

**ENVIRONMENTAL MANAGEMENT PLAN (EMP)
FOR THE ESTABLISHMENT OF MINING ACTIVITIES OF DIMENSION STONE,
MINING LICENCE (ML) 270 AT FARM OKATJIMUKOJU NO: 55,
KARIBIB DISTRICT, ERONGO REGION.**



April 2026



Elagant Stone Mining and Quarries (Pty) Ltd

ABBREVIATION

DEA	Directorate of Environmental Affairs
DESR	Draft Environmental Scoping Report
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
ECO	Environmental Compliance Officer
ECS	EnvironClim Consulting Services
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPL	Exclusive Prospecting Licence
GPS	Global Positioning System
Ha	Hectare
I&APs	Interested and Affected Parties
IT	Information Technology
KM	Kilometres
KW	Kilowatts
MEFT	Ministry of Environment, Forestry and Tourism
MM	Millimetres
MIME	Ministry of Industries, Mine and Energy
ML	Mining Licence
NHC	National Heritage Council
PPEs	Personal Protective Equipment's
SME	Small Medium Enterprise

Tables of Contents

1. INTRODUCTION	3
2. THE IMPORTANCE OF THE EMP	5
3. SCOPE AND APPLICABLE PHASES	5
4. POST MINING REHABILITATION AND LAND USE	5
5. PROJECT LOCATION	6
6. PURPOSE OF THE EMP	7
7. COMPLIANCE TO THE EMP	8
8. LEGAL AND POLICY FRAMEWORK	9
9. ROLES & RESPONSIBILITIES	15
9.1 Environmental Compliance Officer (ECO)	15
9.2 The Proponent	15
9.3 Environmental Manager	16
9.4 Employees and Contractors	16
10. DISCIPLINARY ACTION	16
11. DIMENSION STONE MINING AND QUARRY REHABILITATION	17
12. THE ENVIRONMENTAL MANAGEMENT PLAN	17
SECTION A: STAFF INDUCTION	18
SECTION B: HEALTH AND SAFETY	21
SECTION C: POLLUTION CONTROL AND WASTE MANAGEMENT	27
SECTION D: ENVIRONMENT	38
SECTION E: HERITAGE AND ARCHEOLOGICAL SITES	42
SECTION F: SOCIO ECONOMIC	44
SECTION G: DECOMMISSIONING/CLOSURE	46
10. CONCLUSION AND RECOMMENDATIONS	49

List of Figures

Figure 1: Orientation of ML 270, Farm Okatjimukoju, No: 55, Karibib, Erongo Region (Polygon) (GPS coordinates - 22.028056 S, 15.756111 E).....	6
Figure 2: Location of ML 270 Karibib, Erongo Region (light grey polygon) (GPS coordinates - 22.028056 S, 15.756111 E).....	7

List of Tables

Table 1. List of triggered activities identified in the EIA Regulations which apply to the proposed project	4
Table 2. Legal requirements for the proposed dimension stones (marble) mining project.....	9
Table 3. Staff Induction Mitigation Measures.....	18
Table 4. Health and Safety Measures to be implemented.....	21
Table 5. Pollution and Waste Management Mitigation Measures.....	27
Table 6. Environmental Mitigation Measures to be implemented.....	38
Table 7. Archaeology and Heritage Mitigation Measures.....	42
Table 8. Social Economic Mitigation Measures.....	44
Table 9. Decommissioning/closure Mitigation Measures to be implemented.....	46

1. INTRODUCTION

Elegant Stone Mining and Quarries (Pty) Ltd, hereafter referred to as the proponent has successfully completed exploration activities for dimension stone on EPL 7079 and intends to transition to full-scale mining operation under Mining Licence (ML) 270. The company had lodged an application for the Mining Licence 270 on the 30 May 2025 with the Ministry of Industry, Mine and Energy (MME). Currently an Environmental Clearance Certificate (ECC) is pending and the company is waiting for the issuance of the ECC that will ultimately necessitate the approval of the Mining License. The company followed all due processes by first obtaining an ECC for exploration on Exclusive Prospecting Licence (EPL) 7782. The subsequent exploration has successfully identified a significant commercial reserve, justifying the transition to a Mining Licence. The company undertook a comprehensive exploration program in the area after acquiring an environmental clearance certificate for exploration on EPL 7079 from the relevant authority. The exploration was conducted between November and December 2024 and a commercial reserve was identified after completing a substantial number of twelve core-drilling holes with a depth of 40-50 meter-deep that have been drilled within the delineated mining license area. The resource estimate for the available commercial reserve is projected to be around 225,037,496 tons that translated into a lifespan of approximately 40 years with prospect for future expansion. Of this, 49,087,499 tons are classified as Measured Resources, while 175,949,997 tons are classified as indicated resources, all calculated using an established bulk density of 2.55 g/cm³. However, validity of the proposed mining license is 25 years with the potential for extending based on the results of continuous exploration in the area. The proponent possesses the financial and technical capacity required to execute the proposed mining activities. The proposed project is poised to deliver substantial positive economic impact to the town of Karibib and the wider Erongo Region. The project will employ about 100 people during the mining phase and is estimated to cost around 20 million Namibian dollars.

The proposed activity is a listed activity as per Environmental Management Act 2007 (Act No. 7 of 2007) (EMA) and an Environmental Clearance Certificate (ECC) is therefore required to commission the proposed mining activities. Hence, Elegant Stone Mining and Quarries (Pty) Ltd had appointed EnvironClim Consulting Services (ECS) to conduct an Environmental Impact

Assessment (EIA) and formulate an Environmental Management Plan for the envisioned dimension stone mine development.

Elegant Stone Mining and Quarries (Pty) Ltd, hereinafter referred to as the proponent intends to carry out the following activity:

- **Environmental Impact Assessment (EIA) for the establishment of mining activities of dimension stone, on Mining Licence (ML) 270 at Farm Okatjimukoju, No: 55, Karibib district, Erongo region.**

The Environmental Assessment is essential for evaluating the likely social and environmental impacts of establishing dimension stone mining activities on ML 270, located at the Farm Okatjimukoju No. 55 in the Karibib District, Erongo Region. It also aims to formulate appropriate and feasible rehabilitation procedures for the open quarry pit once operation ceases.

The proposed mining project is a listed activity in terms of the Environmental Management Act (No. 7 of 2007) and Environmental Impact Assessment Regulations (Government Notice No. 30 of 2012).

