	-The Proponent should appoint a Public Relations Officer (PRO) to liaise with the landowners. -The PRO should be introduced to the landowners and his or her contact details provided to them prior to undertaking activities for easy communication during the exploration activities. -A clear communication procedure or plan which should include a grievance mechanism, should be compiled.	-A PRO is appointed -Ongoing stakeholders' and public engagement & consultation throughout the project cycles, when and as required	-Proponent	-Complaint's logbook -PRO contact details to be provided to the affected landowners -Records of Stakeholders' and Public Consultations	PRO appointment (Before project activities) and their responsibilities throughout the rest of the project phases
Employment	Creation of employment opportunities for locals	-Preference of local people for employment for jobs should be implemented, i.e., permanent residents from the local area (in and around Uis should be employed for the unskilled labour preferentially to out-of-area people (outsiders) where possible. Out-of-area	-Number of locals employed for exploration activities -Consultation with the constituency councillor's office and local development committee	-Proponent in collaboration with the Exploration Manager (if necessary)	-Record of employees -Constituency Council office to assist in identifying unemployed people	Pre-project activities and when necessary, throughout the prospecting & exploration phase

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>employment should be justified, for example by the unavailability of local skills only.</p> <p>-Equal opportunity should be provided for both men and women, when and where possible.</p>	-Notification via the Constituency Office			
Specialised procurement of services	Exploration contractors and other services providers	<p>-All services related to exploration activities such as drilling that the Proponent may need, preference should be given to local providers of such services. If not available locally, the services search should be extended to a regional level (Erongo Region) and lastly, nationally, or international, if all efforts truly yield no success.</p> <p>-Opportunities such as small tenders for instance should be awarded through the established committee.</p>	-Number of hired contractors	-Proponent	<p>-Record of hired or contracted companies or services providers</p> <p>-Local Development Committee</p> <p>-Office of the Constituency Councillor</p>	Pre-project activities and when necessary, throughout

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
Corporate Social Responsibility (CSR)	Social commitment failures	<p>- Consider providing and or donating services such as water supply boreholes to the community they are operating in through the identification of people in need. This can be done by drilling a water borehole for the communities.</p> <p>-Infrastructure should be donated to the community through the Regional Council post-exploration for distribution/allocation to the needy communities.</p> <p>-The project owner (Proponent) should fulfil their promises of CSR, upon proper consultation with the local development committees to establish what the community really needs.</p>	-Visible commitment to ensure that the local community is benefitting from the project	-Proponent	<p>-Office of the Constituency Councillor</p> <p>-Local Development Committee to monitor implementation of the CSR</p>	Throughout the prospecting & exploration phase
PROSPECTING AND EXPLORATION PHASE						
EMP implementation and training	Lack of EMP awareness and implications thereof	-EMP trainings should be provided to all new workers on site and to old workers (as a refresher) every 6 months.	-Compliance monitoring conducted monthly for the exploration phase and should be recorded	-SHE Officer	-Monitoring reports by the SHE Officer or ECO	Throughout the exploration phase

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>-All site personnel should be aware of necessary health, safety, and environmental considerations applicable to their respective work.</p> <p>-The implementation of this EMP should be monitored.</p> <p>-The site should be inspected, and a compliance audit done throughout the project activities, monthly and compliance monitoring reports submitted to the DEAF bi-annually.</p> <p>-An EMP non-compliance penalty system should be implemented on site.</p>	<p>-EMP Refresher training for employees/workers every 6 months</p> <p>-Timely renewal of the Environmental Clearance Certificate (ECC) every 3 years</p>		<p>-ECC renewed on time</p> <p>-Records of EMP training conducted</p>	
Land use (physical soils)	Land degradation	<p>-Overburden should be handled more efficiently during exploration works to avoid erosion when subjected erosional processes.</p> <p>-Prevent the creation of huge piles of waste rocks by performing sequential backfilling, especially for drilling exploration.</p> <p>-Stockpiled topsoil and overburdened waste rocks</p>	<p>-No proliferation of informal vehicle tracks.</p> <p>-No new erosion gullies.</p>	<p>-Exploration Manager</p> <p>-SHE Officer</p>	-Complaint's logbook	Throughout the exploration phase

