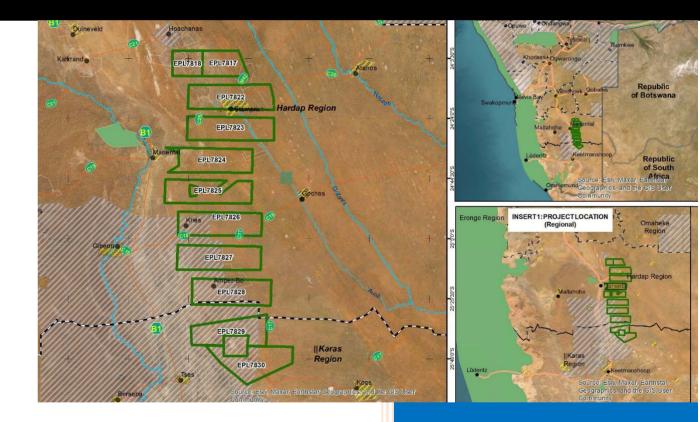
# 2025

### Updated Environmental Management Plan

Exploration Activities on Exclusive Prospecting License (EPL) No. 7827, in Hardap Region





## Environmental Management Plan

RENEWAL OF THE ENVIRONMENTAL CLEARANCE CERTIFICATE FOR THE EXPLORATION ACTIVITIES ON EXCLUSIVE PROSPECTING LICENSE (EPL) NO. 7827, IN HARDAP REGION

#### **PROJECT DETAILS**

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#### **REPORTDATE:**

01 July 2025

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#### ABBREVIATIONS

AIDS	Acquired Immuno-Deficiency Syndrome	
EA	Environmental Assessment	
ECC	Environmental Clearance Certificate	
ECO	Environmental Control Officer	
EIA	Environmental Impact Assessment	
EMA	Environmental Management Act	
EMP	Environmental Management Plan	
GG	Government Gazette	
GIS	Geographic Information System	
GN	Government Notice	
GPS	Global Positioning System	
HIV	Human Immuno-deficiency Virus	
I&APs	Interested and Affected Parties	
NHC	National Heritage Council	
PR	Proponent's Representative	
Reg.	Regulation	
S	Section	
ТВ	Tuberculosis	

#### 1 INTRODUCTION

Green Mining (Pty) Ltd, as the Proponent, intends to renew the Environmental Clearance Certificate (ECC) for EPL 7827, located in the Hardap Region. The mineral rights for EPL No. 7827 are held by Green Mining (Pty) Ltd. The area covered by EPL 7827 is 71925.7914 hectares, and the company is focused on exploring nuclear fuel minerals and precious minerals. Additionally, EPL 7827 encompasses several commercial farmlands. The Ministry of Mines and Energy issued the EPL on July 28, 2020, and it is valid until July 27, 2023.

The proponent intends to undertake prospecting for precious metals and nuclear fuels mineral covering desktop studies and review of historical exploration in the area, aerial surveys such as geophysical and hyperspectral surveys, initial and detailed field-based activities such as geological mapping, ground geophysics, trenching, drilling, and sampling with laboratory testing.

The proponent appointed Risk Based Solutions (RBS) to undertake the Environmental Impact Assessment (EIA) in order to obtain an Environmental Clearance Certificate (ECC) for the activities from the Office of the Environmental Commissioner in the Ministry of Environment, Forestry and Tourism (MEFT). The ECC was issued in 2021.

This ECC is now up for renewal (2025) and the proponent has appointed Environam Consultants Trading (ECT) to apply for the renewal of the ECC. ECT hereby acknowledges the work previously carried out by RBS.

The proponent has experienced challenges obtaining access permit to enter the farmland from the landowners. This has led to the misalignment of getting the ECC and EPL approved at the same time. The application for extension of the EPL has been submitted to the Ministry of Industrialisation, Mines and Energy and the renewal is pending the approval of the application for renewal of the ECC.

This Environmental Management Plan (EMP) has been developed to manage possible impacts associated with the exploration phase. The EMP has been developed in terms of the Environmental Management Act No 7 of 2007, EMA regulations of 2012 and other relevant legislations binding to Namibia. According to the Environmental Management Act of 2007 and its regulations of 2012, mineral exploration is an activity which cannot be undertaken without an ECC.

The EMP is a legally binding document in terms of the provisions of the Environmental Management Act of 2007. The Proponent and its contractors must therefore adhere to the contents of this document.

An EMP is one of the most important outputs of the EIA process as it synthesises all of the proposed mitigation and monitoring actions, set to a timeline and with specific assigned responsibilities. This EMP details the mitigation and monitoring actions to be implemented during the following phases of this development:

 <u>Planning and Design</u> - the period, prior to construction, during which preliminary legislative and administrative arrangements, necessary for the preparation of the land, are made and engineering designs are carried out. The preparation of construction tender documents forms part of this phase;

• <u>Construction</u> - the period during which the proponent, having dealt with the necessary legislative and administrative arrangements, appoints a contractor for the construction of services infrastructure, buildings as well as any other construction process(s) within the development areas;

- <u>Operation and Maintenance</u> the period during which the development will be fully functional, operational and maintained.
- <u>Decommissioning</u> the period at which activities on site have reached the end of economic viability and closure is imminent.