In terms of the Environmental Management Act (No. 7 of 2007) and Environmental Impact Assessment Regulations (Government Notice No. 30 of 2012). Accordingly, the activities outlined in Table 1 below have been triggered for the assessment:

Table 1: List of triggered activities identified in the EA process which apply to the proposed project.

Activity description and No(s):	Description of relevant Activity	The portion of the development as per the project description that relates to the applicable listed activity
Activity 3.1 (Mining and Quarrying activities)	The construction of facilities for any process or activities which require a licence, right or other form of authorisation and renewal of licence, right or other form of authorisation, in terms of mineral (Prospecting and Mining Act) 1992.	The proposed project includes the establishment of mining activities for dimension stone for commercial purposes.
Activity 3.2 (Mining and Quarrying activities)	Other forms of mining or extraction of any natural resources whether regulated by law or not.	The proposed project entails the establishment of mining activities for dimension stone for commercial purposes.

Activity description and No(s):	Description of relevant Activity	The portion of the development as per the project description that relates to the applicable listed activity
Activity 3.3 (Mining and Quarrying activities)	Resource extraction, manipulation, conservation and related activities.	The proposed project entails the establishment of mining activities for dimension stone for commercial purposes.

2. THE IMPORTANCE OF THE EMP

The Environmental Management Plan (EMP) is the principal output of the Environmental Assessment process. It details all proposed mitigation and monitoring measures, establishes clear implementation schedule, and assigns explicit responsibility to individuals to ensure accountability throughout the project lifecycle.

3. SCOPE AND APPLICABLE PHASES

This EMP outlines the specific mitigation and monitoring protocol to be applied during the following key project phases:

- **Mining Phases:** The period during which the appointed contactor extracts the dimension stone from the quarry. The extracted marble will be transported to the processing factory in Karibib and to the Walvis Bay port for export.
- **Transportation Phases:** The period involves the transport of dimension stone from the quarry to processing factory in Karibib and to the port of Walvis Bay for export.
- **Processing (Dressing) Phase:** The period during which the extracted dimension stone is processed at the factory in Karibib, involving the cutting of blocks into slabs

4. POST MINING REHABILITATION AND LAND USE

The rehabilitation of the quarry site is a mandatory requirement following the cessation of mining activities. The objective is to ensure the site is converted to a safe, stable, and economically productive alternative land use that poses no threat to human communities or wildlife in the area. Detailed recommendations for the post-mining alternative utilisation of the quarry are provided within this EMP.

5. PROJECT LOCATION

Mining License (ML) 270 is located at Farm Okatjimukuju, no: 55, approximately 6 Km south-east of Karibib, accessible via the B2 main road between Okahandja to Karibib (see **Figure 1** below for the proposed site). The license covers an area of 3 795.8458 Ha and is bordered by on the south by Mining Licence 178, which belongs to Dreamland Investment cc. Access to ML 270 is provided by a track branching off from the B2 main road into Farm Okatjimukuju, No: 55.

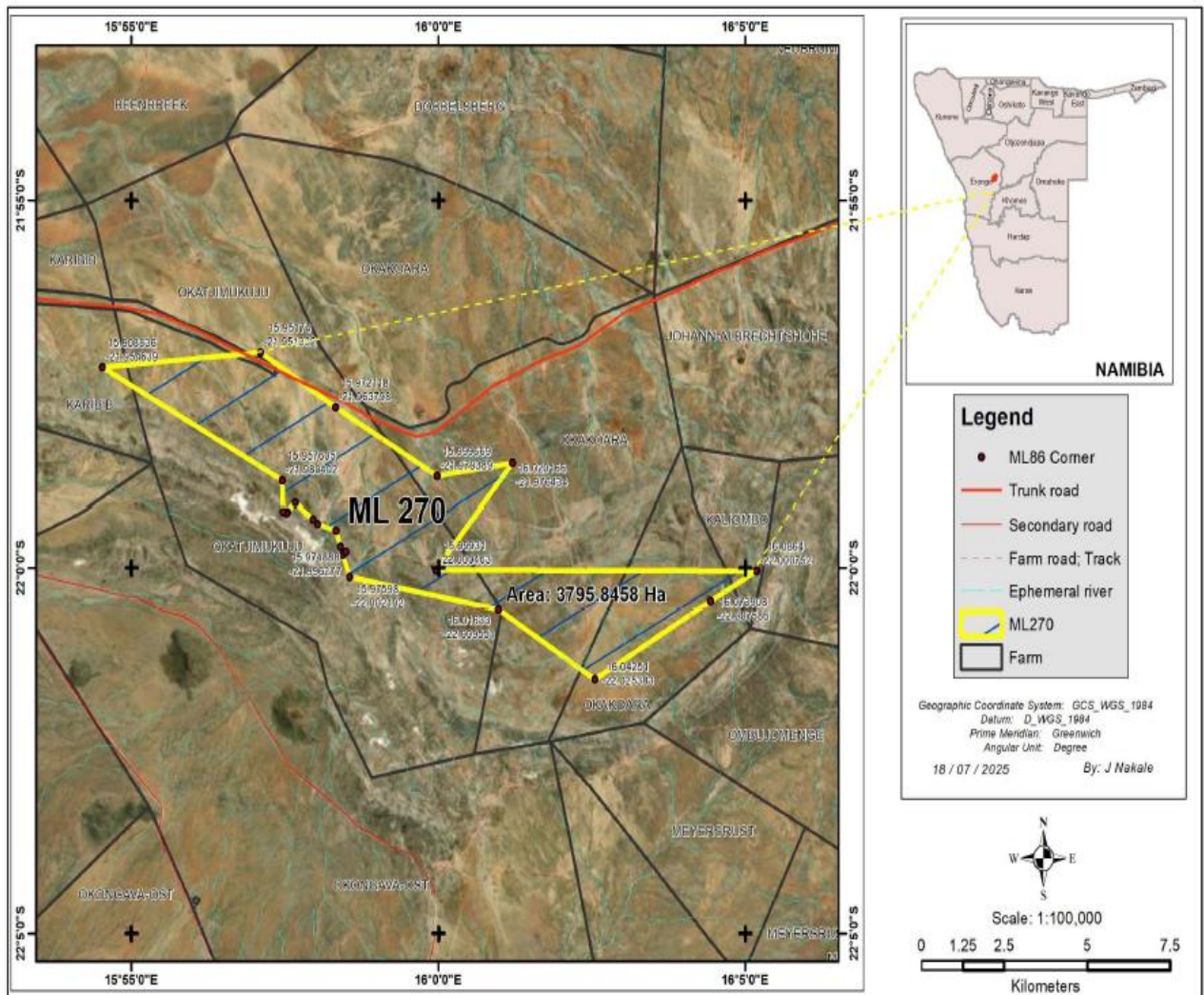


Figure 1: Orientation of ML 270 at Okatjimukuju No: 55, Karibib, Erongo Region (Yellow Polygon) (GPS coordinates - 21.989167 S, 15.987500 E)