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>should be used to backfill the explored and disturbed site areas/spots.</p> <p>-Soils that are not within the intended and targeted footprints of the site areas should be left undisturbed and soil conservation implemented as far as possible.</p> <p>-Project vehicles/machinery should stick to access roads provide and or meant for the project operations but not unnecessarily create further tracks on site by driving everywhere resulting in soil compaction</p>				
Water resource	Over-abstraction (Water demand and availability)	<p>-When necessary, make provision for water carting to the site to augment onsite water supplies for exploration.</p> <p>-Water should be efficiently used by implementing water-saving efforts such as recycle and re-use where necessary and possible. This includes using water for cooling exploration equipment for the cleaning of project equipment.</p>	<p>-Proof/ recording/ quantification of water saving efforts</p> <p>-No complaints of water level drops and short in supply from local water users</p>	<p>-Exploration Manager</p> <p>-SHE Officer</p>	<p>-Permit issuance (or water purchasing agreements for carting to site)</p>	<p>Water supply agreements to be obtained prior to exploration phase</p> <p>Throughout the phases</p>

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>-Water conservation awareness and saving measures training should be provided to all the project workers so that they understand the importance of conserving water and become accountable.</p>				
Soil and water resources	Soil and water resources pollution	<p>-Spill control preventive measures should be in place on site to management soil contamination, thus preventing and or minimizing the contamination from reaching water resources bodies. Some of the soil control preventive measures that can be implemented include:</p> <p>(a) Identification of oil storage and use locations on site and allocate drip trays and polluted soil removal tools suitable for that specific surface (soil or hard rock cover) on the sites.</p> <p>(b) Maintain equipment and fuel storage tanks to ensure that they are in good condition thus preventing leaks and spills.</p> <p>(a) The oil storage and use locations should be visually</p>	<p>-No complaints of pollutants on the soils and eventually in the water due to exploration activities</p> <p>-No visible oil spills on the ground or contaminated/polluted spots.</p>	-SHE Officer	<p>-Complaint's logbook</p> <p>-Waste containers</p> <p>-Non-permeable material to cover the ground surface at areas where hydrocarbons and potential pollutants are utilized.</p>	Throughout exploration phase

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>inspected for container or tank condition and spills.</p> <p>(b) Maintain a fully provisioned, easily accessed spill kit. Spill kits should be located throughout the active project sites contain the floor dry absorbent material and absorbent booms, pads, mats. These would be suitable for ground surface areas that are covered mainly by hard rocks.</p> <p>-All project employees should be sensitized about the impacts of soil pollution and advised to follow appropriate fuel delivery and handling procedures.</p> <p>-The Proponent should develop and prepare countermeasures to contain, clean up, and mitigate the effects of an oil spill. This includes keeping spill response procedures and a well-stocked cache of supplies easily accessible.</p> <p>-Ensure employees receive basic Spill Prevention, Control, and Countermeasure (SPCC) Plan training and mentor new workers as they get hired.</p>				

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>-Exploration site areas where hydrocarbons will be utilized, the surface should be covered with an impermeable plastic liner (e.g., an HDPE liner), carefully placed to minimize risk of puncturing, to prevent any spillages from getting into direct contact with the soils and prevent eventual infiltration into the ground.</p> <p>-Project machines and equipment should be equipped with drip trays to contain possible oil spills when operated on-site.</p> <p>-In cases of accidental fuel or oil spills on the soil from site vehicles, machinery, and equipment, the polluted soil should be removed immediately and put in a designate waste- type container for later disposal as per the preceding bullet point. The removed polluted soil should either be completely disposed of or cleaned and returned to where it was taken from on -site or can be replaced with cleaner soil.</p>				

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>-Although fuel (diesel) required for exploration equipment will be stored in a tank mounted on a mobile trailer, drip trays must be readily available on this trailer and monitored to ensure that accidental fuel spills along the tank trailer path/route around the exploration sites are cleaned on time (soon after the spill has happened).</p> <p>-Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility.</p> <p>-Washing of equipment contaminated hydrocarbons, as well as the washing and servicing of vehicles should take place at a dedicated area, where contaminants are prevented from contaminating soil or water resources.</p> <p>-Toilet water should be treated by discharging into chemical toilets and periodically emptied before reaching capacity and transported to a wastewater treatment facility.</p>				

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
Biodiversity	Loss of Fauna and Flora	<p>Flora:</p> <ul style="list-style-type: none"> -No onsite vegetation should be cut or used for firewood related to the project's operations. The Proponent should provide firewood for his onsite camping workers from an authorized firewood producers sellersl. -Even if a certain shrub or herb is found along exploration sites, this does not mean that it should be removed. Therefore, care should be taken when exploring without destroying the site vegetation. -Design access roads appropriately in a manner that disturbs minimal land areas and vegetation as possible. -Make use of the existing road network as much as possible and avoid off-road driving. -Vegetation clearing to be kept to a minimum. The vegetation of the site is largely low and open and therefore whole-sale vegetation clearing should only be applied where necessary and within the development footprint. 	<ul style="list-style-type: none"> -Incident reports of illegal hunting of wildlife by the project crew/workers. -No complaints of theft, snaring or killing of wildlife by the project personnel -No disturbance to unmarked areas. No complaints from locals regarding unauthorised vegetation removal or cutting down of trees 	-SHE Officer	-Complaint's logbook	During site set up, and throughout the exploration phase

