



ENVIRONMENTAL MANAGEMENT PLAN (EMP):

Environmental Scoping Assessment (ESA) For Exclusive Prospecting Licenses (EPLs) No. 7989, 7790, 7991, 7992, 7993, 7994 & 7995 Located Northeast of Aus Settlement in //Karas Region, Namibia

DRAFT

ECC Application Reference: APP-002838

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1 INTRODUCTION

1.1 Project Background

Africa Big Rhino Mining (Pty) Ltd (hereinafter referred to as The Proponent), has been granted with Exclusive Prospecting Licenses (EPLs) 7989 – 7993 and 7995, and submitted an EPL application for EPL 7994 to the Ministry of Mines and Energy (MME). The Proponent intends to acquire an Environmental Clearance Certificate (ECC) to enable prospecting and exploration activity on the EPLs. The Proponent focuses on acquisition, exploration and development of Base and Rare Metals, Dimension Stones, Industrial Minerals, Nuclear Fuel Minerals, Precious Metals, Precious Stones, and Semi-Precious Stones on the EPLs. The locality map of the EPLs (7989 - 7995) sites is shown in **Figure 1**.

In terms of section 27 (1) of the Environmental Management Act (EMA), no. 7 of 2007 and in line with Sections 32-37 of the EMA Regulations as gazetted in 2012, the proposed prospecting and exploration activities on the EPLs form part of the listed activities that may not be conducted without an EIA being undertaken and an ECC obtained. 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 document has been prepared as per requirement in accordance with Section 8 of the EMA, No. 7 of 2007 and its 2012 EIA regulations. The compilation of this EMP was also one of the outputs required of the Environmental Consultant (Environmental Assessment Practitioner (EAP), by The Proponent. It is required of the Environmental Consultant to comply with the EMA and provide for the following:

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

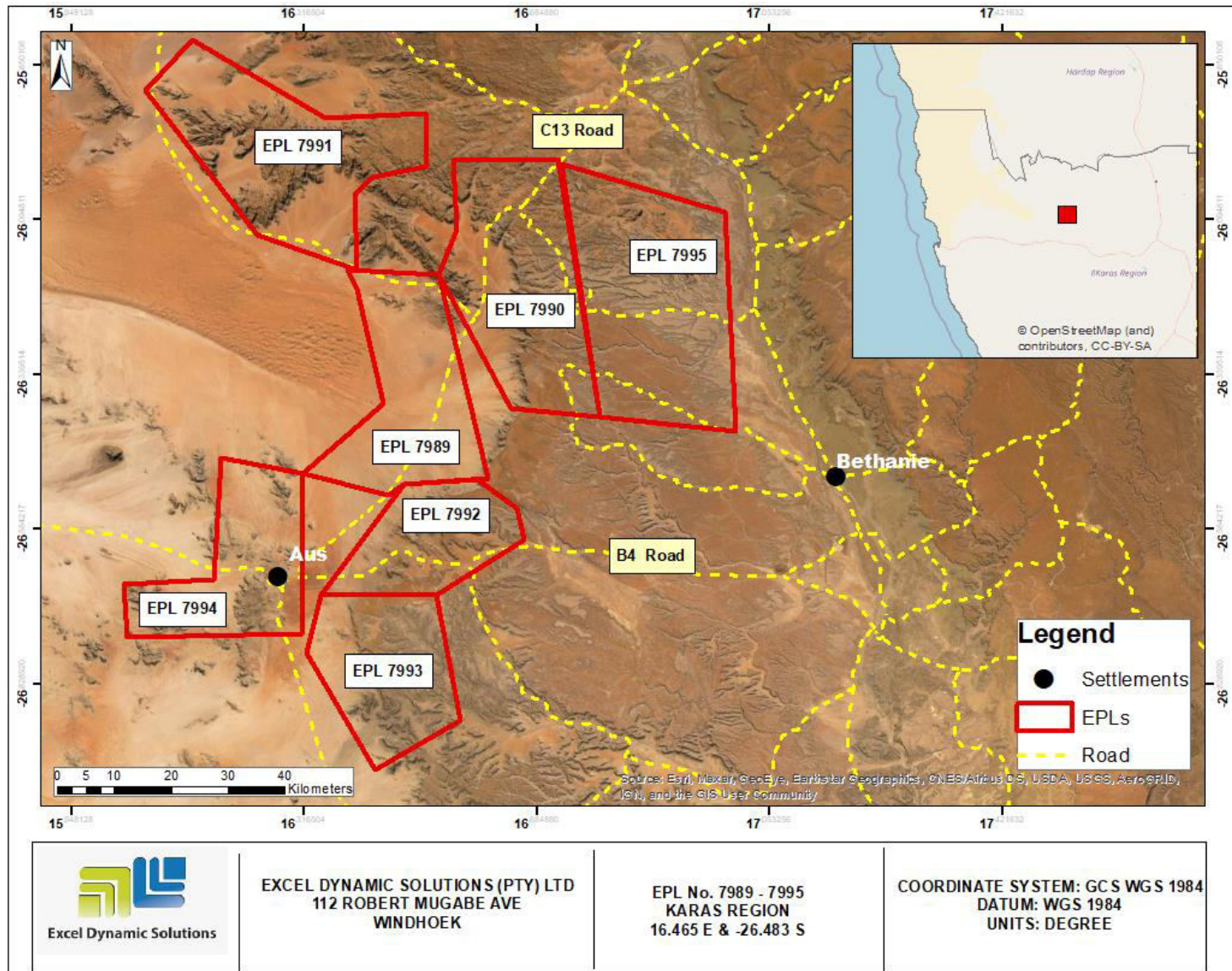


Figure 1: Locality Map of EPLs 7989 -7995 near Aus Settlement in the Karas Region

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) is included as part of the Environmental Assessment (ESA) Report. 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 ESA process as it synthesizes all of the proposed mitigation and monitoring actions, set to a timeline and with specific assigned responsibilities. It provides a link between the impacts identified in the ESA process and the required environmental management on the ground during project implementation and operation. 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 should be amended to adapt to address project changes and/or environmental conditions and feedback from compliance monitoring.

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

- **Operation and Maintenance** - This is the phase where The Proponent will do exploration and prospecting for the relevant commodity groups and undertake related activities on site. It is also the phase during which maintenance of the area, equipment and machinery is done by The Proponent.
- **Decommissioning and Rehabilitation** – This is the phase during which the exploration activities on the EPLs cease. The decommissioning of the exploration operations may be considered as a result of poor exploration 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: In order 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 the exploration and prospecting activities, to

address the environmental impacts identified in the scoping report and ensure that the impacts on the environment are avoided, or limited if they cannot be avoided completely.

1.3 Appointed Environmental Assessment Practitioner

In order to fulfill the requirements of the EMA and its EIA Regulations (2012), The Proponent appointed Excel Dynamic Solutions (Pty) Ltd (EDS), an independent consulting company to conduct the required ESA process on their (Proponent's) behalf. This draft EMP is submitted as part of an application for an ECC to the Environmental Commissioner at the Department of Environmental Affairs and Forestry (DEAF), at Ministry of Environment, Forestry and Tourism (MEFT).

The Environmental Scoping project is headed by Mr. Nerson Tjelos, a qualified geoscientist and experienced Environmental Assessment Practitioner (EAP).

1.4 Environmental Scoping Assessment Legal Requirements

The content of the EMP must meet the requirements of Section 8 (j) of the EIA Regulations. The EMP must address the potential environmental impacts of the exploration and prospecting activities on the environment throughout the project life-cycle. It must also include a system for assessment of 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 2** below lists the 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 proposed for EPLs 7989 - 7995.

Table 1: Applicable legal requirements and permits to the activities of EPLs No. 7989 - 7995

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.

