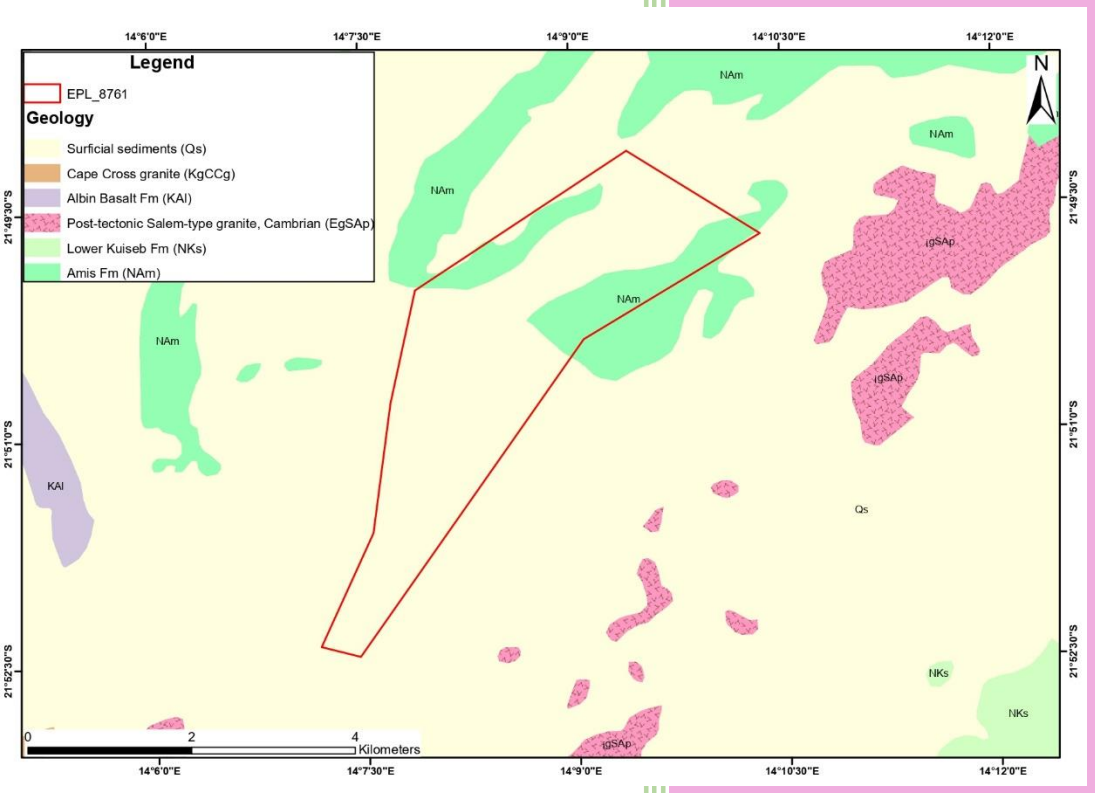
ENVIRONMENTAL MANAGEMENT PLAN (EMP) EPL 8761



GAIA CONSULTANTS

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1 INTRODUCTION

The Environmental Management Plan (EMP) presented in this section demonstrates how the Proponent intends to manage all the exploration, possible mining and processing operations within the EPL area that will significantly impact on the receiving environment, or that may potentially be of high risk in the long-term. By implementing this management programmed, the Proponent will minimize the likely negative effects and maximize the positive effects of its operations in the EPL Area. In line with the company's Environmental Policy and the implementation of the EMP, the proponent commitments to responsible and sound environmental management of all its exploration, test mining and processing activities within the EPL Area.

The Exclusive Prospecting License (EPL) 8761 is located in the Erongo Region, with interest in base and rare metals, dimension stones, industrial minerals, non-nuclear fuel minerals, nuclear fuel minerals and precious metals. The EPL is located north of Henties Bay It covers an area of 1010.1415 Ha within the Dorob National Park as seen in figure 1 below:

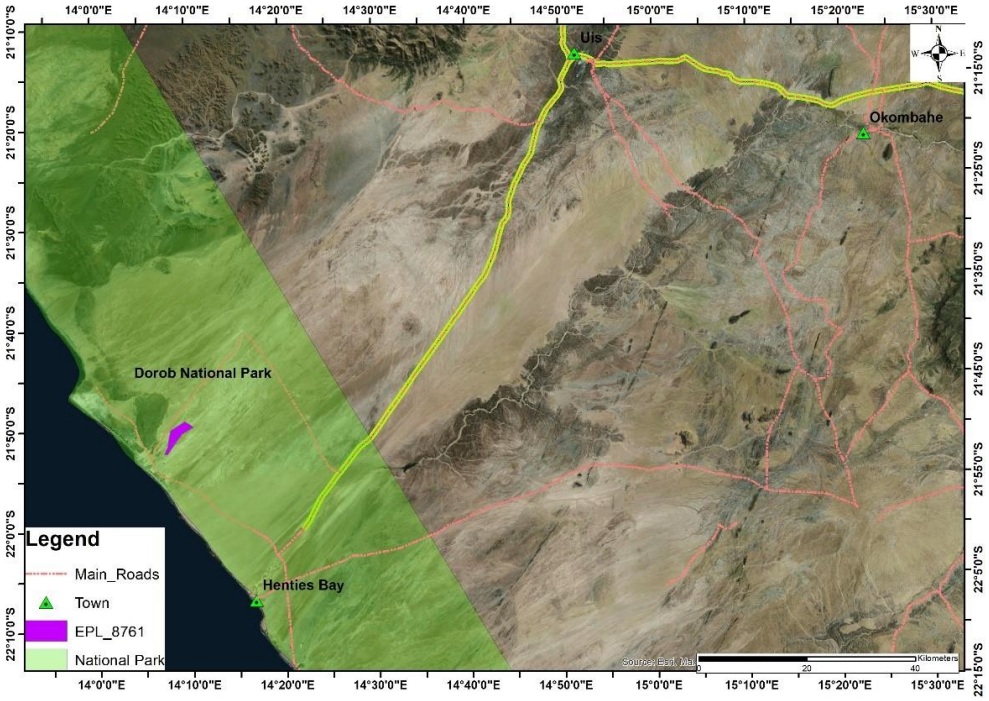

Figure 1 Locality map

2 PURPOSE OF DOCUMENT

This document is prepared as part of the Environmental Scoping and Impact Assessment for Proposed Exploration which was conducted in terms of the Environmental Management Act, 2007 (Act No 7 of 2007). This Environmental Management Plan is a live document that has been prepared based on the environmental effects identified in Environmental Scoping and Impact Assessment and should be read in conjunction with the Environmental Scoping and Impact Assessment Report.

The aim of this document is to provide management measures to address the environmental effects that have been identified in the Environmental Scoping and Impact Assessment report and to give possible mitigation measures/recommendations to address these effects. It is essential for personnel involved to fully be aware of the possible environmental issues and the means to avoid or minimize the potential impacts of activities on site.

Furthermore, the purpose of this document is to provide a guideline to environmental management throughout the different phases of the proposed development, namely: operation and maintenance; and decommissioning phases:

2.1 Operation and Maintenance

This is the current phase of the exploration, sampling and waste dumps mining/test mining and related activities. It is also the phase during which maintenance of the site, equipment and machinery is done by the Proponent.

2.2 Environmental Monitoring Requirements

In order to ensure that the desired results are achieved and supported by the proposed mitigation measures; a monitoring plan must be implemented alongside the mitigation plans. Bi-annual environmental performance and annual environmental audit reports should be produced.

2.3 Decommissioning and Rehabilitation

This is the phase during which the exploration, and waste dumps mining activities on the EPL 8761 will come to an end. Decommissioning of the operation will be considered due to a

number of factors, including poor exploration results, or a decline in the target commodities market price etc. During the operational phase and before decommissioning, the Proponent will need to put site rehabilitation measures in place.

Appointed Environmental Assessment Practitioner

In order to satisfy the requirements of the EMA and its 2012 EIA Regulations, the Proponent appointed Gaia Consultants to conduct the required EIA process on their (Proponent's) behalf.

3 ENVIRONMENTAL ASSESSMENT LEGAL REQUIREMENTS

Table below lists the requirements of an EMP as stipulated in the EIA Regulations, primarily on specific approvals and permits that may be required for the exploration, sampling and test mining activities.

Legislation/Policy/ Guideline	LAW/ORDINANCE	APPLICABILITY
Environmental Management Act EMA (No 7 of 2007)	Requires that projects with significant environmental impacts are subject to an environmental assessment process (Section27). Details principles which are to guide all EAs.	The EMA and its regulations should inform and guide this EA process. Should the ECC be issued to the Proponent, it should be renewed every 3 years, counting from the date of issue. Contact details at the Department of Environmental Affairs (DEA), Ministry of Environment, Forestry and Tourism (MEFT)
Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878)	Details requirements for public consultation within a given environmental assessment process (GN 30 S21).	