The EMP aims to take a pro-active route by addressing potential problems before they occur. The objectives of the EMP are therefore;

- To outline mitigation measures in order to manage environmental and socio-economic impacts associated with the exploration phase
- Provide a framework for implementing the management actions recommended in the EIA for exploration activities.
- To ensure that the project will comply with relevant environmental legislations of Namibia and other requirements throughout its activities.

#### 2 PROJECT LOCATION

Exclusive Prospecting License (EPL) 7827 is situated in the Hardap Region. The license area spans over private commercial farmlands. It is located on centre coordinates -25.190555°, 18.352500°. See Figure 1 below for the locality map.

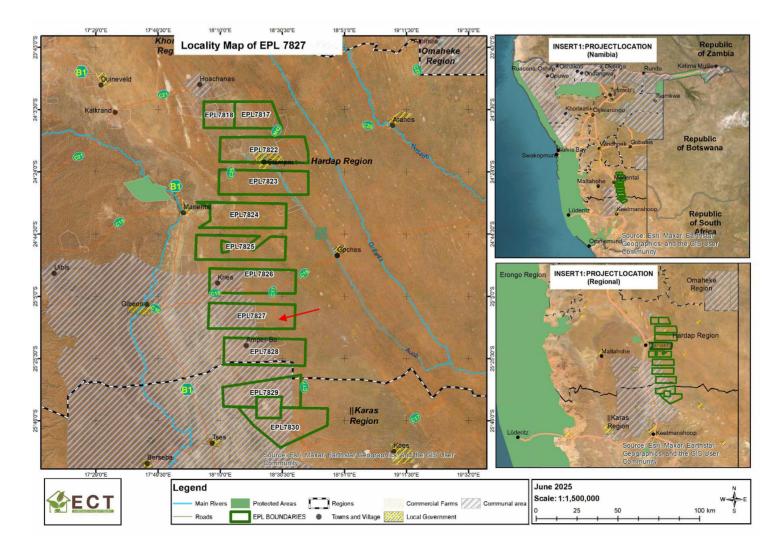


Figure 1: Locality Map of EPL7827

#### **3 OPERATIONAL ACTIVITIES**

No activities were carried out on EPL 7827 for the period from 2019 to date. This is mainly due to challenges in obtaining access permits from the landowners. However, if the ECC is renewed, pending drilling permits from the Ministry of Agriculture, Fisheries, Water and Land Reform, the proponent plans to conduct exploration activities which include: exploration drilling, hydrogeological drilling, and core sampling. geophysical well logging and testing of hydrogeological wells for radionuclides.

#### 4 APPLICABLE LEGISLATION

Legal provisions that have relevance to various aspects of this development are listed in

 Table 1 below. The legal instrument and applicable corresponding provisions are provided.

#### Table 1:Legal provisions relevant to this development

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
The Constitution of the	Article 91 (c) provides for duty	Sustainable development
Republic of Namibia as	to guard against "the	should be at the forefront of
Amended	degradation and destruction of	this development.
	ecosystems and failure to	
	protect the beauty and	
	character of Namibia."	
	Article 95(l) deals with the	
	"maintenance of ecosystems,	
	essential ecological processes	
	and biological diversity" and	
	sustainable use of the country's	
	natural resources.	
Environmental	Section 2 outlines the objective	The development should be
Management Act No. 7	of the Act and the means to	informed by the EMA.
of 2007 (EMA)	achieve that.	
	Section 3 details the principle	
	of Environmental Management	

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
EIA Regulations GN 28,	GN 29 Identifies and lists certain	Activity 3.1 The
29, and 30 of EMA	activities that cannot be	construction of facilities for
(2012)	undertaken without an	any process or activities
	environmental clearance	which requires a licence,
	certificate.	right or other form of
	GN 30 provides the regulations	authorisation, and the
	governing the environmental	renewal of a licence, right
	assessment (EA) process.	or other form of
		authorisation, in terms of
		the Minerals (Prospecting
		and Mining Act), 1992.
		Activity 3.2 Other forms of
		mining or extraction of any
		natural resources whether
		regulated by law or not.
		Activity 3.3 Resource
		extraction, manipulation,
		conservation and related
		activities.
Convention on	Article 1 lists the conservation of	The project should consider
Biological Diversity	biological diversity amongst the	the impact it will have on the
(1992)	objectives of the convention.	biodiversity of the area.
Draft Procedures and	Part 1, Stage 8 of the guidelines	The EA process should
Guidelines for	states that if a proposal is likely	incorporate the aspects
conducting EIAs and	to affect people, certain	outlined in the guidelines.
compiling EMPs (2008)	guidelines should be considered	
	by the proponent in the scoping	
	process.	
Namibia Vision 2030	Vision 2030 states that the	Care should be taken that the
	solitude, silence and natural	development does not lead to
	beauty that many areas in	the degradation of the natural
	Namibia provide are becoming	beauty of the area.
	sought after commodities and	
	must be regarded as valuable	
	natural assets.	

