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ENVIRONMENTAL SCOPING ASSESSMENT FOR THE PROPOSED SMALL SCALE MINING ACTIVITIES ON MINING CLAIMS (MCs) NO. 76555 - 76559 LOCATED SOUTH EAST OF KARIBIB IN THE ERONGO REGION

DOCUMENT VERSION: FINAL REPORT

ECC APPLICATION: 260313007161



PROPONENT

Proponent: Helena Ndemuwana Heita

ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP) / CONSULTANCY

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EXECUTIVE SUMMARY

Helena Ndemuwana Heita (hereto referred to as the Proponent in this document) have applied for small-scale mining activities on Mining Claims No. 76555 - 76559. The mining Claims (MCs) are located Southeast of Karibib in the Erongo region .The MCs covers a combined area of 89.4101 hectares. The MCs falls within farm Ombujomenge, farm no. 39 .The proponent is interested carrying out small scale mining activities for Dimension stone.

Small Scale mining activities are among the listed activities that may not be undertaken without an ECC, under the Environmental Impact Assessment (EIA) Regulations, Therefore, to ensure compliance ,the proponent appointed an independent environmental consultant, Savannah Environmental Consultant CC, to undertake the required Environmental Scoping Assessment (ESA) process and apply for the ECC on their behalf.

PROJECT DESCRIPTION

The Proponent intends to adopt a systematic small-scale mining approach to the project as follows:

Phase 1: Non-Invasive Techniques - Field evaluation

Phase 2: Invasive Techniques - Cutting of blocks using diamond wire and Use of excavators and top loaders to load the blocks .

PUBLIC CONSULTATION

The public consultation process enabled the Environmental Consultant to identify potential impacts, mitigation measures, and project alternatives. Communication with Interested and Affected Parties (I&APs) was carried out through the circulation of a Background Information Document (BID) to pre-identified and newly registered I&APs, publication of notices in Windhoek observer and *The villager* (28 February and 7 March 2026) and a consultation meeting with affected landowners held on the on the 9 th March 2025 at Ombujomenge farm. All inputs from the consultation, together with findings from the site visit and literature review, were integrated into the Environmental Scoping Assessment (ESA) Report and Environmental Management Plan (EMP).

POTENTIAL IMPACTS IDENTIFIED.

The following potential impacts are anticipated:

The proposed Small scale mining activities are expected to generate positive socio-economic benefits, including employment creation, skills transfer, local procurement, and the stimulation of small businesses and regional economic development. However, potential negative impacts may arise, such as disturbance of grazing land, soil and habitat disruption, biodiversity loss, pollution of water and soils, and dust generation. Additional concerns include occupational health and safety risks, increased vehicular traffic, noise and vibration from drilling, possible archaeological or heritage impacts, and potential social nuisances or conflicts within local communities.

The potential negative impacts were assessed, and mitigation measures were provided accordingly in the EMP .

RECOMMENDATIONS

The Environmental Consultant is confident that the potential negative impacts associated with the proposed project can be effectively managed through the implementation of recommended mitigation measures. Proper monitoring and strict adherence to these measures will further ensure that the activities are undertaken in a sustainable and environmentally responsible manner.

It is therefore recommended that the proposed small scale mining activities be granted an Environmental Clearance Certificate (ECC), subject to the following conditions:

1. All management and mitigation measures outlined in this report must be effectively and progressively implemented.
2. All required permits, licences, and approvals for land access and mining activities must be obtained and kept in compliance with the relevant legal requirements.
3. The Proponent, contractors, and project workers must comply with all applicable legal requirements and ensure that project permits or approvals are obtained, valid, and renewed as necessary.
4. Sites where mining activities have ceased must be rehabilitated, as far as practicable, to their pre-mining condition.
5. Environmental compliance monitoring reports must be prepared and submitted through the MEFT/DEAF portal in accordance with official requirements.

DISCLAIMER

The findings and conclusions presented in this report were prepared in accordance with the methodologies outlined in the Scope of Work and the Environmental Management Act (EMA), 2007, which represent accepted practice for conducting an Environmental Impact Assessment (EIA). While due care was taken to identify recognised environmental conditions, certain site conditions may not have been identifiable within the scope of the assessment or based on available information.

The Consultant considers the information obtained from public consultations, interviews, and documentary reviews to be reliable. However, no warranty is made regarding the completeness or accuracy of information provided by external sources. The conclusions and findings are limited to the date of evaluation, and no additional warranties, expressed or implied, are provided. This report is also subject to the limitations inherent in historical documentation, record accuracy, and the recollections of individuals consulted.

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Appendix B: Draft Environmental Management Plan (EMP)

Appendix C: Curricula Vitae (CV) of the Environmental Assessment Practitioner (EAP)

Appendix D: Proof of Public Consultation (Newspaper advert, attendance register)

Appendix F: Non-Exclusive Prospecting Licences for MCs 76306 - 76096

LIST OF ABBREVIATIONS

Abbreviation	Meaning
AMSL	Above Mean Sea Level
BID	Background Information Document
CV	Curriculum Vitae
DEAF	Department of Environmental Affairs and Forestry
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
SECS	Savannah Environmental Consultant Services
ESA	Environmental Scoping Assessment

EMA	Environmental Management Act
EMP	Environmental Management Plan
MCs	Mining Claims
GG	Government Gazette
GN	Government Notice
I&APs	Interested and Affected Parties
MEFT	Ministry of Environment, Forestry and Tourism
MME	Ministry of Mines and Energy
PPE	Personal Protective Equipment
Reg	Regulation
S	Section
TOR	Terms of Reference

1 INTRODUCTION

1.1 Project Background

Helena Ndemuwana Heita (hereinafter referred to as *the Proponent*) has applied to the Ministry of Industries, Mines and Energy (MIME) on the 07th November 2025 for the rights to do small scale mining activities on the Mining Claims (MCs) No. 76555 - 76559. The approval of the MCs is, however, subject to an Environmental Clearance Certificate (ECC) as per the status of the MCs application on the Namibia Mines and Energy Cadastre Map Portal <https://portals.landfolio.com/namibia/> "pending ECC as shown in figure 1.

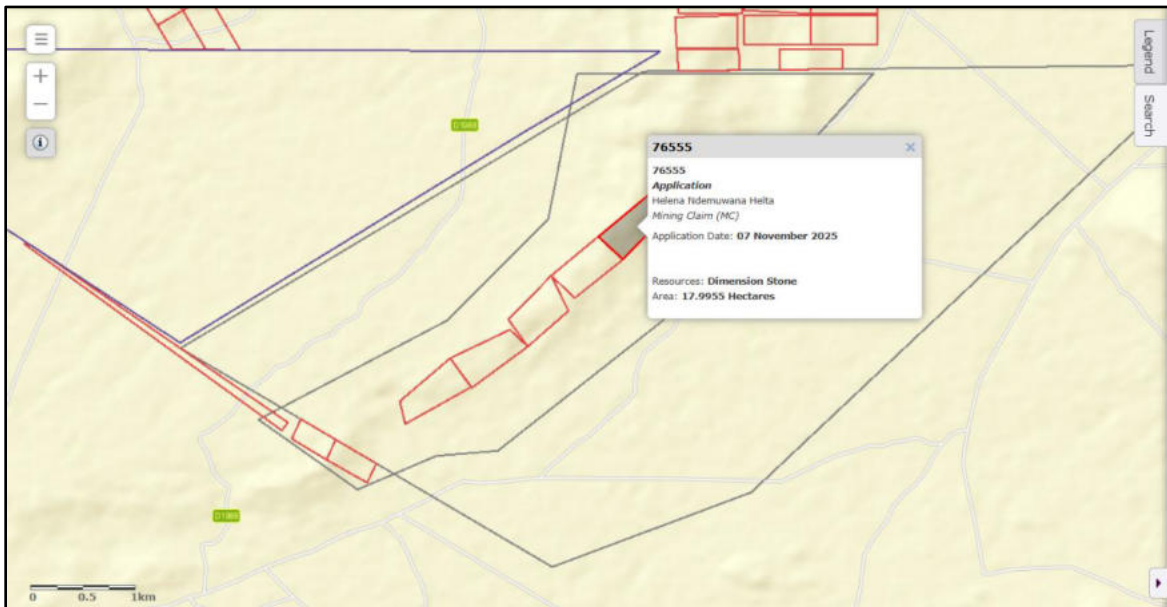


Figure 1: Shows the MCs 76555 - 76559 on the Namibia Mines Industries and Energy Cadastre Portal

The MCs covers a combined area of 89.4101 hectares. The MCs falls within farm Ombujomenge, farm no. 39 as shown in Figure 2. The proponent is interested carrying out small scale mining activities for Dimension stone. Thus, this environmental assessment is for small scale mining activities only,

Section 27 (1) of the Environmental Management Act (EMA) (No. 7 of 2007) and its 2012 Environmental Impact Assessment (EIA) Regulations, provides a list of activities that may not be carried out without an EIA undertaken and an ECC obtained. Small-scale mining activities are

listed among activities that may not occur without an ECC. Therefore, no individuals or organizations may carry out small scale mining activities without an ECC being granted.