	Details the requirements for what should be included in a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15).	
Minerals (Prospecting and Mining) Act (No. 33 of 1992)	**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.** **Section 54 (2): details provisions pertaining to the decommissioning or abandonment of a mine**	
Petroleum Products and Energy Act No. 13 of 1990)	**Regulation 3(2)(b) states that "No person shall possess [sic] or store any fuel except under authority of a**	*The Proponent should obtain the necessary authorization forms the MME for the storage of fuel on-site.*

Regulations (2001)	**license or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 liters or less in any container kept at a place outside a local authority area"**	
Labour Act 11 of 2007 Health and Safety Regulations (HSR) GN 156/1997 (GG 1617).	**Adhere to all applicable provisions of the Labour Act and the Health and Safety regulations.**	
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 project sites, these are required to be removed, a permit should be obtained from the nearest Forestry office (Ministry of Environment, Forestry and Tourism (MEFT)) prior to removing them.*

National Heritage Act No. 76 of 1969	**Call for the protection and conservation of heritage resources and artefacts.**	*Should any archaeological material, e.g. bones, old weapons/equipment etc. be found on the EPL 8761, work should stop immediately, and the National Heritage Council of Namibia must be informed as soon as possible. The Heritage Council will then decide to clear the area or decide to conserve the site or material.*
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.**	

Table 1 Regulatory requirements

4 PROJECT ACTIVITIES

The projected mineral exploration activities are summarized as follows:

- Exploration activities include a desktop review of existing data as well as all past research. This is conducted in the general area to see if there are any prospective targets. This is done by purchasing high-resolution data from the Government and interpreting it as part of the first stage of exploration.
- Reconnaissance assessment, which includes field-based activities such as regional mapping and sampling in order to identify and validate prospective targeted areas identified during stage 1. This step is only carried out if the step1 has identified some possible targets that need to be explored further.

- Initial field-based activities such as widely distributed geological mapping, sampling, surveying, and maybe widely spaced trenching and drilling to verify the feasibility of any identified local target based on the regional data acquired in step 2 above. The degree or depth of exploration carried out at this stage is contingent on the discovery of viable/prospective mineral resources. Alternatively, if the specified target(s) proves to be non-variable, the license is revoked.

To assess the viability of the delineated local targets, detailed local field-based operations such as localized site-specific detailed geology mapping, trenching, bulk sample, surveying, and detailed drilling are carried out. If the detailed exploration activities yield positive results, the exploration data will be compiled into a pre-feasibility report, and if the prefeasibility results are positive, a detailed feasibility study will be conducted on the identified site-specific area, which will include detailed site-specific drilling, bulk sampling, and laboratory testing/test mining.

4.1 Access and transport

The most common way to reach Dorob National Park is by road. The park is situated along the western coast of Namibia, approximately 120 kilometres south of the town of Swakopmund. From Swakopmund, you can travel south on the C34 coastal road, which runs parallel to the park. The road is well-maintained, making it accessible for self-drive visitors or guided tours. Within the park, there are limited options for transport within the park itself. The park's terrain is predominantly desert and coastal, consisting of sandy and gravel roads. Thus, 4x4 vehicle will be the main form of transportation while driving within the park. Because of the sometimes-challenging conditions within the park, it’s essential to adhere to the park's regulations and guidelines regarding driving and off-road access.

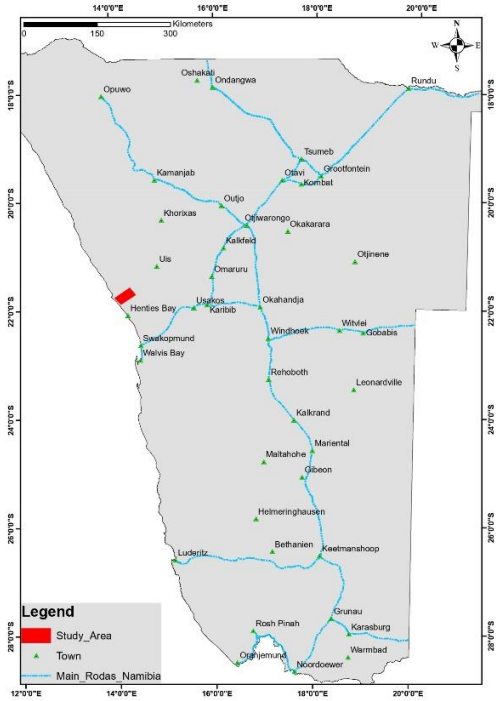

Figure 2 Road network map

4.2 Resources (water and electricity)

Exploration activities will need a limited supply of water which will be brought to the site. A diesel-powered generator will be used as needed for operating machinery.