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT		
Water Resources	To provide for the management,	The pollution of water		
Management Act 11 of	protection, development, use	resources should be avoided		
2013	and conservation of water	during the operation of the		
	resources.	development.		
The Ministry of	MEFT has developed a policy on	The proponent and its		
Environment, Forestry	HIV and AIDS. In addition, it has	contractor have to adhere to		
and Tourism (MEFT)	also initiated a programme	the guidelines provided to		
Policy on HIV & AIDS	aimed at mainstreaming HIV and	manage the aspects of		
	gender issues into environmental	HIV/AIDS. Experience with		
	impact assessments.	construction projects has		
		shown that a significant risk is		
		created when construction		
		workers interact with local		
		communities.		
Minerals (Prospecting	This Act deals with the granting	Compliance to this instrument		
and Mining) Act 33 of	of access to mineral resources. is critical.			
1992				
Labour Act no 11 of	Chapter 2 details the	Given the employment		
2007	fundamental rights and	opportunities presented by the		
	protections.	development, compliance with		
	Chapter 3 deals with the basic	the labour law is essential.		
	conditions of employment.			
Public and	Section 3 prohibits persons from	Owner, contractors and		
Environmental Act of	causing nuisance.	employees have to comply with		
2015		these legal requirements.		
Nature Conservation	Chapter 6 provides for	Indigenous and protected		
Ordinance no 4 of 1975	legislation regarding the	plants have to be managed		
	protection of indigenous plants	within the legal confines.		
Atmospheric Pollution	The Ordinance objective is to	All activities on the site will		
Prevention Ordinance	provide for the prevention of the	have to take due consideration		
(No. 11 of 1976).	pollution of the atmosphere, and of the provisions			
	for matters incidental thereto.	legislation.		

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
Hazardous Substance	The ordinance provides for the	The waste generated on site
Ordinance, No. 14 of	control of substances which may	and at the campsite should be
1974	cause injury or ill-health or	suitably categorized /
	death of human beings because	classified and disposed of
	of their toxic, corrosive, irritant,	properly and in accordance
	strongly sensitizing or flammable	with the measures outlined in
	nature.	the Ordinance and Bill.
Roads Ordinance 17 of	This Ordinance consolidates the	The provisions of this
1972	laws relating to roads.	legislation have to be taken
		into consideration in as far as
		access to the development site
		is concerned.
Roads Authority Act,	Section 16(5) of this Act places a	Some functions of the Roads
1999	duty on the Roads Authority to	Ordinance 17 of 1972 have been
	ensure a safe road system.	assigned to the Roads
		Authority.
Petroleum Products	This Act regulates the on-site	The storage of fuel for the use
and Energy Act of 1990	storage of fuel amongst others	of machinery should adhere to
		the relevant legislation.
Heritage Act, 2004 (Act	The Heritage Act of 2004 makes	In an event that the Proponent
No. 27 of 2004)	provision for the developer to	comes across any
	identify and assess any	archaeological or historical
	archaeological and historical	sites of significance, they
	sites of significance. The	should report immediately to
	existence of any such sites	the Monuments Council.
	should be reported to the	
	Monuments Council as soon as	
	possible. The Council may serve	
	notice that prohibits any	
	activities as prescribed within a	
	specified distance of an	
	identified heritage/archaeology	
	site.	

#### 5 ROLES AND RESPONSIBILITIES

This Environmental Management Plan (EMP) shall clearly state the roles and responsibilities of all stakeholders to ensure that the EMP is fully implemented. The Proponent shall appoint an overall responsible person (Environmental Control Officer) to ensure the successful implementation of the EMP. The Environmental Control Officer needs to have qualifications and knowledge in environmental management implementation.

#### 5.1 Competent Authority

The competent authority will be, the Department of Environmental Affairs: Ministry of Environment Forestry and Tourism. They will be responsible for the review and approval of the updated EMP.

#### 5.2 Proponent

The Proponent (Green Mining (Pty) Ltd), has the overall responsibility for all financial and work force provisions, which will facilitate the implementation of this EMP. The Proponent is responsible for the appointment of other personnel responsible for the implementation of this EMP.

The Proponent is ultimately responsible for the implementation of the EMP, from the planning and design phase to the decommissioning phase of this development, if the development is in future decommissioned. The Proponent will delegate this responsibility as the project progresses through its life cycle.

#### 5.3 Exploration Manager

The Exploration Manager is required to carry out the overall responsibility for the implementation of the EMP and to ensure that all required resources and mechanisms for environmental management are in place. The responsibilities of the Exploration Manager will be:

- Ensure that the Proponent's responsibilities are executed in compliance with the relevant legislation;
- Ensure that all the necessary environmental authorizations and permits have been obtained;
- Assist the exploration contractor/s in finding environmentally responsible solutions to challenges that may arise;
- Should the EM be of the opinion that a serious threat to, or impact on the environment may be caused by the exploration activities, he/she may stop work; the proponent

must be informed of the reasons for the stoppage as soon as possible;

- The EM has the authority to issue fines for transgressions of basic conduct rules and/or contravention of the EMP;
- Should the Contractor fail to show adequate consideration for the environmental aspects related to the EMP, the EM can have person(s) and/or equipment removed from the site or work suspended until the matter is remedied.

#### 5.4 Health Safety and Environmental Officer (HSEO)

The HSEO is overall responsible of all environmental issues and safety of employees. The Proponent is to appoint a Health, Safety and Environment Officer (HSEO) with the following responsibilities with respect to the EMP implementation:

- Responsible of all environmental issues and safety of employees;
- Assist the EM in ensuring that the necessary environmental authorizations and permits have been obtained;
- Assist the EM and Contractor/s in finding environmentally responsible solutions to challenges that may arise;
- Carry out regular site inspections of all exploration areas with regards to compliance with the EMP; report any non-compliance(s) to the EM as soon as possible;
- Organize for an independent internal audit on the implementation of and compliance to the EMP to be carried out half way through each field-based exploration activity; audit reports to be submitted to the EM;
- Continuously review the EMP and recommend additions and/or changes to the EMP document;
- Monitor the Contractor's environmental awareness training for all new personnel coming on site; Keep records of all activities related to environmental control and monitoring; the latter to include a photographic record of the exploration activities, rehabilitation process and a register of all major incidents;
- Attend regular site meetings;
- The HSEO should record and report all incidents on site.