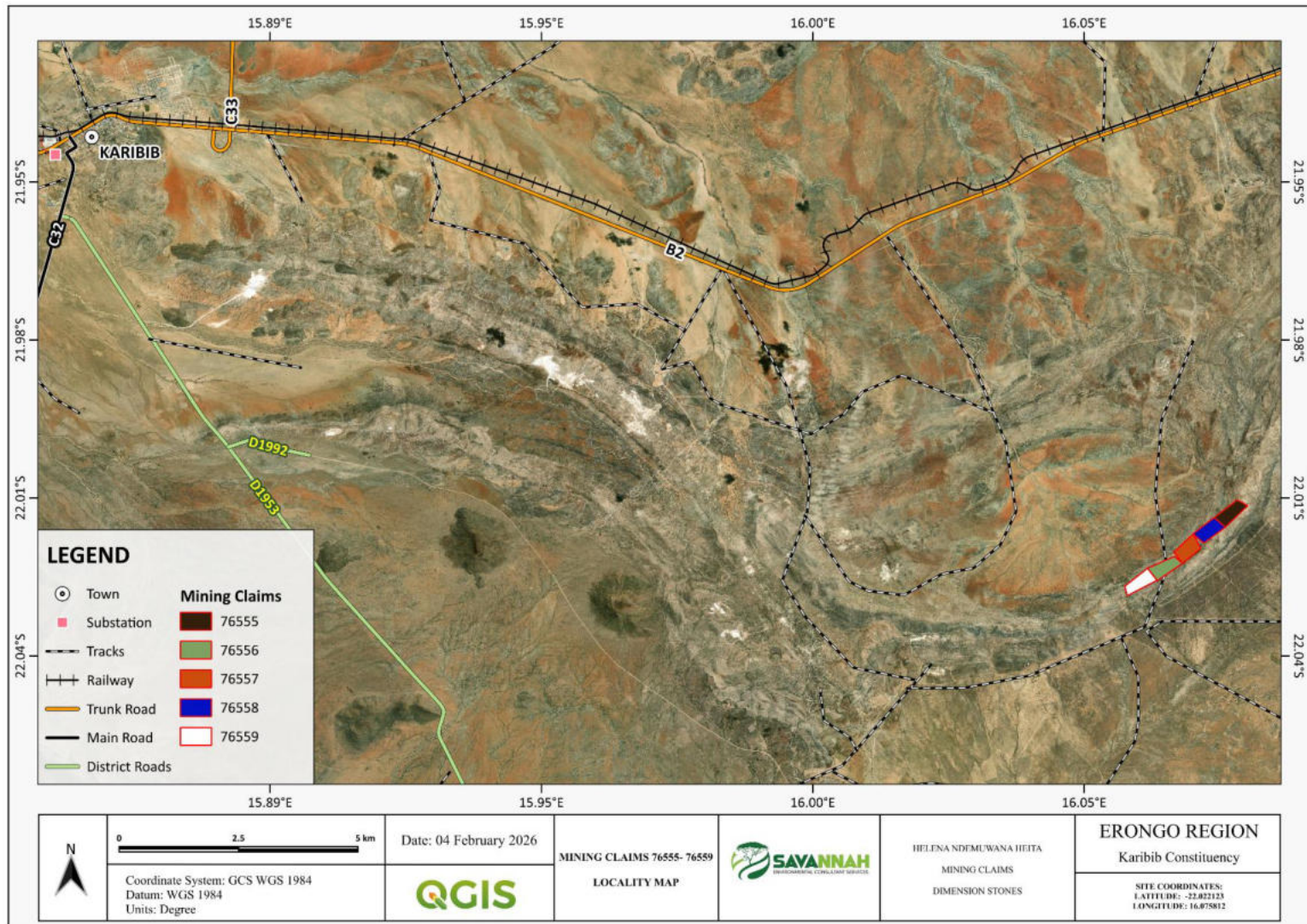


Figure 2: MCs 76555 - 76559 Locality Map

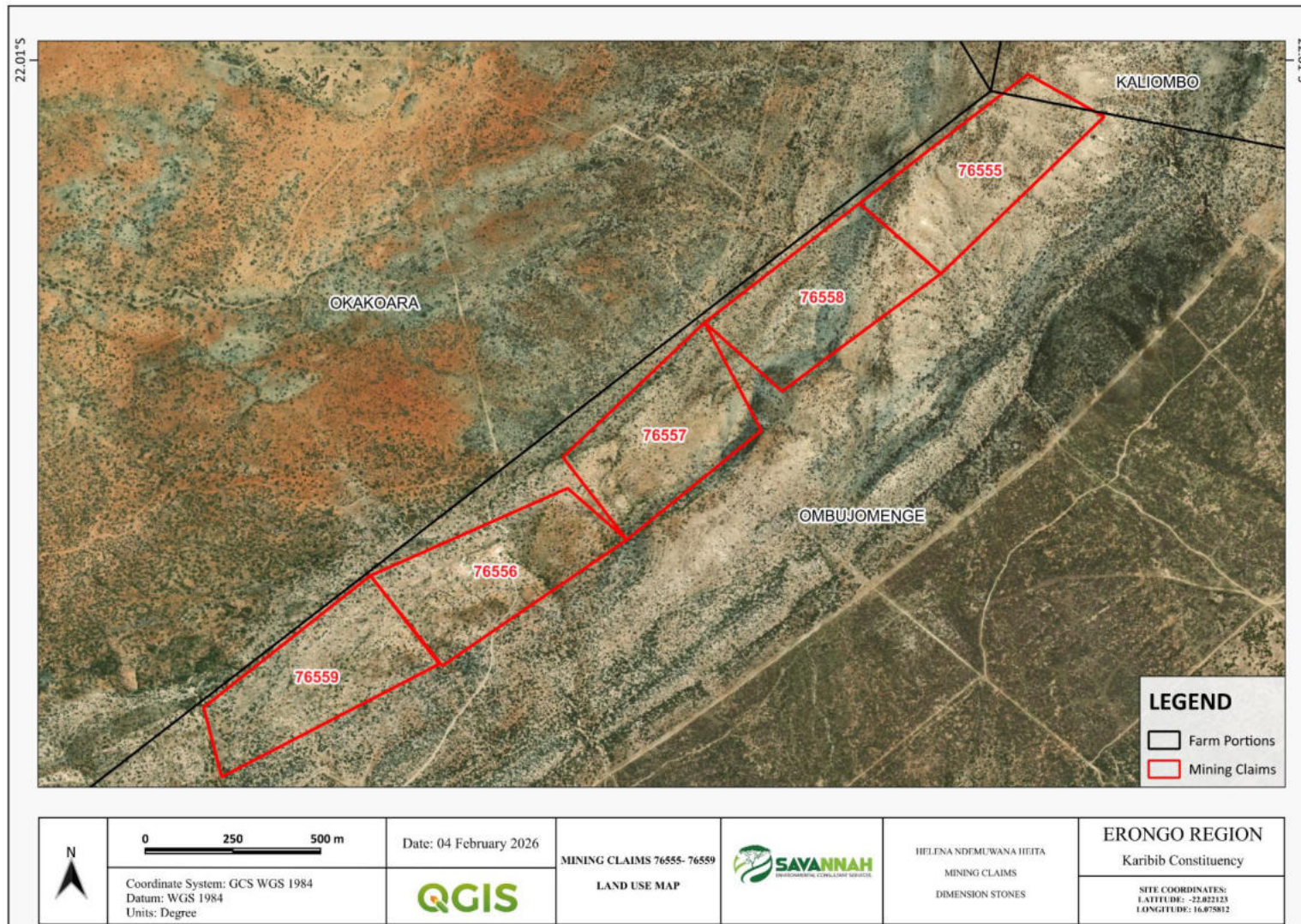


Figure 3 the land use map around MCs 76555 - 76559

1.2 The Need for an ESA and Environmental Clearance Certificate (ECC)

Mining of mineral resources are listed activities in the Environmental Impact Assessment (EIA) Regulations (2012) of the Environmental Management Act (EMA) No. 7 of 2007 that may not be undertaken without an Environmental Clearance Certificate (ECC). The activities that are relevant to the proposed project are as follows:

- *3.1 The construction of facilities for any process or activities that require a license, right, or other forms of authorization, and the renewal of a license, right, or other form of authorization, in terms of the Minerals (Prospecting and Mining Act, 1992).*
- *3.2 Other forms of mining or extraction of any natural resources, whether regulated by law or not.*
- *3.3 Resource extraction, manipulation, conservation, and related activities.*

The purpose of the EIA Scoping Study and subsequent issuance of the ECC is therefore to ensure that the proposed project activities are undertaken in an environmentally & socially friendly and sustainable manner, through the effective implementation of recommended environmental management measures to minimize the adverse identified impacts while maximizing the positive impacts.

1.3 Terms of Reference, Scope of Works and Appointed EA Practitioner

There were no formal Terms of Reference (ToR) provided to Savannah Environmental Consultant Services by the Proponent. Therefore consultant, instead, relied on the requirements of the Environmental Management Act (No. 7 of 2007) (EMA) and its EIA Regulations (GN. No. 30 of 2012) to conduct the study.

The EIA project is headed by Ms. Aili lipinge a qualified and experienced EAP. The consultation and reporting process are being carried out by Ms. Aili lipinge .Their CV's are presented as an appendices.

1.4 Motivation for the Proposed Project

Small scale Mining in Namibia is a major industry that provides substantial employment opportunities and makes a significant contribution to the national economy. Namibia's mineral sector is well diversified, with rights to all minerals vested in the state. Consequently, the Government of Namibia serves as the regulatory authority overseeing all mining activities (Mansfeld, 2006). Small Scale mining require adherence to established legislative frameworks,

with applicants expected to follow prescribed procedures through the Ministry of Mines and Energy (MIT, 2003).