4.3 Accommodation and supporting infrastructure

The exploration team is envisioned to consist of three (3) skilled workers. Dorob National Park offers a range of accommodation options such as camping sites, therefore the team will set up camp at an area designated by the park authorities. Two portable toilets will be installed onsite and regularly serviced. Excavator, loader, screening plant, 1x bakkie will be used for day-to-day activities. Waste will be collected and deposited at the Hentiesbay municipal dumpsite. Hydrocarbon tanks will be stored on-site i.e., petrol 100litres etc. All hydrocarbon tanks will be appropriately stored and bunded to hold 110% of the capacity of the tanks and all relevant permits should be applied for by the proponent as required.

5 SUMMARY OF THE RECEIVING ENVIRONMENT

The area falls within the Dorob National Park, the park is a diverse and unique ecosystem characterized by a variety of vegetation types. The park encompasses a range

of landscapes, including coastal plains, sand dunes, gravel plains, and rocky outcrops, which contribute to the rich plant diversity found within its boundaries. Dorob National Park was proclaimed in 2010 and covers the central Namib Desert. This area is known as an angler's paradise, with kabeljou, galjoen and steenbras being the most prized species. However, it also contains a few surprises. Extensive lichen fields are found north of Wlotzkasbaken and Cape Cross, while the Messum Crater in the north contains San rock paintings and archaeological sites from Damara nomads. The Ugab River and the Skeleton Coast Park border it to the north. The Omaruru River bisects it, while the Swakop River is situated just south of its boundary. The towns of Henties Bay and Swakopmund are found within its boundaries, along with the hamlet of Wlotzkasbaken. The Cape Cross Seal Reserve is a separate reserve in the northern section of the area. Furthermore, the park is home to various mining activities housing a sizeable number of Exploration prospecting licenses.

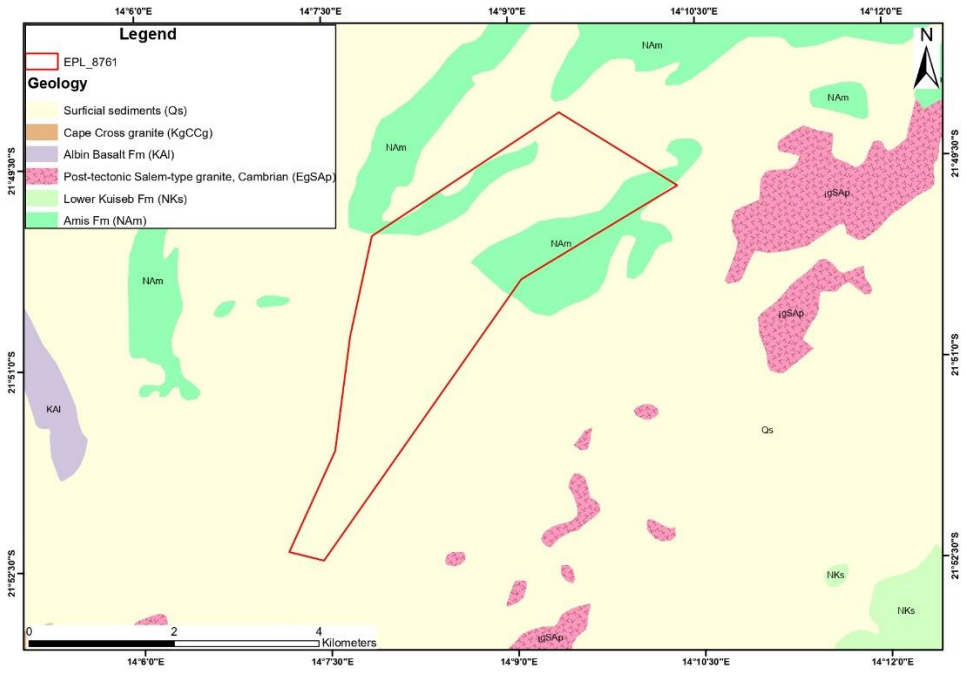

Figure 3 Geology Map

6 ENVIRONMENTAL MANAGEMENT PRINCIPLES

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

- All employees will be obliged to undertake activities in an ecologically and socially responsible way. This applies to all consultants, workers, contractors, and subcontractors, as well as transporters, visitors, and anyone else who enters the premises.
- Safeguard the health and safety of project personnel and the public against potential impacts of the project.