#### 5.5 Environmental Control Officer (ECO)

Required to take independent responsibility of the implementation of this EMP. ECO is contracted to conduct periodic auditing of the sites, compilation of bi-annual and annual reports to be submitted to MEFT: DEA for renewal of the environmental clearance certificate.

#### 5.6 Contractors and Subcontractors

All contractors, subcontractors and service providers are ultimately responsible for:

• Complying with the relevant legislation and EMP provisions;

- Provide Environmental; Method Statements to the Exploration Manager with regards to how certain activities on-site will be conducted;
- Adhering to environmental instructions issued by the EM;
- Arrange that all the contractor's employees receive training. Trainings have to be appropriate for the level of the tasks and functions undertaken.

The Environmental Method Statement referred to above will cover applicable details with regard to:

- Equipment to be used;
- Getting the equipment to and from site;
- How the equipment will be moved while on-site;
- How and where material will be stored;
- The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur;
- Identified potential impacts of the activity and mitigation measures thereof;
- Compliance/non-compliance with the Environmental Specifications; and
- Any other information deemed necessary by the EM.

#### 5.7 Employees

Required to follow instructions as directed by the EM. Report any potential environmental issues to the EM, HSEO or supervisor at site.

#### 6 MANAGEMENT ACTIONS

The following tables form the core of this EMP for the exploration phase. The Proponent should continue to implement the proposed mitigation measures during the exploration phase. If the need arises, the Proponent can add additional measures to the EMP as the aim is to protect the environment. The below information shown in the tables, should be used as a checklist for environmental monitoring and auditing on site.

#### 6.1 Management of Negative Impacts Associated with Exploration Phase:

#### 6.1.1 Impact on landscape

Impact	Description	Mitigation Measures	Project	Responsibility
			Phase	
Landscape	<ul> <li>The scenery view of the site might</li> <li>be affected by clearing vegetation to</li> <li>pave way for the following activities:</li> <li>Establishment of exploration</li> <li>camps</li> <li>Exploration drilling</li> <li>Hydrogeological drilling</li> <li>Clearing for access roads</li> </ul>	<ul> <li>Removed rocks and soil should be replaced back and levelling of the area done so as to try to restore the area to its natural state.</li> <li>Do not cut down vegetation unnecessary around the site.</li> <li>Maximise on using existing roads and minimise on creating new access roads, no off-road that could result in land scarring is allowed.</li> <li>Minimise the presence of secondary structures: remove inoperative support structures.</li> <li>Remove all infrastructure and reclaim, or rehabilitate the project site after exploration activities are completed.</li> </ul>	Exploratio n Phase	<ul> <li>Proponent</li> <li>Exploration Manager</li> <li>HSEO</li> <li>Contractor <ul> <li>&amp; Subcontractors</li> </ul> </li> <li>Appointed</li> <li>Environment <ul> <li>al Control</li> <li>Officer</li> </ul> </li> </ul>

#### 6.1.2 Impact on fauna

Impact	Description	Mitigation Measures Proj Phas		Responsibility
Fauna	Noise generated from the	<ul> <li>Poaching of wildlife and indiscriminate killing of</li> </ul>	Exploration	<ul> <li>Proponent</li> </ul>
	following exploration	perceived dangerous species (e.g., snakes, etc.) shall not	Phase	Exploration
	activities might disturb	be allowed.	Thase	Manager
	animals:	<ul> <li>A drilling interval should be established, used and</li> </ul>		<ul> <li>HSEO</li> </ul>
	- Drilling activities	adhered to.		<ul> <li>Contractor &amp;</li> </ul>
		<ul> <li>Working hours should be limited to minimum of 8 hours</li> </ul>		subcontractors
	- Movement of vehicles	per day.		<ul> <li>Environmental</li> </ul>
	- Walking and talking	<ul> <li>Noise should be addressed and mitigated at an early stage.</li> </ul>		Control Officer
		<ul> <li>Proper and timely maintenance of machineries and</li> </ul>		
	In addition, wild animals	vehicles to prevent noise.		
	might also be at risk if	<ul> <li>Avoid driving randomly rather stick to permanently placed</li> </ul>		
	exploration personnel	roads/tracks. This would minimise the effect on localised		
	practice poaching or	potentially sensitive habitats in the area.		
	smoking at the site. Smoking	<ul> <li>Stick to speed limits of maximum 30km/h as this would</li> </ul>		
	might result in fires.	result in fewer faunal road mortalities.		
		<ul> <li>Avoid disturbance of habitat areas such as big trees,</li> </ul>		
		boulders, rocky outcrops as these areas serve as habitat		
		for a myriad of fauna.		
		<ul> <li>Prevent and discourage fires as this results in loss of</li> </ul>		
		grazing & fauna mortalities.		
		<ul> <li>No foodstuff should be left lying around as this will attract</li> </ul>	-	
		animals which might result in human-animal conflict.		