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878)	<p>Details requirements for public consultation within a given environmental assessment process (GN 30 S21).</p> <p>Details the requirements for what should be included in a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15).</p>	<p>Should the ECC be issued to the Proponent, it should be renewed every 3 years, counting from the date of issue.</p> <p>Contact details at the Department of Environmental Affairs (DEA), Ministry of Environment and Tourism (MET)</p>
Minerals (Prospecting and Mining) Act (No. 33 of 1992)	<p>Section 48 (3): In order 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/authorization for these exploration activities (if any) are obtained from the Ministry of Mines and Energy (MME).</p>
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)	<p>Regulation 3(2)(b) states that "No person shall possess [sic] or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area"</p>	<p>The Proponent should obtain the necessary authorisation from the MME for the storage of fuel on-site.</p>
Labour Act 11 of 2007 Health and Safety Regulations (HSR) GN 156/1997 (GG 1617).	<p>Adhere to all applicable provisions of the Labour Act and the Health and Safety regulations.</p>	<p>The protection of employees and contractors' labour rights and occupational health safety</p>
Forestry Act 12 of 2001, Amended Act 13 of 2005	<p>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.</p>	<p>The protection of protected, endangered and endemic species on site, and guidelines for obtaining permits from the Forestry Department.</p>

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
National Heritage Act No. 76 of 1969	Calls for the protection and conservation of heritage resources and artefacts.	The protection of heritage and archaeological resources and artefacts, and guidelines to follow in the event of an archaeological discovery during project works.
Road traffic and transport Act 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.	Road and vehicle use safety

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 ESA conducted for prospecting and exploration of Base and Rare Metals, Dimension Stones, Industrial Minerals, Nuclear Fuel Minerals, Precious Metals, Precious Stones, and Semi-Precious Stones on the EPLs.
- The mitigation measures recommended in this EMP document are based on the risks/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/impacts will have to be reassessed and mitigation measures provided accordingly.

2 EMP ROLES AND RESPONSIBILITIES

The Proponent is ultimately responsible for the implementation of the EMP. Alternatively, 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:

Competent Monitoring Authority (Ministry of Environment, Forestry and Tourism: Department of Environmental Affairs (DEA)): Responsible for enforcing compliance with the

EMA, its regulations and full implementation of this EMP. The competent authority also reviews biannual reports and may grant ECC renewal after 3 years following an environmental Audit.

Proponent's Representative (PR): If the Proponent does not personally manage all aspects of operation and maintenance, and decommissioning and rehabilitation phase activities referred to in this EMP, they should assign this responsibility to a suitably qualified individual referred to in this plan as the Proponent's Representative (PR). The Proponent may decide to assign the role of a PR to one person for both phases or a PR may be appointed to manage the EMP aspects for each project phase. The PR's responsibilities include:

- Managing the implementation of this EMP and updating and maintaining it when necessary.
- Management and monitoring of individuals and/ or equipment on-site in terms of compliance with this EMP.
- Issuing fines for contravening EMP provisions.

Exploration Project Manager (as appropriate): This individual(s) will be responsible to ensure that the exploration and prospecting activities of the project are completed on time. The manager's duties and responsibilities will include:

- Ensure that the relevant commitments contained in the EMP Action Plans are adhered to.
- Ensure relevant staff is trained in procedures.
- Maintain records of all relevant environmental documentation.
- Reviewing the EMP annually and amending the document when necessary.
- Issuing fines to individuals who may be in breach of the EMP provision and if necessary, removing such individuals from the site.
- Cooperate with all relevant interested and affected parties/stakeholders.
- Development and management of schedules for daily activities.

Alternatively, the Proponent may delegate an external/internal Environmental Control Officer (ECO) or Safety, Health & Environment (SHE) Officer to ensure EMP compliance throughout the project life cycle.