This includes issues of road safety, precautions against dangers on site, potential hazards; and,

- Promote good relationships with the surrounding settlements and other stakeholders.
- Wise use and conservation of environmental resources, giving due consideration to the use of resources by present and future generations;
- Prevent or minimize environmental impacts,
- Minimize air, water, and soil pollution; and Conserve Biodiversity.

7 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 the table below:

Project Phase	**Potential negative impacts identified in the EA**
Monitoring	The monitoring of exploration and mining work impact in remote locations can be problematic duo long distance and telecommunication challenges.
Decommissioning and Rehabilitation	Loss of employment by workers at the mining site and contribution to the national economy.

Table 2 Project phase and impacts

7.1 Roles and responsibilities for environmental management

The environmental aspects which may be affected by the proposed project have been categorized into negative and positive impacts as an extension of the preceding sections. This section summarizes the objectives, indicators to be observed, schedules be adhered to and roles and responsibilities of various stakeholders to the EMP.

7.1.1 Communication between Parties

Emphasis will be put towards open communication between all parties, in order to reach a proactive approach towards potential environmental issues deriving from the project. This approach should guarantee that environmental impacts are anticipated and prevented, or minimized, rather than adopting a negative policing approach after negative impacts have already occurred.

The importance of a proactive approach cannot be over-emphasized, particularly in relation to preventing unnecessary tracks, and damage to vegetation (i.e., protected and endemic species) as these impacts cannot easily be remedied.

7.1.2 The Exploration Operating Company

The company is ultimately responsible for all stages of the project and the impacts resulting from those activities. The responsible persons will be the company's Environmental Control Officer (ECO) and Managing Director to ensure that:

- The EMP and its environmental specifications are included in contractual documents and it is required that contractors, and subcontractors, consultants etc. do meet the EMP requirements;
- The company and all its subcontractors, consultants etc. comply with all Namibian legislation and policies and any relevant International Conventions;
- Compliance with the environmental specifications is enforced on a day-to-day basis;
- Environmental audits are conducted periodically by a suitably qualified ECO to confirm that the environmental requirements are properly understood and effectively implemented;

- Sufficient budget is provided to implement those measures that have cost implications;
- The Site Manager must commission tree surveys well in advance of planned road construction so that the necessary site visits by forestry personnel and forestry permits are acquired; and,
- Open and effective communication is maintained between all parties concerning environmental management on the project.

7.1.3 Site Managers

Day-to-day responsibility for environmental management will be assigned to the (Environmental Control Officer (ECO) and Manager Field Operations (MFO) for the duration of the project to:

- Be familiar with the contents of the EMP and applicable sections of the EIA and the measures recommended therein;
- Monitor compliance with the environmental specifications on a daily basis and enforce the environmental compliance on-site by communicating the ECO's directions to all personnel involved;
- In the event of any infringements leading to environmental damage, personnel need to consult with the ECO and seek advice on any remedial measures to limit or rectify the damage;
- Maintain a record (photographic and written) of "before-and-after" conditions on site;
- Facilitate communication between all role players in the interests of effective environmental management

7.1.4 Environmental Control Officer (ECO)

The proponent must appoint a suitably qualified ECO who is responsible to:

- Undertake environmental audits of overall compliance with the environmental specifications. This should be done at least bi-annually for the project area,
- Submit a site inspection report to the Managing Director and MFO;

- Advise the MFO on interpretation and implementation of the environmental specifications as required; and, make recommendations for remedial action in cases of non-compliance with the environmental specifications.
- The report should be submitted to the MEFT periodically at the time interval stipulated by law.

7.1.5 Contractors

The contractors will have the responsibility to:

- Familiarize themselves with the requirements of the EMP and comply with the environmental specifications within;
- Notify the ECO through the MFO timeously in advance of any actions that might have significant negative impacts. Mitigatory measures should be discussed and implemented before negative impacts arise;
- Conduct or arrange for environmental training for employees and sub-contractors;
- Undertake rehabilitation measures where required as far as possible, rehabilitation measures should be carried out progressively and not left till the end of the project.

8 ENVIRONMENTAL SPECIFICATIONS

8.1 Compliance with the Environmental Specifications

The activities will be conducted in an environmentally and socially responsible manner. The contractor and all personnel on-site will comply with the environmental specifications contained in this section.

8.2 Training and Awareness

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

8.3 Stakeholder Relations

All site personnel will maintain good relations with the landowners and members of the public. Any complaints received by the ECO will be addressed.