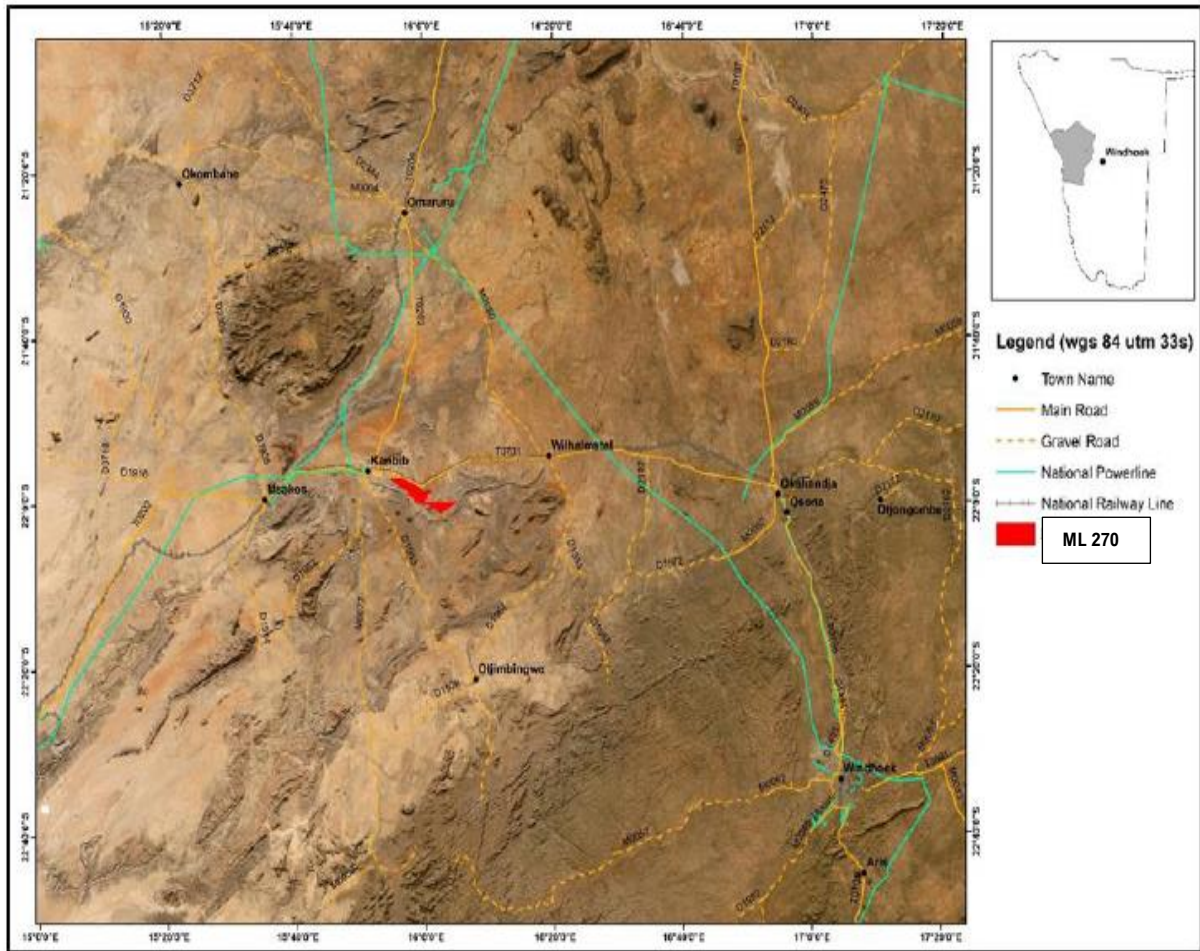


Figure 2: Location of ML 270 and associated infrastructures at Farm Okatjimukoju, No: 55, Karibib, Erongo Region.

6. PURPOSE OF THE EMP

This Environmental Management Plan (EMP) details the practical procedures, mitigation strategies, and monitoring actions required to manage the environmental and social impacts associated with the proposed dimension stone mining operation on ML 270 in Karibib.

Specifically, the EMP outlines:

- **Mitigation Measures:** Empirical procedures and management control designated to reduce potential impacts to negligible levels.
- **Monitoring Protocols:** Actions to track environmental performance and compliance throughout the project lifecycle.
- **Roles and Responsibility:** Clearly defines duties for all individuals and entities involved in the planned development.

This document serves as the primary framework for ensuring responsible environmental stewardship and regulatory compliance during all phases of the project.

7. COMPLIANCE TO THE EMP

This EMP constitute a legally bidding document as established under the Environmental Management Act, 2007 (Act No. 7 of 2007). Accordingly, **Elegant Stone Mining and Quarries (Pty) Ltd** and all associated contractors are required to comply fully with its provisions.

It is of outmost importance to note that this EMP is a living document, subject to revision in response to environmental variations, newly emerging information, or changes in project conditions. Any amendments to this plan must be made in accordance with the procedures stipulated in the Environmental Management Act.

8. LEGAL AND POLICY FRAMEWORK

The proposed project shall be established and operated in full compliance with the relevant statutory framework of Namibia and with applicable international laws and agreements to which Namibia is signatory.