Namibia's mining sector is the sixth largest in Africa, following South Africa, Ghana, Tanzania, Zimbabwe, and Zambia. The industry contributes approximately 15% to the country's gross domestic product (GDP), making it the single largest sectoral contributor. Mining products account for about 50% of Namibia's annual export revenues, while the sector directly employs an estimated 10,000 people (Bendi, 2003). In addition to generating government revenue, mining projects play a key role in supporting community livelihoods through employment and socio-economic development initiatives.

2 PROJECT DESCRIPTION

2.1 PROPOSED SMALL SCALE MINING ACTIVITIES

2.2 Operational Phase

Phase 1: Non-Invasive Techniques – Field Evaluation

This initial phase will involve preliminary field evaluation of the marble deposit to determine the quality, structural characteristics, and spatial extent of the resource. Activities will include geological mapping, visual inspection of marble outcrops, and identification of suitable extraction zones. These activities are non-invasive and will involve minimal disturbance to the surrounding environment. A Such activities are always carrying out before the application of the MCs.

Phase 2: Invasive Techniques – Marble Block Extraction

Following the field evaluation phase, controlled extraction of marble blocks will be undertaken. Marble blocks will be cut from the host rock using **diamond wire cutting techniques**, which allow for precise and efficient separation of blocks while minimising material loss and structural damage. Supporting equipment such as **excavators and front-end loaders (top loaders)** will be utilised to remove limited overburden where necessary, manoeuvre the cut blocks, and transport them to designated stockpile areas within the mining site.

This phased approach allows the proponent to evaluate the deposit prior to extraction and to implement controlled mining practices that are suitable for small-scale marble quarry operations.

Other aspects of the proposed small-scale mining operations include:

2.2.1 Accessibility to Site

The proposed project site is easily accessible via a B2 road from Karabib, which connects to the track roads, that goes through the MCs. All project-related vehicles will use existing roads to access the MCs.

As far as practicable, all site particularly the basecamp and drilling sites shall be accessed through existing tracks. However, given that the project area is covered by vegetation and the topography of the site, it is likely that new tracks will be created to ensure easy access to mining target areas. The proponent may need to upgrade some access roads to ensure they are fit to support project vehicles, such as heavy trucks.

2.2.2 Material and Equipment

The requirements of the small scale mining program in terms of vehicles and equipment include 4X4 vehicles, water tanks, a diesel tank, a power generator, Diamond wite, excavators front-end loader, and a tented camp to accommodate the crew. Equipment and vehicles will be stored at a designated area near the accommodation site or a storage site established within the MCs area.

2.2.3 Services and Infrastructure

- **Water:** Water for the Mining on the MCs, the proponent will drill boreholes for water within the MCs, upon obtaining necessary permits i.e water abstraction permit and signed agreements with the landowners in the area. The estimated monthly water consumption is at +- 4 500 liters. This includes water for drinking, sanitation, dust control (if necessary), as well as washing of equipment.
- **Power supply:** Power required during the operation phase will be provided by diesel generators. About 1500 liters of diesel will be used per day.
- **Fuel (diesel for generators and other equipment):** The fuel (diesel) required for small scale mining activities equipment will be stored in a tank mounted on a mobile trailer. Drip trays will be readily available and monitored to ensure that accidental fuel spills are cleaned up as soon as they have been detected/observed. Fuel may also be stored in a bunded diesel bowser on site, and in jerry cans placed on plastic sheeting to avoid unnecessary contamination of soils.

2.2.4 Waste Management

- **Sewage Management:**
Mobile chemical ablution facilities will be provided on-site. Sewage waste will be managed

and disposed of in accordance with the manufacturer's instructions to ensure compliance with health and environmental standards.

- **SolidWasteManagement:**

Adequate waste bins and containers will be made available at all small scale mining sites and campsites. Collected waste will be stored safely and transported for disposal at the nearest approved waste management facility.

- **HazardousWasteManagement:**

Hazardous waste, including used fuel and oils, will be carefully stored in standardized, leak-proof containers. These will be transported to and disposed of at an approved hazardous waste management facility located in the nearest town (Walvis Bay).

2.1.5 Health and Safety Measures

- All project personnel will be provided with adequate and appropriate Personal Protective Equipment (PPE).
- A minimum of two well-stocked first aid kits will be available on-site at all times.
- Fire extinguishers will be readily available in vehicles, at small scale mining sites, and at campsites to mitigate risks of accidental fire outbreaks.

2.2.6 Accommodation

The small scale mining crew/project personnel will be accommodated in a camp site, which will consist of tents, caravans, and/or make-shift buildings and temporary ablution facilities. This campsite will be set up near the small scale mining sites on the MCs or commuting from the Town of Karibib. If the accommodation camp is to be set up on a farm, necessary arrangements will be made with the farm/landowner(s). Small-Scale Mining activities will take place during daytime only and staff will commute between the small scale mining site(s) and their place of accommodation.

2.3 Decommissioning and Rehabilitation Phase

Once the small-scale mining activities on the MCs come to an end, the Proponent will need to put site rehabilitation measures in place. Decommissioning and rehabilitation are primarily reinforced through a decommissioning and rehabilitation plan, which consists of safety, health, environmental, and contingency aspects. An unfavorable economic situation or unconvincing small-scale mining results might force the Proponent to cease the small scale mining program

before the predicted closure. Therefore, it is best practice for the Proponent to ensure that the project activities cease in an environmentally friendly manner and the sites are rehabilitated.

3 PROJECT ALTERNATIVES

Alternatives are defined as the “different means of meeting the general purpose and requirements of the activity” (EMA, 2007). This section highlights the different ways in which the project can be undertaken and identifies alternatives that may be the most practical, but least damaging to the environment.

Once the alternatives have been established, these are examined by asking the following three questions:

- What alternatives are technically and economically feasible?
- What are the environmental effects associated with the feasible alternatives?
- What is the rationale for selecting the preferred alternative?

3.1 Types of Alternatives Considered

3.1.1 The "No-go" Alternative

The “no action” alternative implies that the status quo remains. Should the proposal of small mining activities on the MCs be discontinued, none of the potential impacts (positive and negative) identified would occur. If the proposed project is to be discontinued, the current land use for the proposed site would remain unchanged.

This no-go option is considered and a comparative assessment of the environmental and socio-economic impacts of the “no action” alternative, is undertaken to establish what benefits might be lost if the project is not implemented.

3.1.2 Small Scale Mining Location

The Small-Scale Mining location is dependent on the geological setting (regional and local), the economic geology, and the mining history of the MCs area. Therefore, finding an alternative location for the planned small scale mining activities is not possible. This means that the mineralization of the target commodities is area-specific, and small scale mining targets are primarily determined by the geology (host rocks) and the tectonic environment of the site (an ore-forming mechanism). The tenement has sufficient surface area for future related facilities, should an economic mineral deposit be defined.

3.1.2 Small Scale Mining Methods

Both invasive and non-invasive small scale mining activities, as indicated under the project description chapter, are expected to take place. These were found to be appropriate and reliable for the type of commodities for small scale mining. Other alternative viable small scale mining methods are found to achieve the purpose more effectively and/or efficiently without aggravating any environmental measures put in place, it can be implemented.

3.2 Services Infrastructure

Alternatives were considered for different supporting infrastructures to ensure that the most feasible options were selected. The technological, economic, and environmental limitations were considered to select the most feasible option. The alternatives considered in this regard are presented in table 2.

Table 1 :The presentation of service infrastructure alternatives considered for the project activities

Category of Infrastructure	Alternatives Considered	Justification for the selected option
Ablution facilities	Install a fixed facility with a septic tank -Portable facilities with a septic tank	-To minimize rehabilitation costs, portable facilities were selected as the best option.
Water supply	-Bring water from elsewhere -Abstract from local existing or new boreholes	-The project water will be sourced from the Municipality and other nearby reliable water suppliers (s) (for drilling and dust suppression). - Drinking water will be supplied from shops in Karibib.
Fuel storage	-Trailer-mounted diesel tank -Fixed bunded fuel tank	-During small scale mining use a trailer mounted diesel tank for fuel storage due to great mobility requirements during small scale mining.
Power supply	-Diesel generator set, and if considered, solar power. -Powerline (grid) supply	-Diesel and or solar power are the most practical & economically viable options for smallcale mining (in case of unfavorable results of small scale mining).

Site administration office	<ul style="list-style-type: none"> -Erect dismantable prefabricated units -Fixed structures 	<ul style="list-style-type: none"> -Favoured due to: (a) Ease of installation, (b) Low installation costs, and (c) Ease of dismantling & moving.
Accommodation site	<ul style="list-style-type: none"> -Setting up campsites, tented campsites within the MCs -Commuting from Karibib or which is near the MCs. 	<ul style="list-style-type: none"> -Commute from Karibib by renting an already established accommodation facility for out-of-area workers (specialized workers) Karibib (nearby villages) workers will commute from their homes. Therefore, no arranged accommodation for them.

4 LEGAL FRAMEWORK: LEGISLATION, POLICIES, AND GUIDELINES

This section outlines the relevant legal frame works that the proponent should consider once the ECC of the proposed project is issued .The legislations included or identified in this document, need to be honored by the proponent, during the course of the project. The legal requirements provided here are those that are required for the proposed Small-Scale mining are presented in table 3 below.