#### 6.1.3 Vegetation Loss

Impact	Description	Mitigation Measures	Project Phase	Responsibility
Vegetation Loss	Clearing of vegetation will be done to pave way for the following activities: - Exploration drilling - Hydrogeological drilling - Exploration camps - Access roads However, no massive clearing shall be done. Existing roads shall be used and new roads shall only be created when there is need. In cases that vegetation is removed this will cause habitat destruction for both ground dwelling species and tree dwelling species. The ecosystem food chain on and around the area will also be broken. The Proponent should continue to safeguard the flora of the area so as to prevent habitat destruction for both ground and tree habitants.	<ul> <li>Protected plant species shall not be removed</li> <li>Massive clearing shall not be allowed.</li> <li>All the major trees will be preserved and the activities will fit into the environment without affecting the trees.</li> <li>Exploration personnel shall not be allowed to cut trees for firewood.</li> <li>Environmental considerations will be adhered to at all times before clearing roads, drilling and establishing exploration camps.</li> <li>Prevent and discourage fires as this affects the grazing land and also the flora.</li> </ul>	Phase Exploration Phase	<ul> <li>Proponent</li> <li>Exploration Manager</li> <li>HSEO</li> <li>Contractor &amp; subcontractors</li> <li>Environme ntal Control Officer</li> </ul>

#### 6.1.4 Impact of waste

Impact	Description	Μ	litigation Measures	Project Phase	R	esponsibility
Impact of	Waste generated might either be general	•	Burial of waste within the EPL area shall not be	Explorati	•	Proponent
waste	or hazardous waste. General waste		allowed, all generated waste must be disposed	on Phase	-	Exploration
	includes papers, food leftovers etc. while		at an approved municipal waste disposal site.			Manager
	hazardous waste includes oil leaks and	-	Strictly, no burning of waste on the site shall be		•	HSEO
	spills.		allowed as it possess environmental and public		-	Contractor &
			health impacts.			subcontractor
		-	Minimize solid waste generated on site (reduce,		•	Environmental
			reuse, or recycle).			Control Officer
		-	Excavation waste should be re-used or backfilled.			
		-	Portable toilets and ablution facilities must be			
			provided on site and should not be located close			
			to Ephemeral Rivers or visible discontinuities			
			(fractures, joints or faults).			
		-	Provide waste disposal bins and never dispose of			
			hazardous waste in the bins intended for general			
			waste.			
		-	No littering shall be allowed.			
		-	Hazardous Waste			
		-	Machinery should be well maintained to			
			prevent oil leaks.			
		•	Contractor should only be allowed to store oil/fuel.			

on site provided the site store has containment
to prevent oil/fuel permeating into the soil in
cases of spillages.
<ul> <li>Contaminated wastes in the form of soil,</li> </ul>
litter and other material must be disposed of
at an appropriate disposal site.
<ul> <li>Servicing of machinery or vehicles on site</li> </ul>
shall not be allowed.
<ul> <li>Use drip trays to capture oil drips and spills</li> </ul>
from machinery or vehicles.

#### 6.1.5 Impact on surface and groundwater

Impact	Description	Mitigation Measures	Project Phase	Responsibility
Surface and	Within the EPL there is a pan.	Installation of hydrogeological wells to	Exploration	Proponent
groundwater	Possible sources which might cause	monitor groundwater.	Phase	Exploration
	pollution include; oil and fuel	Conduct water sampling tests to use as		Manager
	leakages from vehicles and drilling	a benchmark.		■ HSEO
	machines thus if spillages happen in	<ul> <li>Water sampling tests to be conducted after all</li> </ul>		Contractor &
	large volumes or frequently.	activities interacting with underground or		subcontractor
		surface water sources. For transparency seek,		Environmental
	Drilling activities might interact with	affected landowners / farmers must be given		Control Officer
	the water table hence the need for	full access to the water test results.		
	hydrogeological wells to monitor	Drill water source should be from either, treated		
	for any contamination.	water from a mains supply, clean/treated surface		
		waters or groundwater of a satisfactory quality.		
		Use appropriate additives in broken or fractured		
		bedrock to prevent ingress into the aquifer.		
		Ensure additives are non-hazardous, non – toxic		
		and biodegradable.		
		Proper storage of fuel.		
		Proper disposal of contaminated waste.		
		Use of drip trays.		

#### 6.1.6 Air quality

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Air quality	<ul> <li>Sources of air quality pollution will be;</li> <li>Dust from vehicles and drilling machinery.</li> <li>Emissions from vehicles and drill rigs.</li> <li>People at risk are likely to be exploration</li> </ul>	<ul> <li>Soil watering when soil works are being executed and where dust is emitted</li> <li>Control speed and operation of exploration vehicles.</li> <li>Prohibit idling of vehicles.</li> </ul>	Exploration Phase	<ul> <li>Proponent</li> <li>Exploration Manager</li> <li>HSEO</li> <li>Contractor &amp; subcontractor</li> <li>Environmental</li> </ul>
	personnel working on the immediate surrounding. Accumulation of dust might lead to respiratory problems.	<ul> <li>Workers should be provided with dust masks if working in sensitive areas.</li> <li>Regular monitoring to ensure safe operation.</li> </ul>		Control Officer

#### 6.1.7 Impact on soil

Impact	Description	Mi	itigation Measures	Project Phase	Responsibility
Soil	Soil will be disturbed during drilling and	•	After completion of exploration activities	Exploration	Proponent
	also it might be affected by oil or fuel		removed soil layers must be replaced and	Phase	Exploration
	leakages from machines and vehicles.		levelling must be done so that the original		Manager
	However, comparing with trenching,		condition is restored.		HSEO
	drilling does not cause significate impact	•	Proper care should be taken so that there is		Contractor &
	on the soil.		no spill that would cause soil contamination.		subcontractor
		•	If any hazardous waste is produced it should		Environmental
			be properly handled and sent for disposal to		Control Officer
			appropriate disposal areas.		