Environmental Control Officer or Environmental, Health & Safety Officer: The Proponent should assign the responsibility of overseeing the implementation of the whole EMP to a designated member of staff or external qualified and experienced person, referred to in this

EMP as the Environmental Control Officer (ECO) or Safety, Health & Environment, (SHE) Officer. The ECO/SHE will have the following responsibilities:

- Management and facilitation of communication between the Proponent, PR and Interested and Affected Parties (I&APs) with regard to this EMP.
- Conducting site inspections (recommended frequency is monthly during the operation phase and bi-annually for the operation and maintenance) of all areas with respect to the implementation of this EMP (monitor and audit the implementation of the EMP).
- Advising the PR on the removal of person(s) and/or equipment not complying with the provisions of this EMP.
- Making recommendations to the PR with respect to the issuing of fines for contraventions of the EMP.
- Undertaking an annual review of the EMP and recommending additions and/or changes to this document.

2.1 Management of Key Potential Environmental Impacts

From the assessment conducted, the following key potential negative impacts have been identified per project phase and are summarized in **Table 3** below.

Table 2: Summary of key potential environmental impacts per project phase

	Project Phase	Potential negative impacts identified in the EA
1	Operation and maintenance	Biodiversity loss, Dust generation, Occupational health and safety risks, Scars to landscape, Waste generation, Noise.
2	Decommissioning	Loss of the natural physical state at sites of exploration, Loss of employment by workers at the exploration site and contribution to the national economy.

2.2 Aim of the Environmental Management Plan Actions

The aim of the management actions of the EMP is to avoid potential negative impacts where possible. Where impacts cannot be avoided, measures are provided to reduce the significance of these impacts.

Management actions recommended for the potential impacts rated in the ESA carried out for the prospecting and exploration activities were based on the three project phases listed below:

- Operation Phase (**Table 4**)
- Monitoring (**Table 5**)
- Decommissioning and Rehabilitation

The responsible person(s) should assess these commitments in detail and should acknowledge their commitment to the specific management actions detailed in the phases given under the following subsections.

2.3 Phase 1: Operation Phase Management Action Plans (Mitigation Plan)

The management action plans recommended for this phase are presented in **Table 4** below.

Table 3: Management action plans for the Operation and Maintenance Phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
EMP training	Lack of EMP awareness and the implications thereof	<ul style="list-style-type: none"> All personnel should be educated about the necessary health, safety and environmental considerations applicable to their respective works. 	ECO/SHE Officer	<p>Prior to site setup activities</p> <p>Ongoing</p>
Monitoring	EMP non-compliance	<ul style="list-style-type: none"> The implementation of this EMP should be monitored. An EMP non-compliance penalty system should be implemented on site 	ECO/SHE Officer	During the course of the exploration Phase
Water Resources Use	Over-abstraction leading to the depletion of local aquifer resources	<ul style="list-style-type: none"> Water reuse/recycling methods should be implemented as far as practicable especially for drilling works. Water used for equipment should be captured and used for the cleaning of equipment if possible. The Proponent should prioritize the use of reverse circulation (RC) technique as far as possible, over the use diamond drilling which consumes a lot of water. In the case that the exploration works will mainly rely on diamond drilling over RC and the local boreholes cannot provide the required water volumes, the Proponent should consider transporting water from sources with sufficient supply or from beyond the exploration area. 	ECO	Throughout the exploration phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
Visual (sense of place)	Scarring of Landscape	<ul style="list-style-type: none"> • Access agreements to private farms/land should clearly stipulate any access restrictions to any certain parts of the private property, which should be honoured by the Proponent. • All the necessary options to improve the aesthetic of the site should be considered and incorporated in the activities of the prospecting and exploration program. • The Proponent should consider the implementation of a continuous rehabilitation programme, approved by relevant farm/land owners. 	Exploration Manager ECO / SHE Officer	Throughout the exploration phase
Biodiversity	Loss of biodiversity	<ul style="list-style-type: none"> • Vegetation found on the site, but not in the targeted areas of exploration should not be removed, but left to preserve biodiversity on the site. • Shrubs or trees found along exploration spots on sites, should not be unnecessarily removed. Therefore, care should be taken to ensure exploration activity occurs with little to no destruction to vegetation as far as possible. • Where vegetation clearing and/or damage is unavoidable, permits for clearing protected plant species should be obtained from the nearest Forestry office in the Karas Region. • Environmental awareness on the importance of biodiversity preservation should be provided to the workers. 	ECO/SHE Officer/Exploration Manager/ Personnel	Throughout the exploration phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
		<ul style="list-style-type: none"> • Personnel should refrain from damaging or cutting down vegetation that is not within exploration site footprints and not necessarily require removal for the exploration activities. • The exploration team may not cut down or damage trees belonging to the landowners and should adhere to the access contracts between the Proponent and landowners. • The movement of vehicles and machinery should be restricted to existing roads and tracks to prevent unnecessary damage to the vegetation. • Killing and snaring of animals on site is prohibited. 		
Air Quality	Generation of dust and emissions of hydrocarbons from vehicles	<ul style="list-style-type: none"> • The exploration schedule should be limited to between 08h00 and 17h00 in order to keep the vehicle-related to dust level minimal in the area. • Dust suppressants should be used in cases where operations produce harmful levels of dust. • Vehicles and machinery on site should be serviced regularly to prevent emission of harmful gases. 	Exploration Manager ECO/SHE Officer	Throughout the exploration phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
Waste Generation	General waste produced during exploration operations.	<ul style="list-style-type: none"> • Workers should be sensitized to dispose of waste in a responsible manner and not to litter. • After each daily works, the Proponent should ensure that there are no wastes left on site. • All domestic and general operational waste produced on a daily basis should be contained 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 exploration site(s) should be equipped with separate waste bins for hazardous and general waste. • Sewage waste should be stored as per the portable chemical toilets supplied on site and regularly disposed of at the nearest treatment facility. • Careful storage and handling of hydrocarbons on site is essential. • Oil spills should be taken care of by removing and treating soils affected by the spill. • 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 • A penalty system for irresponsible disposal of waste on site and anywhere in the area should be implemented. 		