Table 2: Regulatory framework applicable to the project

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
The Constitution of the Republic of Namibia, 1990, as amended	<p>The Constitution of the Republic of Namibia (1990 as amended) addresses matters relating to environmental protection and sustainable development. Article 91(c) defines the functions of the Ombudsman to include:</p> <p>“...the duty to investigate complaints concerning the over- utilization of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia...”</p> <p>Article 95(l) commits the state to actively promoting and maintaining the welfare of the people by adopting policies aimed at:</p> <p>“...Natural resources situated in the soil and on the subsoil, the internal waters, in the sea, in the continental shelf, and in the exclusive economic zone are property of the State.”</p>	<p>By implementing the environmental management plan, the establishment will be compliant with the constitution in terms of environmental management and sustainability.</p> <p>Ecological sustainability will be the main priority for the proposed development.</p>

<p>Environmental Management Act, 2007</p>	<p>Section 27: Requires Environmental Impact Assessments (EIAs) for activities that may impact the environment.</p> <p>Section 34: Requires environmental clearance certificates for activities impacting the environment.</p>	<p>Measures outlined in the EMP to mitigate environmental impacts during small-scale mining should be honored.</p> <p>Proponent should comply to all mitigation actions.</p>
<p>Minerals (Prospecting and Mining) Act (No. 33 of 1992)</p>	<p>Section 52(1) (a) requires mineral license holders to enter into a written agreement with affected landowners before exercising rights conferred upon the license holder.</p> <p>Section 54 requires a written notice to be submitted to the Mining Commissioner if the holder of a mineral license intends to abandon the mineral license area.</p> <p>Section 68 stipulates that an application for an MCs shall contain the particulars of the condition of, and any existing damage to, the environment in the area to which the application relates and an estimate of the effect that the proposed Small Scale Mining operations may have on the environment and the proposed steps to be taken to prevent or minimize any such effect.</p> <p>Section 91 requires that rehabilitation measures be included in an application for a mineral license.</p>	<p>The Proponent should enter into a written agreement with landowners before do Small-Scale Mining in their land.</p> <p>The Proponent should assess the impact on the receiving environment.</p> <p>The Proponent should include as part of their application for the MCs, measures by which they will rehabilitate the areas where they intend to carry out small-scale mining activities.</p> <p>The Proponent may not carry out small-scale mining activities within the areas limited by Section 52 (1) of this Act.</p>

<p>Nature Conservation Amendment Act, No. 3 of 2017</p>	<p>National Parks are established and gazetted per the Nature Conservation Ordinance, 1975 (4 of 1975), as amended. The Ordinance provides a legal framework concerning the permission to enter a state-protected area, as well as requirements for individuals damaging objects (geological, ethnological, archaeological, and historical) within a protected area.</p> <p>Although the Ordinance does not specifically refer to mining as an activity within a protected area (PA) or recreational area (RA), it does restrict access to PAs and prohibit certain acts therein, as well as the purposes for which permission to enter game parks and nature reserves may be granted.</p>	<p>The Proponent will be required to enhance the conservation of biodiversity and the maintenance of the ecological integrity of the farm and other State land.</p>
<p>The Parks and Wildlife Management Bill of 2008</p>	<p>Aims to provide a regulatory framework for the protection, conservation, and rehabilitation of species and ecosystems, the sustainable use and sustainable management of Indigenous biological resources, and the management of protected areas, to conserve biodiversity and contribute to national development.</p>	
<p>Mine Health & Safety Regulations, 10th Draft</p>	<p>Makes provision for the health and safety of persons employed or otherwise present in the mineral license area. These deal with, among other matters, clothing and devices; design, use, operation, supervision, and control of machinery; fencing and guards; and safety measures</p>	<p>The Proponent should comply with all these regulations concerning their employees.</p>

	during repairs and maintenance.	
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)	Regulation 3(2)(b) states that “No person shall possess [sic] or store any fuel except under the authority of a 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”	The Proponent should obtain the necessary authorization from the Petroleum Affairs Directorate at the MIME for the storage of fuel on-site in volumes of 600 liters or more.
The Regional Councils Act (No. 22 of 1992)	This Act sets out the conditions under which Regional Councils must be elected and administer each delineated region. From a land use and project planning point of view, their duties include, as described in section 28 “to undertake the planning of the development of the region for which it has been established with a view to physical, social and economic characteristics, urbanization patterns, natural resources, economic development potential, infrastructure, land utilization pattern and sensitivity of the natural environment.	The relevant Regional Councils are I&APs and must be consulted during the Environmental Assessment (EA) process. The project site falls under the Erongo Regional Council; therefore, they should be consulted.

<p>Water Resources Management Act (No 11 of 2013) and 2023 Water Regulations</p>	<p>The Act provides for the management, protection, development, use, and conservation of water resources; provides for the regulation and monitoring of water services, and provides for incidental matters.</p> <p>The fundamental principles set out in Part 6: Section 59: Protection of aquifers states that the operator of an artificial recharge scheme must ensure that at all times the aquifer is protected against any form of pollution, including pollution caused due to operational activities during aquifer recharge.</p> <p>-Part 8: water pollution control, specifically Section 66: Application for license to discharge effluent or construct or operate wastewater treatment facility or waste disposal site.</p>	<p>The protection (both quality and quantity/abstraction) of water resources should be a priority.</p> <p>Relevant permits to discharge effluent should be applied for and obtained from the Water Affairs Department at the Ministry of Agriculture, Fisheries, Water & Land Reform (MAFWLR)</p>
<p>National Heritage Act No. 27 of 2004</p>	<p>To provide for the protection and conservation of places and objects of heritage significance and the registration of such places and objects; to establish a National Heritage Council; to establish a National Heritage Register; and to provide for incidental matters.</p>	<p>The Proponent should ensure compliance with these Act's requirements.</p> <p>The necessary management measures and related permitting requirements must be taken. This is done by consulting with the National Heritage Council of Namibia.</p>
<p>The National Monuments Act (No. 28 of 1969)</p>	<p>The Act enables the proclamation of national monuments and protects archaeological sites.</p>	<p>A Chance Finds Procedure provided to the Draft EMP should be implemented upon discovery of archaeological</p>

		and heritage resources.
Soil Conservation Act (No 76 of 1969)	The Act makes provision for the prevention and control of soil erosion and the protection, improvement, and conservation of soil, vegetation, and water supply sources and resources, through directives declared by the Minister.	Duty of care must be applied to soil conservation and management measures must be included in the EMP.
Forestry Act (Act No. 12 of 2001)	The Act provides for the management and use of forests and forest products. Section 22. (1) provides: “Unless otherwise authorized by this Act, or by a license issued under subsection (3), no person shall on any land which is not part of a surveyed erven of a local authority area as defined in section 1 of the Local Authorities Act, 1992 (Act No. 23 of 1992) cut, destroy or remove - (a) vegetation which is on a dune or drifting sand or a gully unless the cutting, destruction or removal is done to stabilize the sand or gully; or (b) any living tree, bush or shrub growing within 100 m of a river, stream or watercourse.”	The proponent will apply for the relevant permit under this Act if it becomes necessary from the MEFT’s Directorate of Forestry in Otjiwarongo.
Public Health Act (No. 36 of 1919)	Section 119 states that “no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.”	The Proponent and all its employees should ensure compliance with the provisions of these legal instruments.

Public and Environmental Health Act No. 1 of 2015	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 or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.	
Health and Safety Regulations GN 156/1997 (GG 1617)	Details various requirements regarding the health and safety of laborers.	
Atmospheric Pollution Prevention Ordinance (1976)	This ordinance provides for the prevention of air pollution and is affected by the Health Act 21 of 1988. Under this ordinance, the entire area of Namibia, apart from East Caprivi, is proclaimed as a controlled area for section 4(1) (a) of the ordinance.	The proposed project and related activities should be undertaken in such a way that they do not pollute or compromise the surrounding air quality. Mitigation measures should be put in place and implemented.
Hazardous Substance Ordinance, No. 14 of 1974	The ordinance provides for the control of toxic substances. It covers manufacture, sale, use, disposal, and dumping as well as import and export. Although the environmental aspects are not explicitly stated, the ordinance provides for the importing, storage, and handling.	The Proponent should handle and manage the storage and use of hazardous substances on site so that they do not harm or compromise the site environment.
Road Traffic and Transport Act, No. 22 of 1999	The Act provides for the establishment of the Transportation Commission of Namibia; for the control of traffic on public roads, the licensing of drivers, the registration and licensing of vehicles, the control and regulation of road transport across Namibia's borders; and for matters	Mitigation measures should be provided for, if the roads and traffic impact cannot be avoided, the relevant permits must be applied for.

	incidental thereto.	
Labour Act (No. 6 of 1992)	The Ministry of Labour, Industrial Relations and Employment Creation is aimed at ensuring harmonious labor relations through promoting social justice, occupational health and safety, and enhanced labor market services for the benefit of all Namibians. This ministry ensures the effective implementation of the Labour Act No. 6 of 1992.	The Proponent should ensure that the small-scale mining activities do not compromise the safety and welfare of workers.

4.2 Other Application International Statutes (Treaties and Conventions) and Policies

The other international statutes, such as policies, standards, and conventions that may govern the project activities, are provided under Table 4.

Table 3: Other international treaties and conventions governing the proposed activities of the MCs

Statue	Relevant Provisions	Implications for the Project / Requirements
The United Nations Convention to Combat Desertification (UNCCD) 1992	Address land degradation in arid regions to contribute to the conservation and sustainable use of biodiversity and the mitigation of climate change. The convention's objective is to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in affected	The project activities should not be undertaken in such that contributes to desertification.