8.4 Permits

All relevant permits shall be obtained from relevant authorities.

The removal or relocation of rare and endangered plants will be conserved, and should it be removed or relocated it shall be done with the required permits from the Directorate of Forestry.

8.5 Road Safety

The access roads can be dangerous at times due to dust from passing vehicles, poor camber, patches of loose sand, careless drivers and other external factors. All drivers must be aware of these hazards and take precautions to avoid them. Such precautions will include, but not be limited to:

- Complying with speed limits;
- Reducing speed considerably when visibility is poor;

Being wary of other vehicles

- Travelling with lights on even in daylight;
- Slowing down for animals and birds on the road; and,
- Being cautious of other road users– taking into account reduced visibility due to dust.

8.6 Access Tracks

No new tracks will be made unless there are no pre-existing tracks, any new tracks or extensions should be established with the permission of the Municipality and other landowners.

The selected access and site roads will be clearly marked. A single road only will be used to and from each destination. Turning points for vehicles will also be pre-selected and marked. Particular care will be taken to avoid damage to plants.

Any elevated sites, or sites away from existing tracks, will be accessed on foot rather than by a vehicle.

8.7 Conservation of Biodiversity

Damage to protected species will be avoided at all costs.

8.8 Wildlife Poaching

No animal or bird is to be captured, killed or harmed in any way. Anyone caught violating this law will face suspension from the project and could be liable for prosecution. In a likewise manner, domestic livestock on farms may also not be harmed.

8.9 Soil Management and Erosion Control

During any excavating and clearing the Contractor shall take care to remove as little topsoil as possible. All soil within 100mm of the cleared surface level shall be regarded as topsoil.

Remove and separately stockpile any subsoil material that can be used for site backfilling.

Topsoil shall be stockpiled (and seeded) in areas within the site boundary and approved by the Project Engineer in conjunction with the Environmental Consultant, for reuse and restoration.

Avoid handling soil when wet as this may result in the loss of soil structure and compaction. Soils should not be handled during windy conditions, which may lead to the loss of soil through wind erosion.

Soil erosion must always be prevented. Where evidence of soil erosion can and/or is taking place, this should be reported by the Contractor to the Project Engineer or Environmental Consultant.

Suitable erosion measures should be implemented in areas sensitive to erosion such as near water supply points, edges of slopes, etc. These measures could include the use of sandbags, hessian sheets, retention or replacement of vegetation.

All the necessary precautions in terms of design and construction of earthworks, cuts, and fills must be taken.

8.10 Pollution Control

Should any incidence occur in terms of spilling, they shall report it immediately to the Developer and the Contractor shall be responsible for containing and cleaning up the spillage. The Contractor (Developer) shall ensure that correct mitigation of the pollution is undertaken.

8.11 Air pollution / Dust emission

Excavations and other clearing activities should only be done during permissible weather conditions to avoid drifting of sand and dust into neighbouring areas. Soil and sand stockpiles shall be in sheltered areas not exposed to the wind. Retention of vegetation where possible will reduce dust travel. Exposed surfaces must be re-vegetated as soon as possible.

The movement of vehicles and other vehicles should be strictly controlled in order to reduce the impact of increased air pollution. Adherence to speed limits shall be enforced. Sensible and responsible use of equipment which generates dust.

It is recommended to practice dust monitoring per month in order to take note of the dust emitted at different distances and directions around the project area during operations.

8.12 Noise pollution

Noise levels shall be kept within acceptable limits. All noise and sounds generated shall adhere to SABS 0103 specifications for maximum allowable noise levels for industrial areas.

Noisy activities must be limited to between 06h00 to 18h00 to avoid disturbance of adjacent landowners.

Noisy activities should not be allowed on weekends and public holidays unless specific arrangements have been made with the proponent and provided that neighbours have been timeously notified. Vehicles and operating equipment must be regularly serviced.

8.13 Waste Management

The area needs to be kept clean, neat, and tidy to the satisfaction of the proponent and ECO. The proponent will provide bins at the worksites and will be responsible for the collection and containment of daily refuse and waste generated by his staff. Bins will be secured in such a way that wind cannot remove papers and plastics. Bins will also be secured against animals

around the vicinity. No waste will be buried on site. All waste will regularly be removed to an approved waste disposal facility.

8.14 Hazardous Substances

All containers of fuel, oil, and any other hazardous substances will be kept sealed, and clearly labelled for identification. Tanks for fuels, oils, and any other hazardous substances need to be bunded to hold 110% of the capacity of the tank to contain any possible spills. If any spills occur, clean–up shall occur immediately and disposed of appropriately.