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
	Solid waste produced during exploration operations.	<ul style="list-style-type: none"> • Provision of animal-proof waste storage containers for storage of waste until disposal at a designated disposal site. • Personnel should dispose of waste in a responsible manner and not litter. • The project sites should be equipped with different waste bins for each waste type (except for sewage that will be contained in the provided chemical toilets and/ or periodical type of pit latrine). • After each daily works, no waste should be left scattered on sites. • No waste may be buried or burned on site or anywhere else throughout the exploration duration. • All domestic and general waste produced on a daily basis should be contained until such that time it will be transported to designated waste sites on a weekly basis or as required. • Hazardous waste, including emptied chemical containers should be safely stored on site where they cannot be accessed and used by locals for personal use. These containers can then be transported to the nearby approved hazardous waste sites for safe disposal. 		
Occupational Health and Safety	Health and safety of the workers during exploration activity	<ul style="list-style-type: none"> • A comprehensive occupational health and safety plan should be compiled for all exploration drilling activities. • All personnel should be trained in/sensitised to the potential health and safety risks associated with their respective jobs. 	Exploration Manager ECO/SHE Officer	Prior to site setup activities and as required throughout the exploration phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
		<ul style="list-style-type: none"> • As part of their induction, the workers should be provided with an awareness training of the risks of mishandling equipment and materials on site • When working on site, employees should be properly equipped with personal protective equipment (PPE) such as coveralls, gloves, safety boots, earplugs, safety glasses, etc. • No employee should be allowed to consume alcohol or any other intoxicants prior to and during working hours as this may lead to mishandling of equipment which results into injuries and other health and safety risks. • Employees should not be allowed on site if under the influence of alcohol or other intoxicants. 		
	Accidental fire outbreak	<ul style="list-style-type: none"> • Portable fire extinguishers should be provided on site. • No open fires to be created by exploration personnel. 	ECO / SHE Officer	Throughout the exploration phase
	Covid-19, HIV and Other disease	<ul style="list-style-type: none"> • The workers should be engaged in health talks and training about the dangers of Covid-19, HIV/AIDS and other disease. Awareness should be provided to workers on safety and self-protection from (infectious) disease. • Covid-19 preventative measures should be taken during exploration operations to limit the spread of Covid-19 on the site. i.e. washing and sanitizing of hands, social distancing, wearing of masks. 		