	<p>areas to support poverty reduction and environmental sustainability, United Nations Convention.</p>	
<p>Convention on Biological Diversity 1992</p>	<p>Regulate or manage biological resources important for the conservation of biological diversity, whether within or outside protected areas, to ensure their conservation and sustainable use.</p> <p>Promote the protection of ecosystems, natural habitats, and the maintenance of viable populations of species in natural surroundings.</p>	<p>The removal of vegetation cover and destruction of natural habitats should be avoided and, where not possible, minimized.</p>
<p>Stockholm Declaration on the Human Environment, Stockholm (1972)</p>	<p>It recognizes the need for: “a common outlook and common principles to inspire and guide the people of the world in the preservation and enhancement of the human environment.</p>	<p>Protection of natural resources and prevention of any form of pollution.</p>
<p>Equator Principles</p>	<p>A financial industry benchmark for determining, assessing, and managing environmental and social risk in projects (August 2013). The Equator Principles have been developed in conjunction with the International Finance Corporation (IFC) to establish an International Standard with which companies must comply to apply for approved funding by Equator Principles Financial Institutions (EPFIs). The principles apply to all new project financings globally across all sectors.</p>	<p>These principles are an attempt to: ‘...encourage the development of socially responsible projects, which subscribe to appropriately responsible environmental management practices with a minimum negative impact on project-affected ecosystems and community-based upliftment and empowering interactions.’</p>

5 ENVIRONMENTAL BASELINE

The proposed Small-Scale Mining programme will be undertaken within defined environmental and social settings. Establishing the pre-project baseline conditions provides essential background information on the current state of the environment and allows for future projections of potential changes following the proposed activities on the MCs. This process further assists the Environmental Assessment Practitioner (EAP) in identifying environmentally sensitive features that require protection through the implementation of appropriate mitigation measures and monitoring actions.

The baseline information presented in this report is derived from multiple sources, including published studies and technical reports related to the Karibib area in the Erongo Region. Additional data was obtained by the Consultant during the site visit, ensuring that both secondary literature and primary field observations inform the environmental assessment.

5.1 Biophysical Environment

5.1.1 Climate

To optimize the prospects of success for the proposed small-scale mining activities, it is vital to consider the local climate patterns in the study area. By selecting favorable weather conditions, any adverse effects caused by extreme temperatures or heavy rainfall can be minimized, ensuring safe and efficient small-scale mining operations.

The Karibib area in the Erongo Region of Namibia has a semi-arid to arid climate. Temperatures are generally high, with hot summers often reaching 30–31 °C, while winters are mild to cool, ranging from about 9–13 °C. Rainfall is low and highly variable, averaging roughly 128 mm per year, and occurs mainly during the summer months (December to March), with frequent dry periods and occasional droughts.

5.1.2 Landscape and Topography

The MCs are characterised by the Central Western Plains topography with elevations ranging from 1352 m to about 1530 m above sea level. Central Western Plains landscape, and it is characterized by vast open plains with scattered vegetation and dominated by grasses and shrubs adapted to arid conditions. This landscape is part of the Namib Desert, one of the driest deserts in Africa and is characterized by its sparse vegetation and unique geological formations (UNESCO, n.d.). The plains are interspersed with rocky outcrops and inselbergs, with isolated

hills or mountains that rise abruptly from the surrounding plain. These geological features are composed of ancient granite and offer stunning views of the surrounding desert landscape (UNESCO, n.d.). Figure 4 and Figure 5 below shows the landscape and topography map and visuals of the project area respectively.

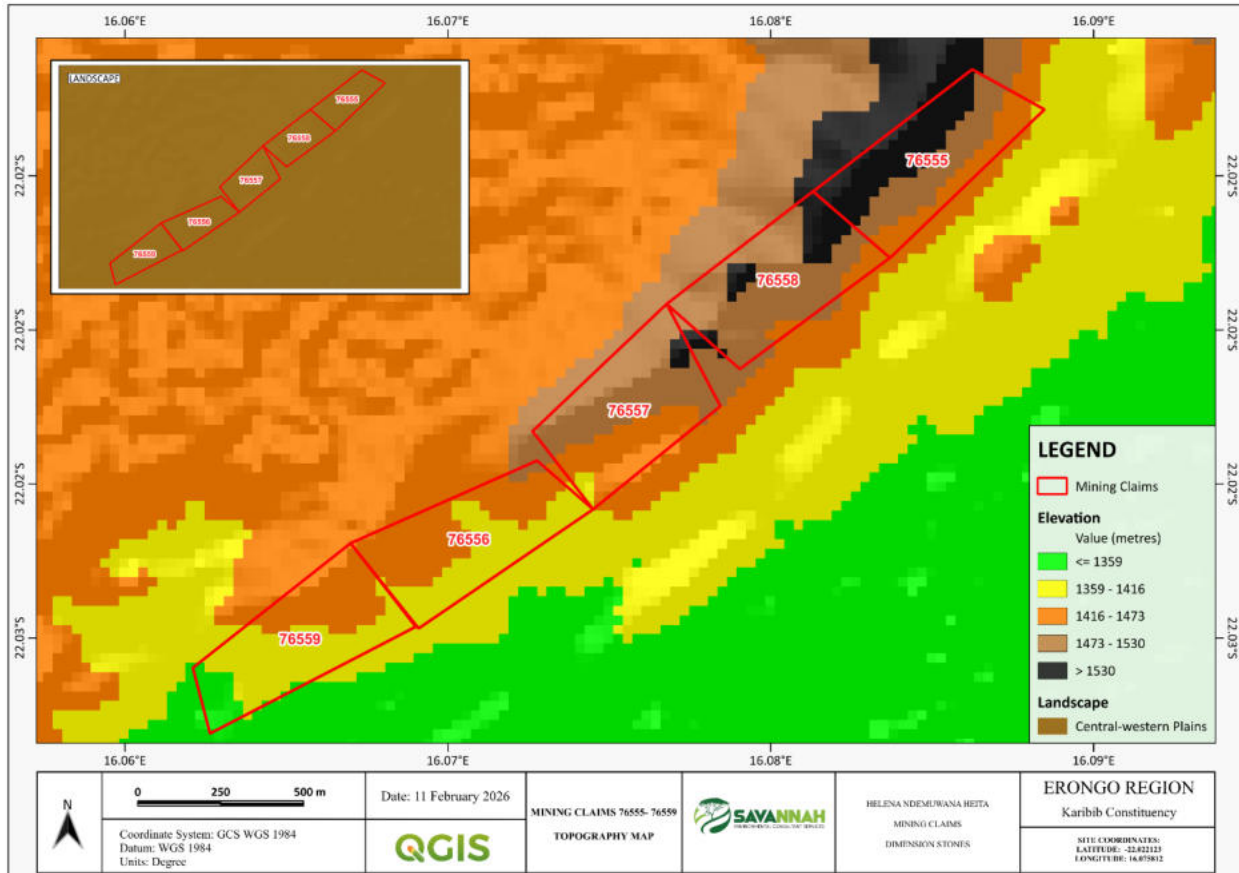


Figure 4: The topographic map of the project area



Figure 5 the topographic visualisation of the project area

5.1.3 Geology

The MCs lies within the Namib Desert’s central rocky massif region, dominated by some of Namibia’s most iconic granite and gneiss inselbergs. These isolated hills are part of a vast Precambrian crystalline basement complex that formed more than 500 million years ago during deep crustal processes and multiple tectonic events. The rocks are chiefly granites and granitic gneisses, which are highly resistant to weathering. Over geologic time, prolonged erosion and exfoliation have sculpted these ancient rocks into smooth, rounded domes and rugged outcrops rising abruptly from the surrounding desert plains. Locally, these rocks exhibit fractures and jointing that guide surface runoff and influence soil deposition in low-lying areas. The geology of the MCs is dominated by marble , with few schist in MC No. 76555 as shown in figure 6, figure 7 below shows the typical rdominat rock type within the MCs.