8.1 Applicable and relevant statutory framework of Namibia

Table 2. Legal requirements for the proposed dimension stones (marble) mining project

Legislation	Summary	Applicability
The Namibian Constitution	The Namibian constitution is the supreme law of the country which is committed to sustainable development. Article 95(1) of the Constitution of Namibia states that: - “The State shall actively promote and maintain the welfare of the people by adopting policies aimed at ... The maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future”.	To undertake the EIA in order to maintain the ecological process and diversity of ecosystem.
The Environmental Management Act	The Environmental Management Act No 7 of 2007 aims to promote the sustainable management of the environment and the use of natural resources and to provides for a process of assessment and control of activities which may have significant effects on the environment; and to provide for incidental	Legal requirement to undertake an EIA

Legislation	Summary	Applicability
	<p>matters. The acts provide a list of activities that may not be undertake without an environmental clearance certificate.</p> <p>Further, the Act ensures that;</p> <ul style="list-style-type: none"> (a) Potential threats are considered timeously (b) A comprehensive stakeholder’s consultation is conducted, and all Interested and affected parties are given an opportunity to comment on the project (c) Decision are robust by considering the above-mentioned activities 	
<p>Atmospheric Pollution Prevention Ordinance Act No.11 of 1976)</p>	<p>This Ordinance serves to control air pollution from point sources, but it does not consider ambient air quality. This ordinance is being repealed by the proposed Pollution Control and Waste Management Bill. Any person carrying out a ‘scheduled process’ which are processes resulting in noxious or offensive gases typically pertaining to point source emissions have to obtain a registration certificate from the Department of Health.</p>	<p>Generation of greenhouse gases by the fuel</p>
<p>Draft Pollution Control and Waste Management Bill</p>	<p>This Bill serves to regulate and prevent the discharge of pollutants to air and water as well as providing for general waste management. The Bill will repeal the Atmospheric Pollution Prevention Ordinance (11 of 1976) when it comes into force. The Bill also provides for noise, dust or odour control that may be considered a nuisance. Further, the Bill advocates for duty of care with respect</p>	<p>Possible fuel spillage and leakages may pollute underground and surface water.</p>

Legislation	Summary	Applicability
	to waste management affecting humans and the environment and calls for a waste management licence for any activity relating to waste or hazardous waste management.	
Environmental Policy framework (1995)	This policy subjects all developments and project to environmental assessment and provides guideline for the Environmental Assessment. Its provision mandate that Environmental Assessment take due consideration of all possible impacts and incorporate them in the development or planning stages.	Provision of the EIA and guidelines
The Occupational Safety and Health Act No. 11 of 2007;	<p>Safety: A safety risk is a statistical concept representing the potential of an accident occurring, owing to unsafe operation and/or environment. In the working context “SAFETY” is regarded as “free from danger” to the health injury and to properties.</p> <p>Health: Occupational Health is aimed at the promotion and maintenance of the highest degree of physical, mental and social wellbeing of workers in all occupations. This is done by ensuring that all work-related hazards are prevented and where they occur, managed.</p>	<p>Operating mining equipment has the potential risk of injuries.</p> <p>Provision of clean ablution facility, routine health check-ups for employees, HIV/AIDS awareness etc.</p>

Legislation	Summary	Applicability
Public Health Act No. 36 of 1919	The Act serves to protect the public from nuisance and states that no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him/her or of which he/she is in charge of any nuisance or other condition liable to be injurious or dangerous to health.	Ensure public safety from noise, dusts, and air pollution.
Water Resources Management Act (2004)	This Act provides a framework for managing water resources based on the principles of integrated water resources management. It provides for the management, development, protection, conservation, and use of water resources. Furthermore, any watercourse on/or in close proximity to the site and associated ecosystems should be protected in alignment with the listed principles.	Ensure that the underground water and ephemeral river systems are not polluted and implement pollution control mechanism to avoid water pollution
Water Act No, 54 of 1956	<p>This act states that, all water resources belong to the State. It prevents pollution and promotes the sustainable utilization of the resource. To protect these resources, this act requires that permits are obtained when activities involve the following;</p> <ul style="list-style-type: none"> • Discharge of contaminated into water sources such as pipe, sewer, canal, sea outfall and <p>Disposal of water in a manner that may cause detrimental impact on the water resources</p>	Contaminated water, such as sewage sludge must not seep into the ephemeral river and water sources.

Legislation	Summary	Applicability
Petroleum Product and Energy Act No, 13 of 1990	<ul style="list-style-type: none"> This Act provides a framework for handling and distribution of petroleum products which may include purchase, sale, supply, acquisition, possession, disposal, storage or transportation thereof. 	Safe handling of the petroleum products such as fuel and lubricants.
Labour Act No. 11 of 2007	This Act aims to regulate labour in general and includes the protection of the health, safety and welfare of employees. The 1997 regulations relating to the Health and Safety of employees at work sets out the duties of the employer, welfare and facilities at the workplace, safety of machinery, hazardous substances, physical hazards, medical provisions, construction safety and electrical safety.	Follow legal labour requirements such as safety, remuneration etc
Regional Council Act, 1992 (Act No. 22 of 1992)	The Regional Councils Act legislates the establishment of Regional Councils that are responsible for the planning and coordination of regional policies and development. The main objective of this Act is to initiate, supervise, manage and evaluate development at regional level.	Observe the regional by laws
Soil Conservation Act No. 76 of 1969	This act promotes the conservation of soil, prevention of soil erosion.	Coordinate movement of mining equipment to prevent soil erosion. Ensure conservation of topsoil.
Hazardous Substances Ordinance No. 14 of 1974	This ordinance gives provision to control the handling of hazardous substance in all circumstances, such as manufacturing, imports and exporting of these to ensure human and environmental safety.	Handling of fuel, fire and explosion risks

Legislation	Summary	Applicability
<p>National Heritage Act No. 27 of 2004</p>	<p>The Act makes provision for the protection and conservation of places and objects of heritage significance and the registration of such places and objects. Part V Section 46 of the Act prohibits removal, damage, alteration or excavation of heritage sites or remains, while Section 48 sets out the procedure for application and granting of permits.</p>	<p>Mining activities such as stripping of the overburden, excavation and, trenching may unearth archaeological material.</p>
<p>Word's Best Practises</p>	<p><i>Precautionary Approach Principle</i></p> <p>This principle is worldwide accepted when there is a lack of sufficient knowledge and information about the possible threats to the environment. Hence if the anticipated impacts are greater, then precautionary approach is applied. In this project, there are no eminent uncertainty however in cases when they arise, this approach should be applied.</p> <p><i>Polluter Pays Principle</i></p> <p>This principle ensures that proponents takes responsibility of their actions. Hence in cases of pollution, the proponent bears the full responsibility to clean up the environment.</p>	<p>Dimension stones mining particularly in the area with washes and ephemeral rivers can be detrimental to the underground water. Therefore, precaution must be taken to avoid the contamination of underground water.</p> <p>In the event of any soil contamination pollution, the proponent must be responsible to clean up the environment.</p>

9. ROLES & RESPONSIBILITIES

9.1 Environmental Compliance Officer (ECO)

The Ministry of Environment, Forestry and Tourism (MEFT) is the national custodian of environmental protection. An Environmental Compliance Officer (ECO) shall be an appointed from the Directorate of Environmental Affairs, with the authority and responsibility to administer and enforce compliance in accordance with Environmental Management Act, 2007 (Act No. 7 of 2007).