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>-Formulate and implement suitable and appropriate operational management guidelines for the cleared areas. Incorporated in the guidelines are the progressive rehabilitation measures. These should consider:</p> <p>(a) Post-closure land-use measures and/or establishment of self-sustaining indigenous vegetation.</p> <p>(b) Erosion management measures</p> <p>-Vegetate the top surface of the cleared areas as soon as it is practicably possible.</p> <p>-Cleared areas should be revegetated with seed or plants of locally occurring species.</p> <p>-Regular monitoring for alien plants within the project's footprint during operations/exploration.</p> <p>-No muddy and dirty equipment should be brought onto site as this is likely to carry seeds of alien species.</p> <p><u>Fauna</u></p>				

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>-Workers should refrain from disturbing, killing or stealing wild/protected animals and killing small soil and rock outcrops' species found on site.</p> <p>-Poaching (illegal hunting) of wildlife from the area is strictly prohibited.</p> <p>-Environmental awareness on the importance of biodiversity preservation should be provided to the workers.</p>			<p>-Anti-poaching unit of the Namibian Police Force</p> <p>-MEFT's Wildlife Protection Unit</p>	
Air Quality	Air quality (dust)	<p>-Exploration vehicles should not drive at a speed more than 40 km/h to avoid dust generation around and within the site area.</p> <p>-The Proponent should ensure that the exploration schedule is limited to the given number of days of the week, and not every day. This will keep the vehicle-related dust level minimal in the area.</p> <p>-Dust control measures such as a reasonable amount of water spray should be used on gravel roads and near exploration sites to suppress the dust that may be emanating from certain</p>	<p>-Dust suppression measures implemented</p> <p>-Visible efforts to curb dust</p>	<p>-Exploration Manager</p> <p>-SHE Officer</p>	<p>-Grievance logbook</p> <p>-Dust suppression water tanks</p>	Throughout the phases

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>exploration areas on the EPL such as drilling, and trenching sites.</p> <p>-Dust masks, eye protective glasses and other respiratory personal protective equipment (PPE) such as face masks should be provided to the workers on site drilling areas, where they are exposed to dust.</p> <p>-The impact mitigation measures should be covered in the relevant land owner access agreement as required by law .</p> <p>-Drilling and excavating equipment should be regularly maintained to ensure drilling and excavation efficiency and so to reduce dust generation and harmful gaseous emissions.</p>				
Waste management	Environmental pollution	<p>-Workers should be sensitized to dispose of waste responsibly and not to litter.</p> <p>-All domestic and general operational waste produced daily should be contained until such that time it will be</p>	<p>-A register of all waste generated on site is kept on site.</p> <p>-All waste disposal permits from relevant authorities are available on site.</p>	<p>-Proponent</p> <p>-Exploration Manager</p> <p>-SHE Officer</p>	<p>-Funds to acquire waste storage bins/ drums; and transport all waste from the site.</p> <p>-Waste storage containers</p>	Throughout the phases.

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>transported to designated waste sites.</p> <p>-No waste may be buried or burned on site or anywhere else and no wastes left on the sites.</p> <p>-The exploration site should be equipped with separate waste bins for hazardous and general/domestic waste.</p> <p>-Hazardous waste, including emptied chemical containers should be safely stored on-site where they cannot be accessed and used by uniformed locals for personal use. These containers can then be transported to the nearby approved hazardous waste sites for safe disposal. No waste should be improperly disposed of on site or in the surroundings, i.e., on unapproved waste sites.</p> <p>-Oil spills should be taken care of by removing and treating soils affected by the spill.</p> <p>-A penalty system for irresponsible disposal of waste</p>	<p>-No littering on and around the project site</p>			

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>on site and anywhere in the area should be implemented.</p> <p>-Careful storage and handling of hydrocarbons on site is essential.</p> <p>-Potential contaminants such as hydrocarbons and wastewater should be contained on site and disposed of in accordance with municipal wastewater discharge standards so that they do not contaminate surrounding soils and eventually groundwater.</p> <p>-An emergency plan should be available for major/minor spills at the site during operation activities (with consideration of air, groundwater, soil and surface water) and during the transportation of the products(s) to the sites.</p>				
		<p>-Washing of hydrocarbon contaminated equipment, as well as the washing and servicing of vehicles should take place at a dedicated area, where contaminants are prevented from contaminating soil or water resources.</p>	<p>-Adequate toilet facilities on site.</p>	<p>-Exploration Manager</p> <p>-SHE Officer</p>	<p>-Chemical toilets, waste treatment agents/chemicals</p> <p>-Wastewater discharge permits</p>	<p>At site setup and throughout exploration phase</p>