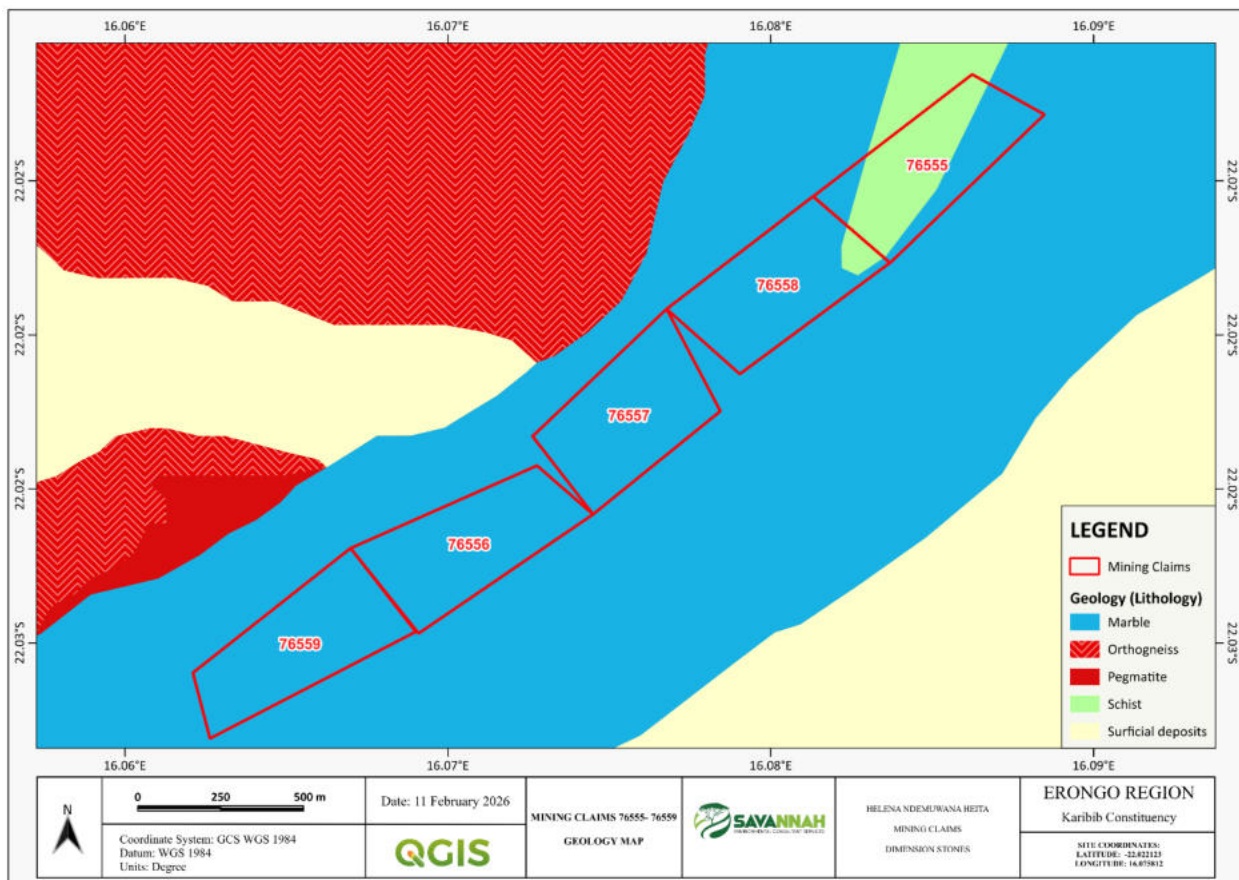


Figure 6: Geological map of the project area



Figure 7 The dominant rock type within the MCs area

5.1.4 Soil

The Mining Claims (MCs) are predominantly characterised by exposed rock outcrops across the project area. The surface is largely dominated by marble and associated host rock exposures, with limited soil development observed between the outcrops. As a result, the area supports only sparse vegetation, mainly consisting of scattered hardy shrubs and grasses adapted to shallow soils and rocky terrain. The dominance of exposed bedrock indicates that the area has undergone minimal soil accumulation, which is typical of arid and semi-arid environments where weathering and erosion processes expose underlying geological formations. These surface conditions are favourable for dimension stone quarrying, as the marble is readily accessible with minimal overburden removal required prior to extraction. Figure 8 below shows the soil type map around the proposed site .

Therefore, the Soil Conservation Act (No 76 of 1969) should be taken into account to ensure that soils are conserved in a way that does not promote soil erosion. (Refer to the EMP).

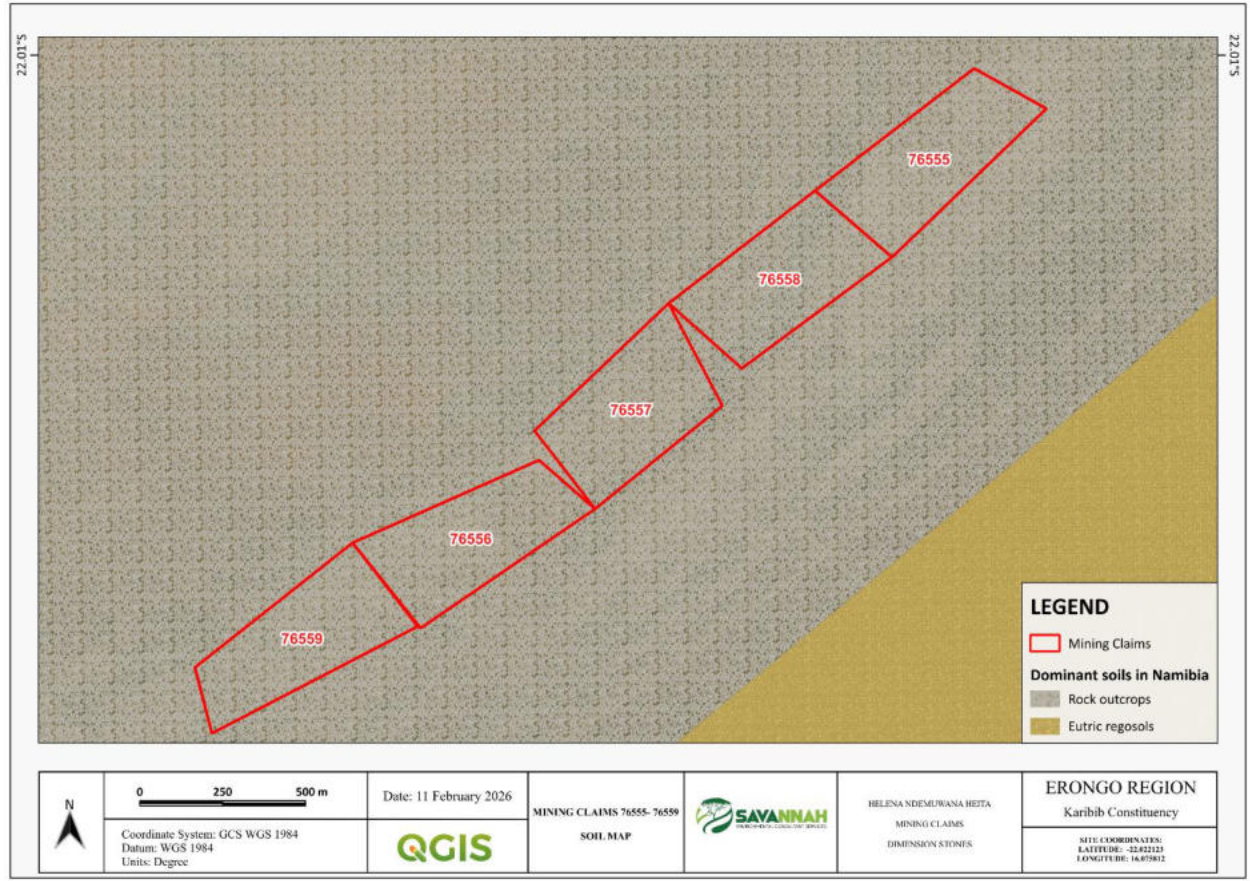


Figure 8: Map of soil distribution in the project area

5.1.5 Hydrology, Groundwater Vulnerability to Pollution, and Water Resources

The MCs are covered by rock bodies with little groundwater potential very low and limited potential, limiting water availability. This means that the MCs fall within a zone of Rather low sensitivity (Vulnerability) to groundwater pollution.

. Figure 9 shows the groundwater map of the project area.

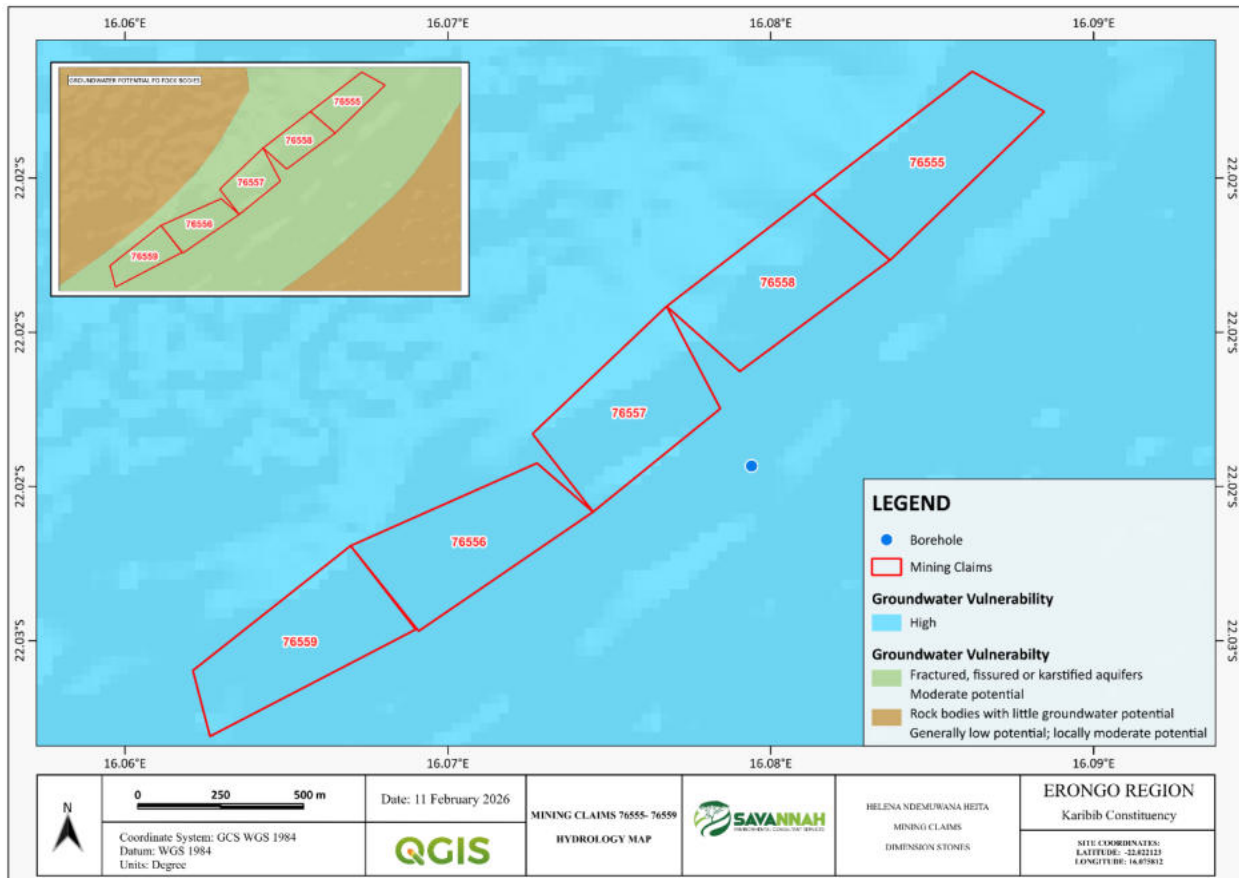


Figure 9: The hydrologic map of the project area

5.1.6 Flora and Fauna

5.1.6.2 Flora

The project area falls within the The Central western escarpment and inselbergs vegetation zone is characteristic of arid to semi-arid savanna and shrubland adapted to shallow, rocky soils and dramatic topography. On and around granite inselbergs, vegetation is typically sparse and drought-tolerant, with hardy xerophytic shrubs, low grasses, and scattered trees that exploit cracks, shallow soil pockets, and water run-off from rock surfaces. Common species include drought adapted spscies (*Vachellia* and *Senegalia spp.*), *cataphractes* , *comiphora spss* and succulent plants in rocky niches, while open areas between inselbergs support **mixed grassland**

dominated by drought-resistant perennial grasses such as *Stipagrostis* and *Eragrostis* species (Mendelsohn et al., 2002).