#### 6.1.8 Noise

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Noise	<ul> <li>Noise might be generated from:</li> <li>Drilling activities</li> <li>Frequent movement of vehicles</li> <li>The Proponent should continue to safeguard against noise as excessive noise can affect exploration personnel and animals. High noise levels can inhibit worker communication; reduce productivity and increase the chances of accidents. Prolonged exposure to excessive noise can result in permanent hearing loss and health problems such as sleep disturbance.</li> <li>However, farm owners are unlikely to be affected given that the exploration activities are conducted far from the farm houses.</li> </ul>	<ul> <li>A drilling interval will be established, used and adhered to.</li> <li>Working hours should be limited to minimum of 8 hours per day.</li> <li>Noise should be addressed and mitigated at an early stage.</li> <li>Proper and timely maintenance of machineries and vehicles.</li> <li>Employees to be equipped with ear protection equipment.</li> <li>Limit vehicle movements and adhere to speed limits.</li> <li>National or international acoustic design standards must be followed.</li> </ul>	Exploration Phase	<ul> <li>Proponent</li> <li>Exploration Manager</li> <li>HSEO</li> <li>Contractor &amp; subcontractor</li> <li>Environmental Control Officer</li> </ul>

#### 6.2 Management Of Socio-Economic Impacts Associated with Exploration Phase

#### 6.2.1 Occupational Health and Safety

Impact	Description	Mitigation Measures	Project Phase	Responsibility
OHS	Noise, dust, occupational stress,	<ul> <li>Conduct Hazard identification and risk assessments</li> </ul>	Exploration	Proponent
	working in hot environments,	<ul> <li>Comply with all Health and Safety standards specified in the</li> </ul>	Phase	Exploration
	bushfires, ionising radiation and	Labour Act.		Manager
	remoteness of exploration area	<ul> <li>Provide all staff on site with relevant and adequate protective</li> </ul>		HSEO
	are some of the occupational	clothing and equipment (helmets, gloves, respirators, work		<ul> <li>Contractor &amp;</li> </ul>
	hazards associated with the	suits, earplugs, goggles and safety shoes where applicable).		subcontractor
	exploration phase.	<ul> <li>Use of dust suppression measures.</li> </ul>		Environmental
	To note, currently the	<ul> <li>Reduce noise exposure by isolating noisy equipment and</li> </ul>		Control Officer
	exploration personnel are mainly	rotate tasks.		
	exposed to natural radiation of	<ul> <li>Provision of First Aid at the site</li> </ul>		
	the area. However, precautions	<ul> <li>Provisions of immediate accident/incident reporting and</li> </ul>		
	are being taken for personnel	investigation.		
	working with Core samples. The	<ul> <li>Safety Posters and slogans should be exhibited at</li> </ul>		
	personnel carry radiometers to	conspicuous places.		
	measure the intensity of the	<ul> <li>Employer should allocate time for employees to visit their</li> </ul>		
	natural radiation levels so as to	families.		
	determine whether it is safe to	<ul> <li>No person under the influence of alcohol or drugs is allowed</li> </ul>		
	work within the area.	to work on site.		
		<ul> <li>Train workers on personal safety and disaster preparedness.</li> </ul>		
		<ul> <li>Continuous and vigilant monitoring of the radiation levels.</li> </ul>		

#### 6.2.2 Damage to roads

Impact	Description	Mi	tigation Measures	Project Phase	Responsibility
Damage	Frequent movement of vehicles and	•	Do not drive randomly throughout the area	Exploration	Proponent
to roads	machinery have the possibility of degrading	•	Where access roads have to be established,	Phase	Exploration
	the existing roads.		the routes should be selected causing minimal		Manager
			damage to the environment – e.g. use the		HSEO
			same tracks; cross drainage lines at right		Contractor &
			angles; avoid placing tracks within drainage		subcontractor
			lines; avoid collateral damage (i.e. select		Environmental
			routes that do not require the unnecessary		Control Officer
			removal of trees/shrubs, especially protected		
			species).		
		-	No drilling equipment allowed on farms		
			during the rainy season.		
		•	Leave vehicles on tracks and walk to point of		
			interest, when possible.		
		•	Rehabilitate new tracks created.		

Impact	Description	Mitigation Measures	Project Phase	Responsibility
Impacts	Establishment of camps and associated	<ul> <li>Select camp sites and other temporary lay over</li> </ul>	Exploration	<ul> <li>Proponent</li> </ul>
associated with	camping results in effects such as	sites with care – i.e. avoid important habitats	Phase	Exploration
camping	clearing of vegetation and in some cases	(e.g. raptor breeding sites).		Manager
of exploration	poor housekeeping and fires.	<ul> <li>No visitors allowed</li> </ul>		HSEO
staff		• Ablution facilities to be provided in the form of		Contractor &
		portable toilets.		subcontractor
		<ul> <li>Good housekeeping.</li> </ul>		Environmental
		<ul> <li>No poaching or collecting of unique plants (e.g.,</li> </ul>		Control Officer
		various Aloe and Lithop).		
		<ul> <li>Smoking and drinking alcohol shall not be</li> </ul>		
		allowed on sit.		
		<ul> <li>Remove and relocate slow moving vertebrate</li> </ul>		
		fauna to suitable habitat elsewhere on property		
		<ul> <li>Avoid the removal and/or damaging of protected</li> </ul>		
		flora and big trees.		
		<ul> <li>Ensure that adequate firefighting equipment is</li> </ul>		
		available at camp sites and clear kitchen areas to		
		avoid accidental fires.		
		<ul> <li>Exploration personnel should aim to protect the</li> </ul>		
		environment.		