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
		<ul style="list-style-type: none"> Provision of facemasks, hand sanitizers, hand soap, and condoms, as well as health education through distribution of pamphlets. These pamphlets can be obtained from local health facilities. 		
Noise & Vibration	Potential Increase in noise levels and vibrations in the area of operations	<ul style="list-style-type: none"> During exploration, the operational times should be set such that, no activity is carried out during the night or very early in the mornings. If exploration drilling activities are to be carried out on every day of the week in order to meet exploration requirements/deadlines, exploration works should be limited to or only between the hours of 08h00 and 17h00, in order to limit general exposure to noise and vibrations. When operating the drilling machinery onsite, workers should be equipped with appropriate personal protective equipment (PPE) such as earplugs to reduce noise exposure. Machinery and vehicles should be serviced regularly so that they function normally without excessive noise. 	Exploration Manager ECO/ SHE Officer	Throughout the exploration phase
Vehicular Safety	The increase in traffic density and slow moving exploration trucks may lead to road accidents	<ul style="list-style-type: none"> Drivers should drive at the speed limits of 40km/hour or less (or as specified by road signage at the sites), and should be on the lookout for local livestock and wildlife All drivers of the project vehicles should be in possession of valid and appropriate driving licenses to operate such vehicles. 	ECO/SHE Officer	Throughout the exploration phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
		<ul style="list-style-type: none"> • Vehicle drivers should adhere to the road safety rules. • Project vehicles should be in a road worthy condition and serviced regularly in order to avoid accidents as a result of mechanical faults of vehicles. • Vehicle drivers should only make use of designated site access roads provided. • Vehicles drivers should not be allowed to operate vehicles while under the influence of alcohol or any other intoxicants. • All project related vehicles and heavy machinery should only be parked within the allocated or designated project site boundaries. 		
Soils	Land Degradation + Soil Pollution	<ul style="list-style-type: none"> • Overburden material (if any) should be handled more efficiently during exploration operations to avoid erosion when subjected erosional processes. • Prevent the creation of huge piles of waste rocks by performing sequential backfilling. • Site soils should not be disturbed, if not needed or related to the actual exploration works. • Spill control preventative measures should be put in place to manage soil contamination, no matter how small the amount of pollution (spill) is. • Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility. 	Exploration Manager ECO/SHE Officer	Throughout the exploration phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
		<ul style="list-style-type: none"> • Soil contamination should be minimised by lining the ground with durable plastic where necessary. • 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 soils. 		
Water	Compromised water quality.	<ul style="list-style-type: none"> • Regular inspections and servicing of vehicles and machinery offsite or in designated areas. • Fuels and lubricants must be stored in containers. If stored on the ground, these containers should be placed on a non-permeable surface (e.g. high-density polyethylene plastic sheets). • 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 water resources. • The exploration effluent/wet waste and hydrocarbons should be contained on site in designated containers and disposed of in accordance to municipal wastewater discharge standards, so that they do not reach to local groundwater systems. • Chemical used for drilling activities (in the drilling mud) should be non-hazardous and biodegradable 	ECO / SHE Officer	Throughout the exploration phase
Wildlife	Illegal hunting of wildlife (Poaching) by exploration workers	<ul style="list-style-type: none"> • Exploration personnel should not hunt wildlife on and around the project sites. • Site personnel should refrain from killing/poaching or snaring or intentionally disturbing local animals that may be found on and around the exploration sites. 	Exploration Manager ECO/SHE Officer	Throughout the exploration phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
		<ul style="list-style-type: none"> • Personnel are not allowed to kill or in any way disturb local livestock. • Any project personnel to be found poaching wildlife in the area should be reported to the nearest Police Station or Anti-Poaching Unit. • The Proponent should work together with the Police and/or the Anti-Poaching Unit in the area to raise awareness on the negative impact of poaching to the local and regional economy. 		
Archaeology and cultural heritage	Potential disturbance to archaeological and cultural heritage resources	<ul style="list-style-type: none"> • Archaeologically significant sites identified should be avoided and treated as no-action zones during exploration activity. • The Proponent should consider having a qualified and experienced Archaeologist on standby/call during the entire operational phase. This action will be to assist on the possible of uncovering of sub-surface graves or other Cultural/heritage objects and advise the Proponent accordingly. • Exploration workers should be informed to not destroy /damage any unknown object or archeological materials found/discovered on site during exploration operations, but to report these objects to the Exploration Manager or ECO who then informs the National Heritage Council of Namibia (NHC). • Caution should be exercised when carrying out excavations associated with the exploration activities in the event that archaeological/heritage remains are discovered. 	Exploration Manager ECO/SHE Officer	Prior to site setup activities. Ongoing observation