The ECO is authorised to carry out unannounced inspections at any time to verify and enforce compliance. Site visits for environmental inspection and monitoring will be conducted as per the ECO operational schedule and as deemed necessary to fulfil statutory duties.

9.2 The Proponent

Elegant Stone Mining and Quarries (Pty) Ltd shall bear full accountability for all environmental management aspects and is responsible for effective implementation of this Environmental Management Plan (EMP). Furthermore, the proponent is comprehensively obligated to undertake the following key activities:

- Appoint an Environmental Manager with the necessary qualification and authority to oversee the environmental compliance and performance;
- Ensures all personnel are adequately trained by acquainting all workers and contractor with EMP and conducting mandatory safety inductions specific to dimension stone mining operations.
- Maintain a safe and healthy working environment by identifying, assessing, and controlling workplace hazards;
- Provide appropriate Personal Protective Clothing (PPE) to all workers and enforce its proper use in accordance with hazard assessments;
- Monitor employees works practices continuously to ensure adherence to safety protocol and procedures;
- Ensure environment performance and compliance by meeting all regulatory requirements and the commitments outlined in this EMP;

- Engage independent environmental consultants or specialists' periodic environmental audits and review as required.

9.3 Environmental Manager

The Environmental Manager shall act as the official representative of the proponent and is responsible for ensuring that daily mining operations are monitored and that all employees and contractors comply fully with the EMP.

9.4 Employees and Contractors

All employees and contractors are required to;

- Comply fully with the EMP;
- Wear appropriate PPE at all time when on duties;
- Report any damaged or defective PPE immediately and requested replacement;
- Adhere strictly all company rules, policies and procedures.

10. DISCIPLINARY ACTION

The EMP is a legally bidding document, therefore, any breach or non-compliance with provisions will result in serious disciplinary and/or legal consequence for the proponent, including but not limited to:

- Suspension or cessation of operations;
- Financial penalties.

The specific disciplinary measures shall be determined in accordance with the Environmental Management Act (Act No. 7 of 2007) and other relevant statutory frameworks. As stipulated in Section 27(4) of the Act, *any person found in contravention of these regulation is liable upon conviction to; A fine not exceeding N\$500 000 or imprisonment not exceeding 25 years or to both such fine and such imprisonment”.*

11. DIMENSION STONE MINING AND QUARRY REHABILITATION

The establishment of a quarry within ML 270 is inevitable outcome of dimension stone mining activities. Consequently, the proponent is fully as results of dimension stones mining activities is inevitably. Therefore, the proponent is fully liable for the implementing all provisions outlined in the EMP.

The proponent shall retain overall responsibility for the execution of this EMP, including any work outsourced to sub-contractors. This responsibility extends to all contractors engaged during the mining phase and the subsequent, continuous quarry rehabilitation phase.

To ensure effective environmental management, contractual agreements for all outsourced works must incorporate the relevant environmental preservation clauses specified in this EMP.

12. THE ENVIRONMENTAL MANAGEMENT PLAN

This EMP should be read in conjunction with the Environmental Scoping Report for the proposed dimension stone mining activities on Mining Licence (ML) 270 at Farm Okatjimukoju, No: 55, Karibib district, Erongo region and decommissioning phase of the proposed project.

The following tables outline the prescribed management actions designed to address the likely impacts associated with the proposed activities. These actions are organised temporally according to project stages and cover the following aspects; Social, Environmental, Safety and Occupational Health.

SECTION A: STAFF INDUCTION

Table 3. Staff Induction Mitigation Measures

Environmental or Social Aspects	Objective	Proposed Mitigation Measures	Monitoring Indicators	Responsibility
Staff Induction	To ensure that all employees are acquainted with the requirements of the EMP including environmental policy and procedures.	<p>All employees and contractors must go through a rigorous induction course on all the provisions of the EMP including environmental policy and procedures.</p> <ul style="list-style-type: none"> • There must be an annual induction course for all the workers. • New employees must not start work without going through the induction course. 	<p>Induction minutes and attendance register signed by each staff member.</p> <p>Induction report</p>	Proponent representative or Environmental Manager
	Disciplinary	<ul style="list-style-type: none"> • The proponent must adopt a disciplinary system to discipline staff for non- 	Disciplinary meetings and actions	Proponent representative or Environmental Manager

Environmental or Social Aspects	Objective	Proposed Mitigation Measures	Monitoring Indicators	Responsibility
		<p>compliance, such as not wearing PPE while working onsite etc.</p> <ul style="list-style-type: none"> Stringent measures must be put in place for any employee found contravening provisions of the EMP, must be granted a warning letter. 	<p>Disciplinary letters / Warnings</p>	
	<p>Availability of the EMP and Environmental Policy Statement at the site for ease of reference.</p>	<ul style="list-style-type: none"> Ensure that a copy of the EMP and Environmental Policy Statement are kept at the site at all time and it should be readily accessible. 	<p>Empirical view of the EMP and Environmental Policy Statement.</p>	<p>Proponent representative or Environmental Manager</p>

Environmental or Social Aspects	Objective	Proposed Mitigation Measures	Monitoring Indicators	Responsibility
Communication	To ensure effective communication and improve environmental management and awareness.	<ul style="list-style-type: none"> • The proponent must develop a communication strategy • Correspondences must be in writing • The contact numbers for the Environmental Manager must be available, displayed at key areas at the mine in case of emergencies. • There must be an assembly point for emergency communication. • All employees who are in a position to make or take actions that will influence the conservation and management of the environment must be vested 	<p>Communication Strategy</p> <p>Letters, e-mail, notices, minutes</p> <p>Display of Environmental manager and emergency numbers at key areas on the vessel.</p>	Proponent representative or Environmental Manager

Environmental or Social Aspects	Objective	Proposed Mitigation Measures	Monitoring Indicators	Responsibility
		with a good knowledge of their respective responsibilities for the in order to ensure accurate implementation of the EMP, Environmental Policy Statement and Environmental Management System.		