#### 6.2.3 Impacts associated with camping of exploration staff

#### 6.2.4 Heritage impact

Impact	Description	Mi	tigation Measures	Project Phase	Re	sponsibility
Heritage impact	At the site, there are no known heritage areas or artefacts deemed to		All works are to be immediately ceased should an archaeological or heritage		•	Proponent Exploration
	be impacted by the exploration activities.	•	resource be discovered. The National Heritage Council of Namibia (NHCN) should advise with regards to the removal, packaging and transfer of the		•	Manager HSEO
			potential resource.			

#### 6.2.5 Risk and spread of HIV/AIDS

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
HIV/AIDS	Even though a few people are employed	<ul> <li>Employer should allocate time for employees</li> </ul>	Exploration	<ul> <li>Proponent</li> </ul>
	at this stage (exploration), the disease	to visit their families.	Phase	<ul> <li>Exploration</li> </ul>
	might still spread hence the need for	<ul> <li>Free distribution of condoms.</li> </ul>		Manager
	continuous sensitisation.			<ul> <li>HSEO</li> </ul>
				<ul> <li>Contractor &amp; subcontractor</li> </ul>

#### 6.2.6 Population Influx

Impacts	Description	M	itigation Measures	Project Phase	Re	sponsibility
Population	Green Mining (Pty) Ltd has its exploration	•	Local employment should be a priority so as	Exploration	•	Proponent
Influx	personnel and it also contracts local		to reduce the number of outsiders.	Phase	•	Exploration
	companies for drilling and other activities	•	Contractors should submit a code of conduct			Manager
	associated with exploration. This has an effect		and disciplinary actions should be in		•	HSEO
	of increasing the number of people in the		accordance with Namibian legislation.		•	Contractor &
	area. Security might also be compromised	•	An access agreement to be signed prior to			subcontractor
	given that new people from different areas		exploration.			
	will come either in search of work or offering	•	No gates to be left open or fences damaged			
	different services.	•	An identification document with all			
			exploration staff to be supplied to farm			
			owners prior to exploration.			
		•	All staff to carry identification badges.			

#### 6.3 Positive Impacts Associated with the Project

#### 6.3.1 Employment creation

Impact	Description	Enhancement Required	Project Phase	Responsibility
Employment	The Proponent contracts local companies to carry	<ul> <li>Employ locals in all casual labour and</li> </ul>	Exploration	<ul> <li>Proponent</li> </ul>
creation	out exploration and drilling activities. In addition,	ensure gender equality.	Phase	
	locals are also benefiting as they are being	<ul> <li>Equity, transparency, to be put into</li> </ul>		
	employed on non- skilled jobs.	account when hiring and recruiting.		
	Even though a few people are currently employed during the exploration phase, if medium to minable			
	deposits are found and mining activities start, many			
	people will be employed. This project therefore is definitely going to be beneficial in future.			

#### 6.3.2 Social responsibility

Impact	Description	Enhancement Required	Project Phase	Responsibility
Social	Green Mining (Pty) Ltd participates in	<ul> <li>Continue promoting community</li> </ul>	Exploration	<ul> <li>Proponent</li> </ul>
responsibility	community development programmes.	development programmes.	Phase	

#### 6.3.3 Generation of Revenue

Impact		Description		hancement Required	Project Phase	Responsibility	
Generation	of	Green Mining (Pty) Ltd pays tax hence	•	The Proponent, Contractors and	Exploration	•	Proponent
Revenue		generating revenue.		subcontractors to pay taxes as stipulated by the law of Namibia.	Phase	•	Contractor & subcontractor

#### 6.3 Management of Impacts at Post-Exploration Phase

Impact	Description	Mi	tigation Measures	Project	Re	sponsibility
				Phase		
Post-	The stage of exploration is expected to have	•	All holes or pits shall be backfilled or	Post-exploration	•	Proponent
exploration	minimum damage to the environment as		contoured to a stable angle of repose.	Phase		
stage	compared to mining. However, the major	•	Remove all exploration temporary			
	issue which need to be looked after the phase		structures on site and ensure the area is			
	of exploration is how the project has		left clean.			
	impacted the environment.	•	Water sampling results for the exploration			
			phase should be available and an analysis			
	To note, current measures already in place		should be done to check if groundwater			
	include backfilling and sealing the exploration		was impacted.			
	wells after exploration of the site. The	•	Rehabilitate any area disturbed by the			
	exploration team will only move to the next		exploration activities.			
	site after rehabilitating the area they have					
	been working on. A general consensus is					
	made between the landowner and					
	Proponent if the land has been rehabilitated					
	well.					