8.15 Fire Prevention

Ensure an Emergency Response Plan, no fires are to be left unattended. Charcoal sourced from farmers should be 100% cured to avoid combustion. The burning of charcoal at minimal scale should be conducted during the day on less windy days with full supervision to avoid fly ashes to neighbouring land.

8.16 Archaeological Sites

Dorob National Park is not primarily known for its archaeological sites. Instead, the park is renowned for its diverse ecosystems, coastal landscapes, and rich biodiversity. However, it's important to note that all archaeological remains are protected under the National Heritage Act (2004) and are not to be destroyed, disturbed, or removed. Therefore, as stipulated in the Act any archaeological finds, must be reported to the Heritage Council. The same applies to rock art sites. The ECO will be notified without delay of any archaeological finds.

8.17 Health and Safety

All company personnel will receive a detailed induction upon joining the project and on a regular basis and be provided with the necessary PPE attire to prevent potential injuries and excessive inhalation of dust or harmful gases. Eating, drinking, and smoking while working with any materials that may contain radioactive or hazardous substances is forbidden. Good personal hygiene is encouraged (e.g., washing hands before eating) to prevent ingestion of potentially hazardous or radioactive materials.

8.18 Work Stoppage

The MFO will have the right to order work to stop in the event of environmental specification infringements that could result in damage to plants, wildlife, or personnel. Work will continue once the situation is rectified and brought to a state of compliance.

In the event of such work stoppage, the Contractor will not be entitled to claim for delays or standing time.

8.19 Compliance Monitoring

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

9 ENVIRONMENTAL CODE OF CONDUCT

The Code of Conduct outlined in this section of the EMP applies to, sub-contractors, visitors, permanent and temporal workers. Therefore, anybody within the boundaries of the project site must adhere to the Environmental Code of Conduct as outlined in this section of the EMP. The Environmental Coordinator (ENC) will implement on-site environmental guidelines and has the authority to issue warnings as well as discipline any person who transgresses environmental rules and procedures. Persistent transgression of environmental rules will result in a disciplinary

hearing and thereafter continued noncompliance behaviour will result in permanent removal from the construction sites.

9.1 Site closure and rehabilitation

Rehabilitation is the process of repairing the damage done by exploration activities. Rehabilitation plan has been developed with a main aim of returning disturbed environment close to its pre exploration state. It is also planned to cater for the access road, vehicle tracks around the site, removal, and restoration of areas covered by stockpile and rock piles. The closure vision for the proposed project is to establish a safe, stable and non-polluting post-prospecting landscape that can facilitate integrated, self-sustaining and value generating opportunities, thereby leave a lasting positive legacy.

9.2 Site closure and rehabilitation activities

All waste (such as hazardous and domestic) waste will be transported offsite for disposal in licensed landfills. Disturbed or/and contaminated areas will be cleaned up, treated where necessary and restored to its pristine state. Demolition of camping structures will be ensured.

9.3 Removing of equipment on site.

Removal of associated infrastructures such as storage tanks, solar panels and heavy-duty generators. Where access tracks have been developed in cases where there are no roads, these will be rehabilitated and closed as part of normal closure actions in consultation with landowners.

Existing secondary roads in the area should be used to prevent damages of the main road.

The recovered topsoil and subsoil should be utilized to reconstruct the original soil profile. The rehabilitation actions intended to be undertaken at the end of the life of the proposed exploration activities are described below.

10 MITIGATION MEASURES

The purpose of the Environmental Management Plan is to provide a detailed plan to mitigate the negative and positive impacts identified in the environmental scoping and assessment report. Furthermore, it aims to provide actions with roles and responsibilities to implement the environmental specifications provided for to the proponent, contractors, subcontractors who will undertake exploration activities.

The following table provides a large-scale summary overview of all the major environmental management aspects.

Environmental impacts	Proposed mitigation measures	Responsibility	Monitoring plan
Air pollution	• Regular maintenance of vehicles and equipment's.	Personnel on duty, Foreman on duty and Environmental Officer	• Amount of dust produced.