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
		<ul style="list-style-type: none"> • Identified graves or any archaeological significant objects on the site should not be disturbed but are to be reported to the project Environmental officer or National Heritage Council offices. • The Chance Finds Procedure as outlined in the EMP (Appendix B) must always be implemented. • Detailed field survey should be carried out if suspected archaeological resources or major natural cavities / shelters have been unearthed during the exploration operations. 		
Occupational Health & Safety	<p>Risk of contracting and spreading Covid-19 among workers on site.</p> <p>Potential increase of prevalence of HIV and AIDS, as well as other STIs prevalence.</p>	<ul style="list-style-type: none"> • 	SHE Officer	During site setup and throughout exploration phase

2.4 Phase 2: Monitoring Phase Management Action Plans (Monitoring Plan)

In order to support and ensure that the proposed mitigation measures are achieving the desired results, a monitoring plan must be implemented. The management action plans recommend for exploration work are presented in **Table 5** below.

Table 4: Management action plans for the Monitoring Phase

Environmental Feature	Impact	Management Actions	Responsible person(s) Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
Soils	Loss of top soil	<ul style="list-style-type: none"> All measures should be considered to prevent unnecessary loss of top soil 	SHE Officer/ Exploration Manager	weekly	Proliferation of new vehicle tracks	Rehabilitation of affected areas
Monitoring	EMP non-compliance	<ul style="list-style-type: none"> The ECO or the Proponent/Contractor should monitor the implementation of this EMP to ensure compliance. The ECO(s) should inspect the site throughout the exploration period and after completion. The proponent is required to contract an external environmental Consultant to conduct bi-annual environmental audits on the operations sites. 	ECO/ SHE Officer Environmental Consultant	Daily Bi-annually	Increase in health, safety and environmental damage incidence	Daily safety talks, the Remedy consequences
Biodiversity	Loss of biodiversity	<ul style="list-style-type: none"> Clear only footprint areas to maintain as much of the remaining natural vegetation on site and to prevent loss of habitat 	ECO Workers involved in this phase	Weekly	Vegetation clearance outside of marked areas.	Rehabilitation of affected areas to the satisfaction of the SHE Officer

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
Health and Safety	Health and safety of the workers	<ul style="list-style-type: none"> • Exploration workers should be trained on how to handle materials and equipment on site (if they do not already know how to) in order to avoid injuries. • Exploration equipment and materials transported to site should be securely fastened to the vehicles (trucks and cars), to prevent loss of equipment and motor vehicle accidents. • The proponent and ECO/SHE Officer should ensure that all personnel are provided with appropriate personal protective equipment (PPE), such as (c)overalls, gloves, safety boots, safety glasses, ear buds and hard hats at all times during exploration (operation) hours on site to prevent serious injuries or loss of life • No employee should be allowed to consume alcohol or 	ECO/SHE Officer Workers Involved in this phase	Daily/Weekly	Health and safety incident	Remedy the consequences