#### 7 ENVIRONMENTAL MONITORING

A monitoring programme will be in place to ensure conformance with the EMP. The Environmental Control Officer will ensure compliance with the EMP, and carry out monitoring/auditing activities. The Environmental Control Officer must have the appropriate experience and qualifications to undertake the necessary tasks. The Environmental Control Officer will report to the Proponent should any non-compliance be evident or corrective action necessary. The Proponent may opt to engage the services of an independent Environmental Consultant to undertake the monitoring and auditing activities. The suggested monitoring details are outlined in table 2 below.

	RECEPTORS	TYPE OF MONITORING	PERIOD/TIME			
Alternation of existing landscape	Environment	<ul> <li>Inspections</li> </ul>	During and after drilling			
Dust	Employees	<ul> <li>Regular site inspections</li> </ul>	■ Daily			
Impact on fauna	Environment	<ul> <li>Inspections</li> </ul>	<ul> <li>Period of drilling</li> </ul>			
Surface & groundwater Pollution	Environment	<ul> <li>Hydrogeological tests</li> </ul>	<ul> <li>During and after activities that interact with underground and surface water bodies</li> </ul>			
Noise	Employees & Fauna	<ul> <li>Noise monitoring</li> </ul>	■ Daily			
Vegetation loss	Environment	<ul> <li>Inspection of protected plant species and big trees and incorporate them into the development</li> </ul>	<ul> <li>Period of establishing exploration camps</li> <li>Period of drilling</li> <li>Period of creating access roads.</li> </ul>			
Heritage	Land	<ul> <li>Inspection</li> </ul>	<ul> <li>Period of exploration</li> </ul>			
О.Н. S	Employees	<ul> <li>Site inspection</li> <li>Conducting Hazard and Risk Assessments</li> </ul>	■ Daily			
Impact on soil	Environment.	Site inspections	Period of exploration			
Generation of waste (solid)	Land	<ul> <li>Site inspection on housekeeping</li> <li>Regular collection of waste</li> </ul>	■ Daily ■ Weekly			
HIV/AIDS	Employees	Free testing	Annually			

#### Table 2: Monitoring activities

#### 8 CONCLUSION

It is recommended that the application for renewing the Environmental Clearance Certificate (ECC) for EPL 7827 be approved, conditional upon rigorous implementation of the Environmental Management Plan (EMP). Adherence to the EMP will mitigate potential environmental impacts and ensure compliance with regulatory standards. The applicant bears responsibility for ensuring the EMP is contractually binding for all contractors involved and for enforcing its provisions as a mandatory on-site reference. Any party found in violation of the EMP must bear responsibility for necessary rehabilitation measures, including costs and corrective actions.

#### 8.1 **RECOMMENDATIONS**

The following recommendations have been brought forward:

- Environmental monitoring by an independent environmental consultancy must be carried out during the exploration phase to monitor environmental compliance.
- Bi- annual and annual reports should be compiled and submitted to MEFT.
- These monitoring reports should accompany the application for renewal of the environmental clearance certificate after 3 years

#### **9 REFERENCES**

- Constitution of the Republic of Namibia Act No 1 of 1990, Namibia: [Online] Available from: <u>https://nan.gov.na/acts.</u>
- Risk Based Solutions (RBS), 2022. Environmental Management Plan (EMP) Report to Support the Application for Environmental Clearance Certificate (ECC) for the proposed Minerals Exploration/ Prospecting Activities in Exclusive Prospecting License (EPL) 7827 Hardap Region.
- 3. Environmental Impact Assessment Regulations Act of 2012, Namibia.
- 4. Environmental Management Act of 2007, Namibia.
- 5. Hazardous Substance Ordinance No. 14 of 1974, Namibia: [Online] Available from:\_ http://www.lac.org.na/index.php/laws/statutes/
- 6. Heritage Act No 27 of 2004, Namibia: [Online] Available from: http://www.lac.org.na/index.php/laws/statutes/
- 7. Labour Act No 11 of 2007, Namibia: [Online] Available from: <u>http://www.lac.org.na/index.php/laws/statutes/</u>
- 8. Mendelsohn. J, Jarvis. A, Roberts.C, Robertson. T (2003). Atlas of Namibia. Cape Town South Africa: David Philip publishers
- 9. Minerals (Prospecting and Mining) Act No 33 1 of 1992, Namibia: [Online] Available from: <a href="http://www.lac.org.na/index.php/laws/statutes/">http://www.lac.org.na/index.php/laws/statutes/</a>
- 10. Nature Conservation Ordinance No. 4 of 1975, Namibia: [Online] Available from:\_ http://www.lac.org.na/index.php/laws/statutes/
- 11. Peters, R. J. (2013). Acoustics and noise control. Routledge.
- 12. Public Health and Environmental Act 2015, Namibia: [Online] Available from: http://www.lac.org.na/index.php/laws/statutes/
- 13. SoilConservationAct6of1969,Namibia:[Online]Availablefrom: <a href="http://www.lac.org.na/index.php/laws/statutes/">http://www.lac.org.na/index.php/laws/statutes/</a>
- 14. Water Act 54 of 1956, Namibia: [Online] Available from: <u>http://www.lac.org.na/index.php/laws/statutes/</u> [Accessed 4 July 2022]
- 15. Water Resources Management Act 11 of 2013, Namibia: [Online] Available from: <a href="http://www.lac.org.na/index.php/laws/statutes/">http://www.lac.org.na/index.php/laws/statutes/</a>

#### Appendix A - Old ECC