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>-Sewage waste should be stored as per the portable chemical toilets supplied on site and regularly disposed of at the nearest wastewater treatment facility.</p> <p>-Emptying of chemical toilets according to the manufacturer's specifications.</p> <p>-All wastewater and hydrocarbon substances and other potential pollutants associated with the project activities should be contained in designated containers on site and later disposed of at nearby approved waste sites in accordance with MAWLR's Water Environment Division standards on wastewater discharge into the environment. This is to ensure that these hazardous substances do not infiltrate into the ground and affect the local groundwater quality.</p>				
Noise	Noise	-Noise from project vehicles and equipment on the working sites of the EPL should be at acceptable levels.	-Noise -generating activities such as drilling are limited to weekdays only.	-Exploration manager -SHE Officer	- Written placards with operational hours in a day placed at one of the	Throughout the project phases

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>-Exploration hours should be restricted to between 08h00 and 17h00 to avoid noise and vibrations generated by exploration equipment and the movement of vehicles before or after hours, thus disturbing the tranquillity in the area during the night or early morning hours.</p> <p>-When operating the drilling machinery onsite, workers should be equipped with personal protective equipment (PPE) such as earplugs to reduce exposure to excessive noise.</p> <p>-The transportation of exploration materials, equipment and machinery should be limited to once or twice a week only, but not every day.</p>	<p>-PPE provided to workers operating noisy equipment and in noisy site areas.</p>		<p>visible access roads to sites</p>	
Health and Safety	Occupational & Community Health and Safety	<p>-The Proponent should commit to and make provision for bi-annual full medical check-ups for all the workers at the site to monitor the impact of project-</p>	<p>-Compilation of Comprehensive Health and Safety Plan</p> <p>-Regular health screening of workers</p>	<p>-Exploration Manager</p> <p>-Proponent</p> <p>-SHE Officer</p>	<p>-Health and Safety Policies</p> <p>-Funds to acquire health and safety related equipment. and to pay for</p>	

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>related activities on them (workers).</p> <p>-As part of their induction, the project workers should be provided with awareness training of the risks of mishandling equipment and materials on site as well as health and safety risk associated with their respective jobs.</p> <p>-When working on site, employees should be properly equipped with adequate personal protective equipment (PPE) such as coveralls, gloves, safety boots, earplugs, dust masks, safety glasses, etc.</p> <p>-Heavy vehicle, equipment and fuel storage site should be properly secured, and appropriate warning signage placed where visible.</p> <p>-Drilled exploration boreholes that will no longer be in use or to be used later after being drilled should be properly marked for visibility and capped/closed off.</p> <p>-Ensure that after completion of exploration holes, drill cuttings</p>	<p>-Bi-annual health and safety audits done.</p> <p>-All onsite workers and visitors equipped with PPE.</p>		<p>employee medical services</p> <p>-First Aid training for at least 1 personnel at each work site</p>	

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>are put back into the hole and the holes filled and levelled.</p> <p>-An emergency preparedness plan should be compiled, and all personnel appropriately trained.</p> <p>-Workers should not be allowed to drink alcohol prior to and during working hours nor allowed on site when under the influence of alcohol as this may lead to mishandling of equipment which results into injuries and other health and safety risks.</p> <p>-The site to be equipped with "danger" or "cautionary" signs for any potential danger or risk area identified on site.</p>				
Fires	Accidental fire outbreak	<p>-Portable fire extinguishers should be provided on -site.</p> <p>-No open fires to be created by project personnel.</p> <p>-Potential flammable areas and structures should be marked as such with visible signage.</p>	-No Fires recorded (due to the presence of workers)	<p>-Exploration Manager</p> <p>-SHE Officer</p>	-Fire extinguishers (1 per vehicle) and 1 per working site	Throughout the phases
Archaeology and heritage	Accidental disturbance	-The management and mitigations or	-Preservation of all artefacts that are	-Exploration Manager	-Technical Consultant	-Archaeologist to be present on-