SECTION B: HEALTH AND SAFETY

Table 4. Health and Safety Measures to be implemented

Environmental / Social Aspects	Objective	Mining Phase Mitigation Measures	Monitoring Indicators	Management Indicators	Responsibility
Health & Safety	Adhere to the Health and Safety Regulations,	<ul style="list-style-type: none"> The proponent must develop a health and safety plan; 	Health and safety included and reflected in the induction minutes	Approved certification of completion.	Proponent representative or Environmental Manager

Environmental / Social Aspects	Objective	Mining Phase Mitigation Measures	Monitoring Indicators	Management Indicators	Responsibility
	Government Notice 156/1997 (GG 1617).	<ul style="list-style-type: none"> • A compulsory safety induction course must be given to all employees. • Each employee must be provided with personal protective equipment (PPE) and must be worn at all time during working and when onsite. • Ensure all employees are inducted on the dangers of the risks associated with working at dimension stones quarry and the available emergency response; • There must be clear health and safety signs at 	<p>Visual Inspection</p> <p>Visual Signs available</p>	<p>Visual Inspection</p> <p>Availability of fire extinguishers on the vessel and evidence of training (e.g. minutes, training pictures etc). Visible signages</p>	

Environmental / Social Aspects	Objective	Mining Phase Mitigation Measures	Monitoring Indicators	Management Indicators	Responsibility
		<p>designated area such as, ASSEMBLY AREA, NO SMOKING “DANGER”, “ENTRANCE PROHIBITED” etc.</p> <ul style="list-style-type: none"> • Employees must NOT be exposed to noise levels above the required -85dB (A) limit over a period of 8 hours. Should the noise level be higher than 85dB, the proponent must implement a hearing conservation program such as noise monitoring; • Employees must be provided with 	Record of hearing loss	Report of health check ups	

Environmental / Social Aspects	Objective	Mining Phase Mitigation Measures	Monitoring Indicators	Management Indicators	Responsibility
		<p>appropriate PPE such as industrial earmuffs;</p> <ul style="list-style-type: none"> • Supply safe drinking water. • Ensure adequate, hygienic and user-friendly ablution facilities for all employees at the site; • Inspect ablution facilities at the site regularly. • Supervisors must undertake an occupational health and first aid course. 	<p>Clean water</p> <p>Clean toilets at all time</p> <p>Proof of Certification</p>	<p>Laboratory analysis report</p> <p>Clean toilets at all time</p>	
Open fires	To prevent veld fire	<ul style="list-style-type: none"> • No open fires may be made anywhere on the mining licence area. 	Visual Inspection	Visual Inspection	Proponent representative or Environmental Manager

Environmental / Social Aspects	Objective	Mining Phase Mitigation Measures	Monitoring Indicators	Management Indicators	Responsibility
Road safety		<ul style="list-style-type: none"> • Demarcate roads clearly. • Off-road driving should not be allowed. • All vehicles that transport materials to and from the site must be roadworthy. • Drivers that transport materials should have a valid driver's license and should adhere to all traffic rules. • Loads upon vehicles should be properly secured to avoid items falling off the vehicle. 	Road signs	Road signs	Proponent representative or Environmental Manager

Environmental / Social Aspects	Objective	Mining Phase Mitigation Measures	Monitoring Indicators	Management Indicators	Responsibility
		<ul style="list-style-type: none"> • Limit and control the number of access points to the mining licence sites. • The road leading to the mining licences should be properly maintained so as to reduce dust emissions when they are being used by heavy vehicles. 			
Establish and Maintain Occupational health and Safety Management System (SMS)	Improved occupational health and safety at work place	<ul style="list-style-type: none"> • Maintain high safety standards at the site and arrange annual audits by credible institutions. 	Accident records	High standards of occupational health and safety ratings is maintained.	Proponent representative or Environmental Manager

SECTION C: POLLUTION CONTROL AND WASTE MANAGEMENT

Table 5. Pollution and Waste Management Mitigation Measures

Environmental / Social Aspect	Objectives	Mining Phase Mitigation Measures	Monitoring Indicator	Management Indicator	Responsibility
Vehicle Emissions	Reduce greenhouse gas (GHG) emissions from vehicles / machinery	<ul style="list-style-type: none"> All equipment and vehicles must be kept in good working condition and serviced frequently to prevent emission of noxious smoke etc. Switch off engines when vehicle is not operations 	<p>Vehicle service records books</p> <p>Reports of smoke emissions from machinery</p>	Endorsement by the management	Proponent representative or Environmental Manager

Environmental / Social Aspect	Objectives	Mining Phase Mitigation Measures	Monitoring Indicator	Management Indicator	Responsibility
Surface and ground water contamination / pollution	To prevent soil and water pollution	<ul style="list-style-type: none"> • Contaminated runoff from the various operational activities should be prevented from entering any surface water bodies. • Ensure that surface water accumulating on-site are channelled and captured through a proper storm water management system to be treated in an appropriate manner before disposal into the environment. 	<p>Service records</p> <p>Visible drip trays</p>		Proponent representative / Environmental Manager

Environmental / Social Aspect	Objectives	Mining Phase Mitigation Measures	Monitoring Indicator	Management Indicator	Responsibility
		<ul style="list-style-type: none"> Disposal of waste from the properties should be properly managed. 	Proper storage with concrete bund surface		
Oil Spillages	To prevent oil spill from tanks and during re-fuelling	<ul style="list-style-type: none"> Oils, lubricants and hydrocarbons must be stored in a proper storage facility with concrete bunds or impermeable lined materials. Refuel vehicles at designated areas that has protected surface covering /geomembrane lining and use drip trays for 	Place warning signs	Site inspection and record keeping	Proponent representatives / Environmental Manager

Environmental / Social Aspect	Objectives	Mining Phase Mitigation Measures	Monitoring Indicator	Management Indicator	Responsibility
		stationary equipment and vehicle. <ul style="list-style-type: none"> Engage the suppliers of consumable such as grease and lubricants upon used to collect and dispose of such waste in an environmentally friendly manner. 			
Oil leakage	To prevent fuel leakages during dimension stones mining	<ul style="list-style-type: none"> All stationary vehicles and machinery must have drip trays to collect leakages of oils and lubricant. Vehicle and machinery to be used must be in good condition and 	Visible monitoring		Proponent representatives / Environmental Manager

Environmental / Social Aspect	Objectives	Mining Phase Mitigation Measures	Monitoring Indicator	Management Indicator	Responsibility
		<p>well service to avoid leakages of oils and lubricants;</p> <ul style="list-style-type: none"> • Although not anticipated to be significant, oil drops for instance of less than 500ml, if it happens to contaminate the soils must be collected and be treated with bioremediation waste. 			