The recommendation measures/ mitigation measures stipulated in the EMP must be adhered to, regarding the removal of protected plants on site. Deemed they fall under the small-scale mining target points.

Figure 9 illustrates the vegetation distribution map around the project area, providing a broader perspective of the regional vegetation patterns and **Figure 10** displays the plant types that were observed during the site visit, providing a more detailed and localized perspective.

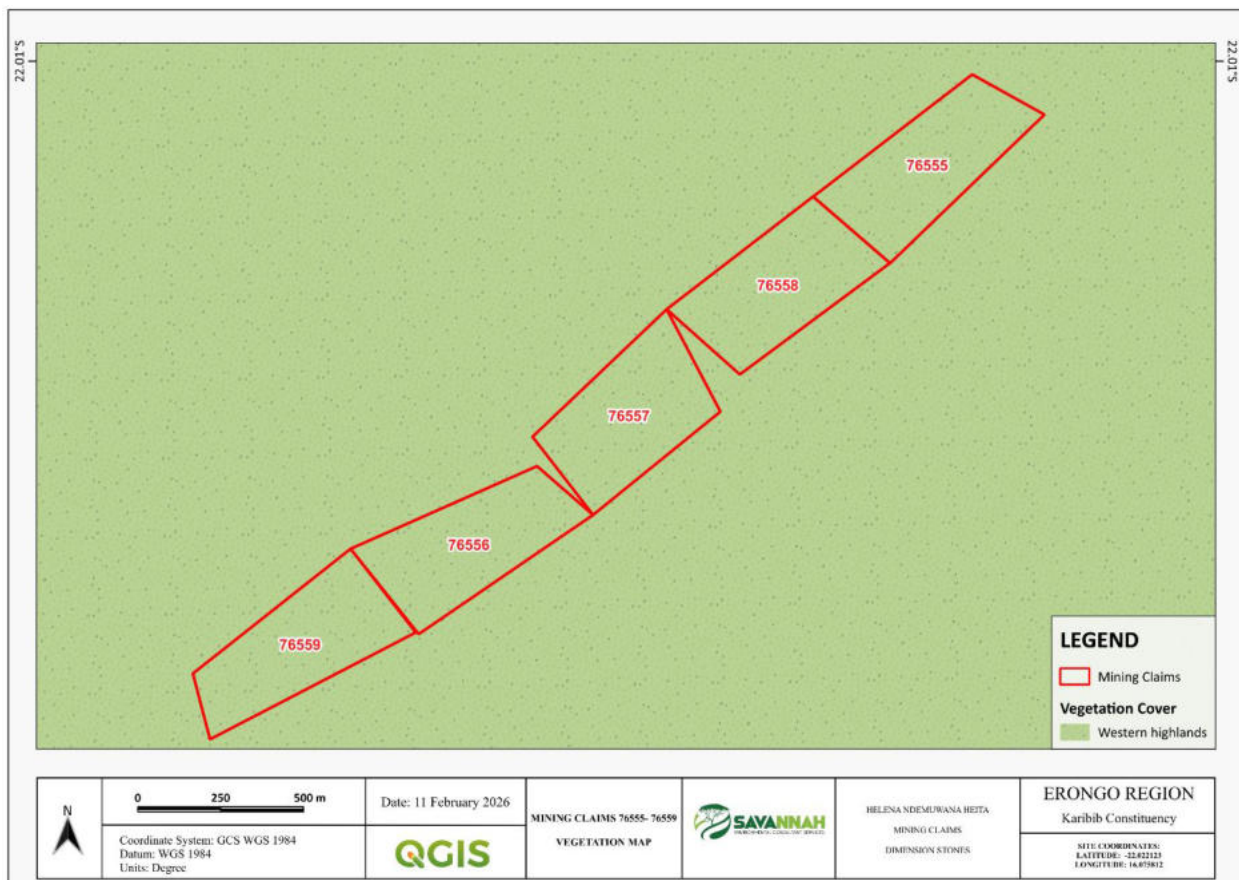


Figure 10 : Vegetation Cover Map of the Project Area



Figure 11 : Native plant species in the project area

5.1.6.2 Fauna

There is a variety of livestock and wildlife in the region. According to some of the information from the community members who attended the consultation meeting, the area boasts the presence livestock such as goat , cattle , sheeps, donkeys as well as wildlife of different types of birds can be found roaming freely in their natural environment. The wildlife are presented in table 5 below :

Table 4 the wildlife found within the MCs

Common Name	Scientific Name
Rock Hyrax (Dassie)	<i>Procavia capensis</i>
Namib Brush-tailed Gerbil	<i>Gerbillurus setzeri</i>
Stone Dormouse	<i>Graphiurus rupicola</i>
Springbok	<i>Antidorcas marsupialis</i>
Gemsbok (Oryx)	<i>Oryx gazella</i>
Bat-eared Fox	<i>Otocyon megalotis</i>

Herero Chat	<i>Namibornis herero</i>
Monteiro's Hornbill	<i>Tockus monteiri</i>
Rüppell's Korhaan	<i>Heterotetrax rueppelii</i>
Burchell's Sandgrouse	<i>Pterocles burchelli</i>
White-tailed Shrike	<i>Lanioturdus torquatus</i>
Dusky Sunbird	<i>Cinnyris fuscus</i>
Kori Bustard	<i>Ardeotis kori</i>

5.2 Socioeconomic Status of Karibib

Karibib is a small town located in the Erongo Region of Namibia, approximately 170 km west of Windhoek and situated along the B2 national road that connects the inland regions of Namibia with the coastal towns of Swakopmund and Walvis Bay. The town forms part of the Karibib Constituency and serves as an important transport and mining support centre within the region.

According to the 2023 Namibia Population and Housing Census, the town of Karibib has an estimated population of approximately 8,400 residents, while the broader Karibib Constituency has a population of about 19,700 people. The area has experienced moderate population growth over the past decade, largely driven by economic activities associated with mining and related services. The population structure is relatively young, which is characteristic of many towns in Namibia where employment opportunities attract younger working-age individuals.

The local economy is largely influenced by mining activities, which represent one of the most significant sources of employment and economic development in the area. The nearby Navachab Gold Mine is one of the main employers in the region and contributes substantially to the local economy through job creation and procurement of goods and services. In addition to gold mining, the surrounding areas host various mineral resources, including marble, gemstones, and

construction materials, which contribute to economic activity through quarrying and small-scale mining operations.

Apart from mining, livestock farming is practiced on commercial farms in the surrounding rural areas and forms another important component of the regional economy. Small businesses within Karibib also provide retail, accommodation, transport, and service-related activities that support both the local community and the mining sector. The town's location along a major transport corridor further facilitates trade and the movement of goods between inland Namibia and the coastal port of Walvis Bay.

Employment in the area is primarily derived from the private sector, particularly mining and agriculture. However, despite the presence of these economic activities, the region continues to experience relatively high unemployment levels, especially among youth. Some households rely on informal economic activities, small-scale trading, and government social grants as supplementary sources of income.

Karibib is served by basic infrastructure and public services, including road and rail connections, electricity, potable water supply, schools, and healthcare facilities. However, as with many small towns in Namibia, the area faces several socio-economic challenges, including housing shortages, limited employment opportunities, and the need for further economic diversification to reduce reliance on the mining sector.

Overall, Karibib plays an important role as a regional mining and transport hub, and ongoing mineral exploration and quarrying activities have the potential to contribute to local economic development through employment creation, infrastructure improvement, and support for local businesses.

5.3 Heritage and Archaeology

5.3.1 Local Level and Archaeological Findings

Graves and burial grounds are of cultural heritage significance in the social-contexts. During the site visits there were no Heritage or Archeological features found or identified. Although there was no cultural heritage and archaeological features documented, the receptor remains relevant due to Namibia's integrated approach to valuing nature and the legal protection of cultural rights. It is emphasized that the field survey only covered surface-level features, and the possibility of undiscovered underground heritage resources cannot be excluded. The proponent is therefore

required to implement and comply with a Chance Finds Procedure as part of the EMP, throughout all phases of small-scale mining activities.

5.4 Surrounding Land Uses

The Proponent is required to secure a signed agreement from the affected landowners/farmers, and managements to gain access to the areas of interest for small-scale mining investigations as per Section 52 of the Minerals (Prospecting and Mining) Act No. 33 of 1992 and Section 2.2.3 of the Minerals Policy of Namibia.