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
	and destruction of archaeological or heritage objects and sites	<p>recommendations to minimize the impact on archaeological and heritage resources. The only provisional recommendation to the proposed detailed study hereto is that:</p> <p>The Proponent is advised to make an application to the National Heritage Council for a Consent to allow a Detailed Assessment of the area in relation to the proposed activity believed to be an archaeological or heritage site.</p>	<p>discovered around the project area</p> <p>-Cessation of work upon discovery or unearthing of unknown objects</p>	<p>-SHE Officer</p> <p>-Archaeologist</p>	<p>(Archaeologist to help identify and advise on heritage object discovery)</p> <p>-Salvage equipment</p> <p>-Flag tapes</p> <p>-GPS (site marking)</p>	site during excavations
Social conflicts	Job seeking, and differing norms and cultures	<p>-The Proponent should prioritize the employment of more local people, and only if necessary and due to lack of skills in the area, out-of-area people can be given some of the work. This is to avoid the influx of outsiders into the area for work that can be done by the locals.</p> <p>-The locals to be employed during the project phases should be provided with the necessary training of skills required for the project to avoid bringing in many out-of-area</p>	<p>-No complaints of property theft or damage related to project workers</p> <p>-More local workers who are familiar with the values, and way of living in the area</p>	<p>-Exploration Manager</p> <p>-SHE Officer</p>	<p>-Grievance logbook</p> <p>-Employment Code of Conduct</p>	Throughout the phases

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>employees. This way, skills development and transfer is ensured in the nearby communities.</p> <p>-The workers should be engaged in health talks and training about the dangers of engaging in unprotected sexual relations which results in contracting HIV/AIDS and other sexual related infections and educating workers regarding COVID-19.</p> <p>-Out-of-area workers that may be employed (due to their unique work skills) on site should be sensitized on the importance of respecting the local values and norms, so that they can co-live-in harmony with the local communities during the duration of their employment on site.</p>				
	Property intrusion and disturbance	-The Proponent should inform their workers on the importance of respecting the locals' properties by not intruding killing the wildlife animals found within the vicinity of the project area.	-Project workers are educated on what is expected of them while on site in relation to the private and public properties -No complaints of damage to private or	-Exploration Manager -PRO -SHE Officer	-Anti-property intrusion or damage pamphlets or placards placed at every exploration site	Throughout the phases

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>-Any workers or site employees that will be found guilty of intruding peoples 'privately owned properties should be called in for disciplinary hearing and/or dealt with as per their employer' (Proponent)'s code of employment conduct</p> <p>-Site workers should be advised to respect the community and local's private properties, values, and norms.</p> <p>-No worker should be allowed to, without permission cut down or damage trees.</p>	<p>public properties by project workers or activities</p>		<p>-Fines for any intentional damage or disturbance of private or public property</p>	
<p>Vehicular Traffic</p>	<p>Traffic safety</p>	<p>-The transportation of exploration materials, equipment and machinery should be limited to once or twice a week only, but not every day to reduce the pressure on local roads.</p>	<p>-Site access road permits obtained, and requirements fulfilled</p> <p>-No complaints from members of the public regarding vehicular</p>	<p>-Exploration Manager</p> <p>-SHE Officer</p>	<p>-Vehicular traffic compliance to be included in the annual environmental audit reporting</p>	<p>Throughout the phases.</p>

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>-The heavy truck loads should comply with the maximum allowed speed limit for respective vehicles while transporting materials and equipment/machinery on the public and access roads (40km/h).</p> <p>-The potential carted water to the site (from other source of water supply) should be done once or twice a week in a container that can supply and store water for most of the week, thus reducing the number of water-carting trucks on the road daily.</p> <p>-Drivers of all project phases' vehicles should have valid and appropriate driving licenses and adhere to the road safety rules.</p> <p>-Drivers should drive slowly (40km/hour or less) and be on the lookout for wildlife as well as travellers.</p> <p>-The Proponent should ensure that the site access roads are well equipped with temporary road signs conditions to cater for vehicles travelling to and</p>	<p>traffic issues related to the project</p> <p>-All personnel operating the project vehicles and machinery are appropriately licensed and possession of valid driving licenses.</p> <p>-The vehicles are driven at the recommended speed.</p> <p>-Demarcated areas for parking, offloading, and loading zones are on sites</p>			

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>from the site throughout the project's life cycle.</p> <ul style="list-style-type: none"> -Project vehicles should be in a road worthy condition and serviced regularly to avoid accidents owing to mechanical faults. -Vehicle drivers should only make use of designated site access roads provided and as agreed. -Vehicle's drivers should not be allowed to operate vehicles while under the influence of alcohol. -Sufficient parking area for all project vehicles should be provided for and clearly demarcated on sites. -The Proponent should make provision for safe materials and equipment offloading and loading areas on sites. -No heavy trucks or project -related vehicles should be parked outside the project site boundary or demarcated areas for such purpose. -To control traffic movement on site, deliveries from and to the 				