	• Brief workers and contractors. • Control speed and operation of construction vehicles. • Regular maintenance of vehicles, construction equipments and heavy machineries. • Provide workers with dust masks.		• Level of landscaping executed.
Noise pollution	• All noise should be kept within reasonable levels. • Employees and neighbors should be notified of any scheduled unusual noise. • Regular maintenance of vehicles,	Foreman on duty, Environmental Officer, Safety Health and Environment Manager.	• Amount of noise produced

	equipments and heavy machinery. • Workers should be provided with personal hearing protection if working in a noisy environment.		
Solid waste	• Littering should be discouraged by having strategically placed bins and refuse skips on site. • Recycling plastic, paper and cans should be encouraged on site • The bins should be emptied on a regular basis by the proponent or an independent contractor. • The site should have containers	Personnel on duty, Environmental Officer and Safety Health and Environment Manager	• Presence of dust bins/waste collection points.

	with bulk storage facilities at convenient points to prevent littering.		
Oil leaks and spills	• Contactor should have a sealed designated area where maintenance is carried out to prevent percolation of contaminants. • Oil products should be handled carefully on bounded surfaces; in case it leaks. • Vehicles and equipment should be well maintained to prevent oil leaks.	Personnel on duty, Foreman on duty Environmental Officer and Safety Health and Environment Manager	• Absence of oil spills and leaks on site.
First aid	• A well-stocked first aid kit shall be maintained by	Safety Health and Environment	• Contents of the first aid kits.

	qualified personnel.	Manager, Safety and Health Officer.	
Visual	• Environmental considerations will always be adhered to before clearing roads, trenching and excavation.	Safety Health and Environment Manager, Environmental Officer	• Employees to be trained on how to minimize impacts that can easily be identified with the eye.
Archaeology and Cultural heritage	• Buffer zones will be created around the sites. • Adhere to practical guidelines provided by the responsible archaeologist to reduce archaeological impacts of quarrying activities. • All archaeological sites to be identified and protected before	All personnel on duty, Environmental officer, Safety Health and Environment Manager	• Register of all archaeological sites identified.

	development commences. • The Proponent should consider having a qualified and experienced Archaeologist on standby during the entire operational phase. This action will be to assist on the possible of uncovering of sub-surface cultural/heritage objects and advice the Proponent accordingly. • Identified 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.		
Occupational health and safety	• Provide personal protective equipment's, train workers on personal safety, and how to handle equipment's and machines. • A well-stocked first shall be maintained by qualified personnel. • Report any accidents/ incidences and treat and compensate affected workers. • Provide sufficient and suitable sanitary conveniences which should be	Safety and Health Officer, Safety Health and Environment Manager	• Workers using personal protective equipment's. • Availability of a well-stocked first aid box.

	kept clean. Clean sanitary facilities.		
Fauna	• Some habitat areas such as the river and tunnel outcrops will be avoided wherever possible. • A fauna survey will be conducted to determine the effect of fragmented habitat to game species should the need arise. • No animals shall be killed, capture or harmed in any way. • No food stuff shall be left lying around as this will attract animals which may result	Personnel on duty, Environmental Officer, Safety Health and Environment Manager	• Regular monitoring of any unusual signs of animal habitat.

	in human-animal conflict.		
Alien invasive plants	• Ensure vehicles and equipment are clean of invasive plants and seeds. • Eradicating alien plants using area management plan. • Contain neighboring infestations and restrict movement of invasive plants from adjacent lands • Educating everyone on site on types of invasive plants.	Environmental Officer, Environmental Manager	• Regular monitoring of any signs of alien plants.
Loss of vegetation	• Environmental considerations will be adhered to at all times before clearing roads,	Environmental Officer, Safety Health and Environment Manager	• Warning signs on site • Restored vegetation

	trenching and excavating. • The movement of vehicles in riverbeds, rocky outcrops and vegetation sensitive area will be avoided. • The movement of vehicles will be restricted to certain areas.		

Table 3 Environmental management aspects

11 MONITORING PLAN

The project monitoring is conducted under the EMP includes:

11.1 Project readiness monitoring

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

11.2 Environmental quality monitoring

To be conducted by a competent authority or person appointed by the proponent, involving the collection and analyses of air quality, noise and water quality data at designated monitoring locations for assessing compliance with applicable environmental quality and emission standards.

11.3 EMP compliance monitoring

To be conducted by the Project Management Consultants to verify EMP compliance during project implementation.

11.4 Operational monitoring

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

12 CONCLUSIONS

This Environmental Management Plan highlights the management measures that will be implemented to mitigate the environmental impacts of the proposed activities. The management plan detailing how the proponent intends to manage all the activities of the proposed exploration and test mining operations within EPL Area that will significantly impact on the environment has been provided in this report. The implementation of the EMP as provided in this report will minimize the negative effects and maximize the positive effects thereby enhance the overall ecosystem services / value of the EPL 8761 and surrounding areas.

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