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
		any other intoxicants prior to and during working hours as this may lead to mishandling of equipment which results into injuries and other health and safety risks.				
Noise	Disturbance to site neighbours	<ul style="list-style-type: none"> • Exploration works schedule should be limited to normal working hours, between 08h00 and 17h00. This is to ensure generated noise does not become nuisance to the neighbours. 	ECO Exploration Manager	Weekly	A logged complaint about excessive noise	Revision of site activities
Waste	Environmental Pollution	<ul style="list-style-type: none"> • The exploration site should be kept tidy at all times. • All domestic and general construction waste produced daily should be cleaned and contained on a daily basis to prevent environmental pollution. • Separate waste containers (bins) for hazardous and domestic / general waste must be provided on site to avoid combining of waste 	ECO/SHE Officer Workers involved in this phase	Daily	Visible littering around project site A logged complaint	Clean-up of the affected areas and ensuring exploration workers utilise waste containers provided.

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
Transport		<ul style="list-style-type: none"> • Exploration project workers will be transported, in an SUV/ bus (or similar suitable passenger vehicle) to and from site prevent inhaling of dust. 	ECO/ SHE Officer	Daily	A logged complaint about bad form of transport	
COVID-19, HIV or STIs infections	Potential increase in HIV and AIDS prevalence	<ul style="list-style-type: none"> • Provision of information on updated Covid-19 regulations, and any other relevant health related information to workers. 	SHE Officer	Monthly		
Vehicular traffic safety	Increase in local traffic flow	<ul style="list-style-type: none"> • All drivers of project vehicles should be in possession of valid and appropriate driving licenses to operate such vehicles. • Project vehicles should be in a road worthy condition and serviced regularly in order to avoid accidents as a result of mechanical faults of vehicles. • Vehicles drivers should not be allowed to operate vehicles while under the influence of alcohol. 	ECO/SHE Officer	Weekly	A logged complaint about traffic increase or damage to RA roads	Find alternative access roads for the team. Rehabilitation of affected roads

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
		<ul style="list-style-type: none"> No heavy trucks or project related vehicles should be parked next to the residents' properties or obstruct the local traffic in any way. 				

2.5 Phase 3: Decommissioning and Rehabilitation Phase

Decommissioning and rehabilitation will involve the following:

- Necessary landscaping of exploration areas will be undertaken upon completion of each phase of exploration
- Revegetation of areas affected by exploration activity
- Capping or backfilling of all drilled holes with loose materials.
- Collecting and disposing domestic waste at the nearest landfill/ dumpsite.
- Leveling the stockpiled top soil during exploration activities.
- Any temporary setup of camps should be dismantled, and the area should be rehabilitated as far as possible to its original state.

3 ENVIRONMENTAL MONITORING

In order to minimize the "medium" and uphold the "low" significance ratings of impacts identified and assessed in the EA report; bi-annual EMP compliance audits should be carried out during the course of the project cycle. The first bi-annual audit exercise should be done counting 6 months from the date of ECC issuance. Monitoring reports are to be compiled and submitted to the Department of Environmental Affairs and Forestry (DEAF) for archiving. This practice will make any considerations for ECC renewal easy when it is about to expire. Therefore, the Proponent should ensure meritorious monitoring and ensure that bi-annual reports are submitted to the DEA. The submission is not only done for record keeping purposes, but also in compliance with the environmental legislation.

4 CONCLUSION

The potential positive and negative impacts of the proposed prospecting and exploration activities on EPLs 7989,7990,7991, 7992, 7993, 7994 and 7995 and associated activities were identified, assessed and mitigation measures made thereof. The mitigation measures and recommendations provided in the ESA report and the management action plans provided herein, can be deemed sufficient to avoid and/or reduce (where impact avoidance is impossible) the risks to acceptable levels. The Consultant is, therefore, confident that these measures are sufficient, and issuance of an Environmental Clearance Certificate (ECC) to the Proponent to enable exploration works on EPLs 7989 - 7995 would be appropriate under the suggested mitigation and monitoring measures. However, the ECC should be issued on a condition that the provided management measures and action plans are effectively implemented on site and monitored. Should the ECC be issued, the Proponent will be expected to be compliant with the ECC conditions as well as legal requirements governing the mineral exploration and related activities.