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>site should be carefully scheduled. This should optimally be during weekdays and between the hours of 8am and 5pm.</p> <p>-The site access road(s) should be upgraded to an unacceptable standard to be able to accommodate project related vehicles and access permits obtained from the Roads Authority.</p>				
<p>Local resources and services infrastructure.</p>	<p>Overuse of existing roads and water resources.</p>	<p>-The Proponent should consider reusing and recycling water on site to reduce the abstraction of fresh water from local sources.</p> <p>-The heavy trucks transporting materials and services to site should be scheduled to travel at minimally to avoid daily travelling to the site, unless in cases of emergencies.</p> <p>-The Proponent should consider frequent maintenance of local roads around their operations to ensure that the roads are in a good condition for other roads users from and outside the area</p>	<p>The local roads are frequently maintained by the Proponent and the movement of heavy trucks is limited</p> <p>-Watersaving measures are implemented.</p>	<p>-Proponent</p> <p>-Exploration Manager</p>	<p>-Road maintenance excavator/bulldozer</p> <p>-onsite water storage tanks</p>	<p>Throughout the phases</p>

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline

3.3 Rehabilitation and Decommissioning measures

Successful rehabilitation requires careful consideration of the local ecological context in combination with rehabilitation goals. The most important steps in undertaking a successful rehabilitation are planning and environmental awareness (environmental education) on the importance of progressive rehabilitation (or post-activity rehabilitation) and its importance to the environment. Furthermore, to successfully implement the planned rehabilitation, practically, this will depend on a few factors, namely the rehabilitation program, characteristics of the site, nature of the disturbance, rehabilitation methods, as well as resource availability.

Rehabilitation of the EPL site may include the re-vegetation of areas with species consistent with surrounding vegetation; refilling of trenches in such a way that subsoil is replaced first and topsoil replaces last. The management and mitigation measures (action plans) for the rehabilitation and decommissioning of explored sites and site works, respectively are presented in **Table 3**.

Table 3: Management and Mitigation Measures to rehabilitate the explored sites and decommissioning of the site works

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
Rehabilitation	Explored and damaging of site land and soils	-All drilled exploration boreholes related to the project activities and no longer needed should be capped and backfilled. -Utilize stockpiled subsoil and topsoil to fill the excavated pits/trenches progressively back, i.e., stockpiled topsoil	-Capped boreholes and backfilled pits -No stockpiled topsoil (topsoil is levelled after completion of each work)	-Proponent	-Record of boreholes drilled, and pits excavated (if any)	Pre-site abandonment

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		<p>should be levelled during exploration activities.</p> <p>-Backfilling of all excavated pits and trenches with loose materials but not only be filled with sand alone, as wind will scour the sand and re-establish the holes.</p> <p>-Provision of both financial and technical resources for progressive rehabilitation and post-exploration activities should be made.</p>	<p>-Visible signs of stockpiled topsoil</p> <p>-Annual update of finances reserved for decommissioning and rehabilitation</p>		<p>-Waste containers on sites</p> <p>-Photo records of backfilled sites</p> <p>-Records of the campsite and other structures on-site</p> <p>Records of finances set aside for decommissioning activities.</p>	
Decommissioning	Structures and infrastructure	<p>-All accumulated waste (hazardous, solid, and general) up until the cessation of exploration activities will be removed the site and transported to designated off-site waste management facilities.</p> <p>-Removal of project vehicles and equipment from the site and taking them to designated parking facility off -site.</p> <p>-All project support structures such as ablution facilities (toilet and washroom system), campsites, temporary field offices and, storage containers/tanks shall be demolished, and the waste</p>	<p>-No sign of waste or littering is seen on site and around site areas</p> <p>-project structures and infrastructure Campsite dismantled, and materials taken away from the site.</p>	-Proponent		

Aspect	Impact	Management & Mitigation Measure(s)	Key Performance Indicator (KPI)	Responsible Person	Resources	Timeline
		taken to designated sites. The site areas on which these structures were set up will be rehabilitated to a pre-operational state.				

3.4 Environmental and Social Monitoring

To support and ensure that the proposed management and mitigation measures are achieving the desired results throughout the project phases, a monitoring plan must be implemented alongside the mitigation plan. **Table 4** presents the required environmental and social monitoring in terms of each potential impact, parameters to be monitored, and monitoring objectives. Included in the same Table is the reporting structures for monitoring, frequency, methods to be used, reporting structure, any thresholds that apply, and relevant recommended actions (OMAVI, 2020).