Environmental / Social Aspect	Objectives	Mining Phase Mitigation Measures	Monitoring Indicator	Management Indicator	Responsibility
Waste generation	To prevent littering	<ul style="list-style-type: none"> The site shall be kept clean and free of litter and no litter from the site shall be allowed to disperse to surrounding areas. All personnel shall be instructed to dispose of all waste in the proper manner. The mining site must have adequate wheelie bins and skip containers for onsite waste disposal. 	<p>Waste bins and skip containers</p> <p>Waste management plan</p>	<p>Waste bins and skip containers</p> <p>Waste management plan</p>	Proponent representatives / Environmental Manager

Environmental / Social Aspect	Objectives	Mining Phase Mitigation Measures	Monitoring Indicator	Management Indicator	Responsibility
		<ul style="list-style-type: none"> • Sufficient weather and scavenger-proof bins (with lids, to prevent the escape of litter) shall also be provided, and be easily accessible at all points where wastes are generated. • The proponent shall identify and separate materials that can be reused or recycled to minimise waste e.g. metals, packaging and plastics, and provide separate marked bins for these items. 			

Environmental / Social Aspect	Objectives	Mining Phase Mitigation Measures	Monitoring Indicator	Management Indicator	Responsibility
		<ul style="list-style-type: none"> • No dumping of waste products of any kind in or in close proximity to any surface water bodies. • No waste may be burned on site. • General waste is to be collected either by the local Municipality or removed by the proponent or by the contractor. 			

Environmental / Social Aspect	Objectives	Mining Phase Mitigation Measures	Monitoring Indicator	Management Indicator	Responsibility
		<ul style="list-style-type: none"> • The frequency of collections will be such that waste containment receptacles do not unduly accumulate at the site or overflow. • Ensure that Namibian National Solid Waste Management Strategy of 2017 is in place and enforce. 			

Environmental / Social Aspect	Objectives	Mining Phase Mitigation Measures	Monitoring Indicator	Management Indicator	Responsibility
Dust		<ul style="list-style-type: none"> A watering truck should be used on gravel roads with the heaviest vehicle movement especially during dry and windy conditions. However, appropriate consideration should be given to water restrictions during times of drought. 	Dust monitoring	Dust monitoring	Proponent representatives / Environmental Manager

Environmental / Social Aspect	Objectives	Mining Phase Mitigation Measures	Monitoring Indicator	Management Indicator	Responsibility
		<ul style="list-style-type: none"> • The use of waterless dust suppression means (e.g. lignosulphonate products such as Dustex) should be considered. • Dust protection masks should be provided to workers if they complain about dust. • During high wind conditions the project manager must make the decision to cease works until the wind has calmed down. 			

SECTION D: ENVIRONMENT

Table 6. Environmental Mitigation Measures to be implemented

Aspect	Objective	Mining Phase Mitigation Measures	Monitoring Indicator	Responsibility
Biodiversity	Maintain the ecosystem services and protect the fauna and flora.	<ul style="list-style-type: none"> • No worker is allowed to hunt, disturb, remove, injure or feed any wild animals in the area. • No worker is permitted to intentionally remove, injure or kill any wild animals. • No workers should be permitted to disturb, remove or collect any plant or its materials. • Pick, uproot, fell or damage any plant materials growing in the area without a permit. • Prevent the destruction of protected tree species in the area. • The excavation of the dimension stones should incorporate existing trees. 	Disciplinary records Vegetation management plan	Proponent representatives / Environmental Manager

Aspect	Objective	Mining Phase Mitigation Measures	Monitoring Indicator	Responsibility
		<ul style="list-style-type: none"> • Clear the vegetation within the project area in phases during the dimension stone mining period in order to keep the soil more compacted as well as to limit overall disturbance to the area over time. • Encourage the regrowth and regeneration of trees with exposed roots at the site. • Ecological sensitive areas such as breeding sites and area with many crevices should be avoided during mining. • Disciplinary actions must be taken to any person not complying and strict penalties shall be imposed. 		
Illegal harvesting of any plant materials	To prevent illegal harvesting of plant materials and genetic resources.	<ul style="list-style-type: none"> • No worker and contractors are permitted to collect plant materials, wood and veld food, etc. during the dimension stone mining phase to 	Disciplinary records	Proponent representatives / Environmental Manager

Aspect	Objective	Mining Phase Mitigation Measures	Monitoring Indicator	Responsibility
		<p>harvest any plant materials such as wood without a valid permit.</p> <ul style="list-style-type: none"> Any illegal harvesting of plant materials should be report to the relevant authority. 		
Water Resource	Conservation of water resource	<ul style="list-style-type: none"> No pollution or contaminant should be allowed to enter the water. A no-go buffer area of at least 30 m should be allocated to any water bodies in the area. There should be a continuous water quality monitoring taking place to ensure that there is no water contamination taking place within the mining licence area. Recycle water and foster the re-use of water. Monitor and control water usage and minimise if possible. 	Valid water abstraction permit.	Proponent representatives / Environmental Manager

Aspect	Objective	Mining Phase Mitigation Measures	Monitoring Indicator	Responsibility
		<ul style="list-style-type: none"> Keep record of water consumption, set target and put action plan when targets are exceeded. 		
Soil Erosion		<ul style="list-style-type: none"> Appropriate erosion control structures must be put in place where soil may be prone to erosion. Checks must be carried out at regular intervals to identify areas within the mining licence site where erosion is occurring. Appropriate remedial actions are to be undertaken wherever erosion is evident. It is recommended that most dimension stone mining takes place outside of the rainy season in order to limit potential flooding and the run off of loose soil causing further erosion. 		