The same table also presents the monitoring implementation for the exploration phase, given the similarity in activities, hence the “reporting structure” column presented as “Exploration manager”. Therefore, the monitoring exercise will be done according to the relevant project stage or phase. In other words, for monitoring of mitigation implementation in the prospecting and exploration phase, the reporting structure ends with the Exploration Manager.

Table 4: Monitoring requirements to manage and mitigate the potential adverse impacts (updated after Resilient Environmental Solutions, 2019)

Impact	Parameter to be monitored	Monitoring objective	Key Performance Indicators (KPIs)	Methods of monitoring	Frequency	Responsible party	Reporting structure	Threshold	Action if the threshold is exceeded
Water and soil pollution									

Impact	Parameter to be monitored	Monitoring objective	Key Performance Indicators (KPIs)	Methods of monitoring	Frequency	Responsible party	Reporting structure	Threshold	Action if the threshold is exceeded
Soil pollution by hydrocarbon (fuel and lubricant spills)	Complaints from occupiers of land within the project sites	To prevent contamination of site soils	No complaints about visible oil spills	Inspection of complaints logbooks	Weekly	SHE officer	SHE Officer> Exploration Manager	A logged complaint	Further consultations with the /Landowners or custodians
Wastewater is generated by exploration workers living on-site.	Open defecation and urination.	To prevent environmental pollution.	Adequate toilet facilities on site. Complaints from the public about open defecation and urination.	Visual observation. Inspection of complaints logbook.	Weekly	SHE Officer	SHE Officer> Exploration Manager	A logged complaint	Clean-up of affected areas.
Soils									
Loss of topsoil	Increased loss of soil	To prevent loss of topsoil	No proliferation of informal vehicle tracks. No new erosion gullies	Visual observation	Weekly	SHE Officer	SHE Officer> Exploration Manager	Proliferation of new vehicle tracks Formation of new gullies in work areas	Rehabilitation of affected explored areas
Air quality									
Increase in dust generation	Complaints from public about	To reduce public complaints	No complaints from the	Inspection of complaints logbook.	Weekly	SHE Officer	SHE Officer> Exploration Manager	A logged complaint	Dust suppression around working areas to reduce fugitive dust

Impact	Parameter to be monitored	Monitoring objective	Key Performance Indicators (KPIs)	Methods of monitoring	Frequency	Responsible party	Reporting structure	Threshold	Action if the threshold is exceeded
, which might negatively affect occupational and residential respiratory health.	increased in dust generation.	and prevent negative changes in air quality due to exploration activities	public about increased dust generation.						
Hydrocarbon emissions from vehicles	Complaints from the public about increased vehicles fumes	Same as above.	No complaints from the public about increased vehicle emissions	Inspection of complaints logbook.	Weekly	SHE Officer	SHE Officer> Exploration Manager	A logged complaint	Servicing of vehicles and machinery by a certified service provider
Poaching (Illegal hunting)									
Illegal hunting of wildlife	Reported poaching incidents by projects team	To prevent illegal hunting of wildlife	Incidents reports of illegal hunting of wildlife by exploration workers.	Consultation with the local Police Service for reported incidents of poaching.	Weekly	SHE Officer	SHE Officer> Exploration Manager> local Police Service (Anti-poaching Unit)	An incidents report logged with the local Police Service	Appropriate action will be decided by the local Police Service
Habitat loss (Biodiversity)									
Localised loss of habitat and vegetation	Loss of habitat	To prevent loss of habitat outside areas of interest .	No disturbance to unmarked areas within the project area .	Visual observation	Weekly	SHE Officer	SHE Officer> Exploration Manager	Vegetation clearance outside of marked areas.	Rehabilitation of affected areas to the satisfaction of the SHE Officer

Impact	Parameter to be monitored	Monitoring objective	Key Performance Indicators (KPIs)	Methods of monitoring	Frequency	Responsible party	Reporting structure	Threshold	Action if the threshold is exceeded
Occupational and Community Health and Safety									
No health and safety plan for exploration activities.	Compiled health and safety plan for exploration activities.	To prevent health and safety impacts	No significant health and safety incidents (i.e., serious injuries or loss of life).	Visual observation Inspection of complaints logbooks.	Daily/ weekly	SHE Officer and Exploration Manager	SHE Officer> Exploration Manager	Health and safety incident	Remedy the consequences
Potential increase in the outbreak of wildfires due to project activities	Occurrence of wildfires	To prevent environmental damage caused by wildfires	No wildfires were recorded (due to the presence of exploration workers)	Visual observation	Daily	SHE Officer	SHE Officer> Exploration Manager > local police service.	The Outbreak of wildfires due to the exploration workers.	Rehabilitation of affected areas.
Archaeology and cultural heritage (to be updated upon completion of the required Detailed Archaeological and Heritage Assessment Study)									
Potential disturbance of archaeological and cultural heritage resources.	Presence or unearthing of archaeological or cultural heritage resources.	To prevent the destruction of artefacts and sites	Preservation of all artefacts and sites that are discovered within the site boundary or around the project site area	Inspection of records of findings	Daily	SHE Officer Operator	Operator>Foreman> Superintendent> SHE Officer>Project Archaeologist>National Heritage Council (NHC)	Unearthing of archaeological or cultural heritage resources	Cease all activities on site and wait for NHC to inspect site and give further instructions / actions
Employment creation and Corporate Social Responsibility (CSR)									

Impact	Parameter to be monitored	Monitoring objective	Key Performance Indicators (KPIs)	Methods of monitoring	Frequency	Responsible party	Reporting structure	Threshold	Action if the threshold is exceeded
Creation of employment .	Creation of employment opportunities .	To ensure that locals benefit from the project	Number of locals employed during exploration activities	Inspection of employment records	Monthly	Exploration Manager	Exploration Manager or Proponent	Number of those employed	None
Noise									
Potential increase in noise.	Above ambient noise levels.	To ensure that generated noise does not disturb residents.	Complaints from residents about noise generated.	Inspection of complaints logbook	Weekly	SHE Officer	SHE Officer> Exploration Manager	A logged complaint about above-normal noise levels	Revision of site activities
Vehicular Traffic									
Increase in traffic density on declared Roads Authority (RA) roads or damage to these.	Complaints from the public about the increase in traffic on the roads. Complaints about damage to RA roads caused by the movement of project vehicles and machinery.	To ensure continued ease of access to RA roads by residents	No complaints from the public about the increase in traffic due to exploration activities	Inspection of logbooks	Weekly	SHE Officer	SHE Officer> Exploration Manager > Roads Authority	A logged complaint about traffic increase or damage to RA roads	Find alternative access roads for the workforce. Rehabilitation of affected roads
HIV and AIDS									

Impact	Parameter to be monitored	Monitoring objective	Key Performance Indicators (KPIs)	Methods of monitoring	Frequency	Responsible party	Reporting structure	Threshold	Action if the threshold is exceeded
Potential increase in HIV and AIDS prevalence.	New HIV or sexually transmitted infections (STIs) .	To prevent new infections in the area.	No new HIV or STIs infections recorded.	Liaison with local health facilities	Monthly	SHE Officer	SHE Officer> Exploration Manager > Ministry of Health and Social Services .	Recorded new HIV or STIs linked to the exploration workers.	Continued sex education and provision of condoms.
Social nuisance: Property invasion or disturbance and damage									
Potential intrusion or damage/destruction of private or public properties	Unauthorized intrusion and or damage to properties	To prevent crashes and tensions between the Proponent and the land/property owners	No complaints of property damage or intruding by project personnel	Liaison with property owners or occupiers of land	Monthly	PRO	Exploration Manager (or Proponent)>PRO>Landowners/ Occupiers of land or custodian	Arising new complaints	PRO to warn the personnel on respecting people's properties. If persists, then Code of Conduct to be implemented
Environmental Pollution (Littering)									
Environmental pollution from solid waste during exploration activities.	Scattered litter	To prevent littering of the general project area	No visible litter around the project area	Visual observation	Daily	SHE Officer	SHE Officer> Exploration Manager	Visible littering around project site	Clean-up of the affected areas and ensuring exploration workers utilise waste containers provided.
Site Rehabilitation									
Soil and land disturbance	Abandoned and stockpiled topsoil as well	To prevent major soil and land	No major soil and land disturbance	Visual observation	Daily	SHE Officer	SHE Officer> Exploration Manager	Visible soil and land	Effective progressive backfilling of topsoil and rocks

Impact	Parameter to be monitored	Monitoring objective	Key Performance Indicators (KPIs)	Methods of monitoring	Frequency	Responsible party	Reporting structure	Threshold	Action if the threshold is exceeded
e because of exploration activities.	as very disturbed land surface	damage by project activities						disturbance	

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

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

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

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

Responsibility:

- 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 an 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 the National Museum or National Forensic Laboratory, as directed.

The competent authorities' contact details to report archaeological sites or objects (Exploration Manager and contractor) are as follows:

- National Heritage Council (NHC) of Namibia (+264 (0) 61 244 375) or direct contact with the Regional Heritage Officers at the NHC +264 (0) 61 301 903
- National Museum (+264 (0) 61 276800),
- National Forensic Laboratory (+264 (0) 61 240461).