Aspect	Objective	Mining Phase Mitigation Measures	Monitoring Indicator	Responsibility
Alien Invasive	Maintain natural ecosystem	<ul style="list-style-type: none"> No alien species may be plant is permitted to be planted at the site. No pets are allowed to stay on the site. 	Alien invasive species record.	Proponent representatives / Environmental Manager

SECTION E: HERITAGE AND ARCHEOLOGICAL SITES

Table 7. Archaeology and Heritage Mitigation Measures

Environment / Social Aspect	Objectives	Mining Phase Mitigation Measure	Monitoring Indicator	Responsibility
Heritage Resources / Artefacts	Preserve Heritage and Archaeological materials	<ul style="list-style-type: none"> The management should be made aware of the provision of the National Heritage Act regarding prompt reporting of any archaeological findings. Immediately inform the Environmental Manager or management, who will inform the NHC. 	Sighting report/s of heritage resources / artefacts	Proponent representatives / Environmental Manager

Environment / Social Aspect	Objectives	Mining Phase Mitigation Measure	Monitoring Indicator	Responsibility
		<ul style="list-style-type: none"> • Retain all the artefacts recovered and where feasible; maintain a photographic record, take note of the date, time, location and type of artefacts found in the logbook; • Contract an archaeologist in consultation with NHC to survey the area. • Avoid mining within 500m from the centre once the area has been surveyed in order to obtain the baseline data, a 2-3 baseline data is recommended. 		

SECTION F: SOCIO ECONOMIC

Table 8. Social Economic Mitigation Measures

Environmental / Social Aspects	Objectives	Mining Phase Mitigation Measures	Monitoring Indicator	Responsibility
Employment	Promote benefits to the local resident	<ul style="list-style-type: none"> • Adopt a local first policy to ensure that all general work is reserved for local people from Karibib and surrounding settlement, unless in circumstances where specialised skills are required. • Ensure that wellness program includes all the employees. • Employ local contractors e.g. SMEs • Where possible expand wellness programs to contracted SMEs. • Fair compensation and labour practise as per Namibian Labour Laws must be followed. 	Employee structure and proportion of local employment	Proponent representatives / Environmental Manager

Environmental / Social Aspects	Objectives	Mining Phase Mitigation Measures	Monitoring Indicator	Responsibility
Corporate Social Responsibility	Enhance the livelihood of the local communities	<ul style="list-style-type: none"> With the resources available support appropriate initiatives to improve the community welfare particularly in Karibib and Erongo region. 	Undertaking corporate social responsibility activities.	
HIV/AIDS	To prevent the spread of HIV/AIDS	<ul style="list-style-type: none"> Provide HIV/AIDS awareness at induction. 	HIV/AIDS awareness campaigns.	
Alcohol and Drug use	Prevent alcohol and drug use	<ul style="list-style-type: none"> Ban the use of alcohol and drugs onsite. Teach employees about dangers alcohol and substance abuse. All employees must be screen with the breathalyser to avoid intoxicated personnel to entering the mine. 	Drunk / Misbehaving employees Breathalyser report	Proponent representatives / Environmental Manager
Working hours	Adhere to the Labour Act No. 11 of 2007	<ul style="list-style-type: none"> Operate within the prescribed working days and hours as per the Namibian Labour laws and regulations 	Labour unrest / Demonstration	Proponent representatives / Environmental Manager

SECTION G: DECOMMISSIONING/CLOSURE

Table 9. Decommissioning/closure Mitigation Measures to be implemented

Aspect	Objective	Mining phase Mitigation Measure	Monitoring Indicator	Responsibility
Decommissioning/Closure Plan	To ensure and attain the decommission/closure targets.	<ul style="list-style-type: none"> • Ensure decommissioning/closure plan is continuous throughout the life cycle of the project. • When stripping is carried out, the overburden should be stockpiled in a demarcated area and used in profiling and rehabilitating of the depleted, open quarries at the mining licence. • Stockpiled topsoil should be used to rehabilitate post-harvesting degraded areas and/or other nearby degraded areas within the Karibib townland in consultation with the Karibib Municipality office. 	Updated decommissioning/closure plan.	Proponent representatives / Environmental Manager

Aspect	Objective	Mining phase Mitigation Measure	Monitoring Indicator	Responsibility
		<ul style="list-style-type: none"> • Collect all relevant information throughout the life cycle of the project to ensure that all environmental risks are quantified and managed properly. • Submit the decommissioning/closure plan to the office of the Environmental Commissioner and Mining Commissioner for approval. 		
Financial provision for the decommissioning/closure of exploration activities and rehabilitation.	Enhance decommissioning/closure and rehabilitation	<ul style="list-style-type: none"> • Allocate substantial operational cost in order to attain the EMP objectives by ensuring that potential impacts are managed or monitored. • Maintain sufficient Protection and Indemnity (P&I) Insurance Cover for the purpose of decommissioning/closure and rehabilitation liabilities. • Allot operational cost to monitor and ensuring natural recovery of the area through pre and post mining phases. 	Protection and Indemnity (P&I) Insurance Cover.	Proponent representatives / Environmental Manager

Aspect	Objective	Mining phase Mitigation Measure	Monitoring Indicator	Responsibility
		<ul style="list-style-type: none"> Reserve adequate funds for specialist assessments in the event that the natural recovery process is taking longer than expected and resources for continuous monitoring will be requirement. 		

10. CONCLUSION AND RECOMMENDATIONS

The proposed dimension stone mining project on Mining Licence (ML) 270 at Farm Okatjimukoju No. 55, Karibib District, has undergone a comprehensive evaluation of its potential environmental, social, and economic impacts.

The assessment concludes that most potential adverse impacts can be mitigated to negligible levels through the rigorous implementation of measures outlined in this Environmental Management Plan (EMP). Impacts are expected to be localized primarily within the mining licence area.

A closure and decommissioning plan, developed in consultation with the Karibib community, will ensure the site is rehabilitated and any remaining infrastructure is repurposed for economically viable alternative land use.

Given the adequacy of the information and mitigation measures presented, it is recommended that an **Environmental Clearance Certificate (ECC)** be issued to authorise the commencement of mining activities at ML 270.

To ensure ongoing compliance and environmental stewardship, the following conditions are stipulated: Continuous environmental monitoring must be implemented. The proponent must appoint an Independent Environmental Consultant, supported by relevant specialists, to conduct regular audits and submit specialist reports to the Office of the Environmental Commissioner.