1. *Section 52 (1) The holder of a mineral licence shall not exercise any rights conferred upon such holder by this Act or under any terms and conditions of such mineral license –*

(a) In, on, or under any and until such time as such holder has entered into an agreement in writing with the owner of such land containing terms and conditions relating to the payment of compensation, or the owner of such land has in writing waved any right to such compensation and has submitted a copy of such agreement or waiver to the Commissioner.

Section 2.2.3 of the Draft Minerals Policy of Namibia states that the License Holder and/or small-scale miners currently have to negotiate a contract with landowners to gain access for small-scale mining purposes.

6 PUBLIC CONSULTATION PROCESS

Public consultation is an important component of an Environmental Assessment (EA) process. It provides potential Interested and Affected Parties (I&APs) with an opportunity to comment on and raise any issues relevant to the project for consideration as part of the assessment process, thus assisting the Environmental Assessment Practitioner (EAP) in identifying all potential impacts and what extent further investigations are necessary. Public consultation can also aid in the process of identifying possible mitigation measures. Public consultation for this scoping study has been done in accordance with the EMA and its EIA Regulations.

6.1 Pre-identified and Registered Interested and Affected Parties (I&APs)

Relevant and applicable national, regional, and local authorities, local leaders, and other interested members of the public were identified. Pre-identified I&APs were contacted directly, while other parties who contacted the Consultant after project advertisement notices in the newspapers, were registered as I&APs upon their request.

6.2 Communication with I&APs

Regulation 21 of the EIA Regulations details the steps to be taken during a public consultation process and these have been used in guiding this process. Communication with I&APs with regard to the proposed development was facilitated through the following means and in this order:

- A Background Information Document (BID) containing brief information about the small-scale mining works was compiled and emailed to pre-identified I&APs, and upon request to all new registered I&APs;
- Notices for the Environmental Scoping Assessment of the proposed small-scale mining project were published in Windhoek observer and *The villager* (28 February and 7 March 2026) respectively, briefly explaining the activity and its locality, inviting members of the public to register as I&APs and submit their comments/concerns.
- A consultation meeting with affected landowners held on the on the 9 th March 2025 at Ombujomenge farm, at 10h00.



Figure 12 EIA study site notice placed at a building in.



Figure 13: EIA consultation meeting held at farm Ombujomenge farm

6.3 Feedback and Issues Raised by the Stakeholders (I&APs)

Some key issues were raised by I&APs during the consultation period, and these issues have been recorded and incorporated in the Scoping Report and EMP. The summarized key issues are presented below

1. The type of mining method to be employed.

7 IMPACT IDENTIFICATION, ASSESSMENT AND MITIGATION MEASURES

7.1 Impact Identification

Proposed developments/activities are usually associated with different potential positive and/or negative impacts. For an environmental assessment, the focus is placed mainly on the negative impacts. This is done to ensure that these impacts are addressed by providing adequate mitigation measures such that an impact's significance is brought under control, while maximizing the positive impacts of the development. The potential positive and negative impacts that have been identified from the small-scale mining activities are listed as follow:

Positive impacts (although temporary):

- Local socio-economic development through employment creation for locals
- Payment of land access fees to landowners, and if necessary, the payment of rental fees for setting up structures such as the campsite (or accommodation rental to property owners/farmers), and temporary storage of samples and minerals in the area
- Procurement of local goods and services for small-scale mining by small and medium businesses to generate income, thus promoting local entrepreneurship, empowerment, and local economic development.

Potential negative (adverse) impacts:

- Physical soil disturbance resulting in compaction and erosion
- Impact on local biodiversity (fauna and flora) and habitat disturbance
- The potential impact of illegal hunting/poaching of wildlife in the area, being close to protected areas
- Potential impact on water resources and soils (over-abstraction and pollution)
- Impact on air quality owing to dust generation (compromises the surrounding air quality)
- Visual impacts due to unrehabilitated disturbed site areas as a result of trenching and drilling activities
- Potential occupational health and safety risks, and to the locals (open and

unattended trenches and drilled holes may pose a risk to people), and to animals (wildlife)

- Potential conflicts over land use between locals' current activities and the small-scale mining activities
- Noise associated with small-scale mining drilling and the movement of heavy trucks to the site
- Vehicular traffic safety & impact on local roads
- Environmental pollution (littering) through improper handling, storage, and disposal of waste
- Impact on archaeological and cultural heritage resources.

7.2 Impact Assessment Methodology

7.2.1 Impact Assessment Methodology

The Environmental Assessment process primarily ensures that potential impacts that may occur from project activity are identified and addressed with environmentally cautious approaches and legal compliance. The impact assessment method used for this project is following Namibia's Environmental Management Act (No. 7 of 2007) and its Regulations of 2012, as well as the International Finance Corporation (IFC) Performance Standards.

The identified impacts were assessed in terms of scale/extent (spatial scale), duration (temporal scale), magnitude (severity), and probability (likelihood of occurring), as presented in Table 6.

To enable a scientific approach to the determination of the environmental significance, a numerical value is linked to each rating scale. This methodology ensures uniformity and that potential impacts can be addressed in a standard manner so that a wide range of impacts are comparable. It is assumed that an assessment of the significance of a potential impact is a good indicator of the risk associated with such an impact. The following process will be applied to each potential impact:

- Provision of a brief explanation of the impact,
- Assessment of the pre-mitigation significance of the impact; and
- Description of recommended mitigation measures.

The recommended mitigation measures prescribed for each of the potential impacts contribute towards the attainment of environmentally sustainable operational conditions of the project for

various features of the biophysical and social environment. The following criteria (in Table 6) were applied in this impact assessment:

Table 5: Criteria used for impact assessment (extent, duration, intensity, and probability)

The Criteria used to assess the potential negative impacts.				
The extent or (spatial scale) - extent is an indication of the physical and spatial scale of the impact.				
Low (1)	Low/Medium (2)	Medium (3)	Medium/High (4)	High (5)
The impact is localized within the site boundary: Site only	The impact is beyond the site boundary: Local	Impacts felt within adjacent biophysical and social environments: Regional	Impact widespread far beyond the site boundary: Regional	Impact extends to the National or over international boundaries
Duration- Duration refers to the timeframe over which the impact is expected to occur, measured over the lifetime of the project				
Low (1)	Low/Medium (2)	Medium (3)	Medium/High (4)	High (5)
The Criteria used to assess the potential negative impacts.				
Immediate mitigating measures, immediate progress	The impact is quickly reversible, and short-term impacts (0-5 years)	Reversible over time; medium-term (5-15 years)	Impact is long-term	Long-term; beyond closure; permanent; irreplaceable or irretrievable commitment of resources
Intensity, Magnitude/severity - Intensity refers to the degree or magnitude to which the impact alters the functioning of an element of the environment. This is a qualitative type of criteria.				
H-(10)	M/H-(8)	M-(6)	M/L-(4)	L-(2)

Very high deterioration, high quantity of deaths, injury or illness / total loss of habitat, total alteration of ecological processes, extinction of rare species	Substantial deterioration, death, illness or injury, loss of habitat/diversity or resource, severe alteration, or disturbance of important processes	Moderate deterioration, discomfort, partial loss of habitat/biodiversity or resource, moderate alteration	Low deterioration, slight noticeable alteration in habitat and biodiversity. Little loss in species numbers	Minor deterioration, nuisance or irritation, minor change in species/habitat/diversity or resource, no or very little quality deterioration.
Probability of occurrence - Probability describes the likelihood of the impacts occurring. This determination is based on previous experience with similar projects and/or based on professional judgment.				
Low (1)	Medium/Low (2)	Medium (3)	Medium/High (4)	High (5)
Improbable; low likelihood; seldom. No known risk or vulnerability to natural or induced hazards.	Likely to occur from time to time. Low risk or vulnerability to natural or induced hazards	Possible, distinct possibility, frequent. Low to medium risk or vulnerability to natural or induced hazards.	Probable if mitigating measures are not implemented. Medium risk of vulnerability to natural or induced hazards.	Definite (regardless of preventative measures), highly likely, continuous. High risk or vulnerability to natural or induced hazards.

7.2.2 Impact Significance

Impact significance is determined through a synthesis of the above impact characteristics. The significance of the impact “without mitigation” is the main determinant of the nature and degree of mitigation required. As stated in the introduction to this chapter, for this assessment, the significance of the impact without prescribed mitigation actions was measured.

Once the above factors (Table 7-1) have been ranked for each potential impact, the impact

significance of each is assessed using the following formula:

$$SP = (magnitude + duration + scale) \times probability$$

The maximum value per potential impact is 100 significance points (SP). Potential impacts were rated as high, moderate, or low significance, based on the following significance rating scale (Table 7).

Table 6: Impact significance rating scale

Significance	Environmental Significance Points	Color Code
High (positive)	>60	H
Medium (positive)	30 to 60	M
Low (positive)	<30	L
Neutral	0	N
Low (negative)	>-30	L
Medium (negative)	-30 to -60	M
High (negative)	>-60	H

For an impact with a significance rating of high, mitigation measures are recommended to reduce the impact to a low or medium significance rating, provided that the impact with a medium significance rating can be sufficiently controlled with the recommended mitigation measures. To maintain a low or medium significance rating, monitoring is recommended for a period to enable the confirmation of the significance of the impact as low or medium and under control.

The assessment of the project phases is done for both pre-mitigation (before implementing any mitigation) and post-mitigation (after mitigations are implemented). The objective of the mitigation measures is to first avoid the risk, and if the risk cannot be avoided, the mitigation measures to minimize the impact are recommended. Once the mitigation measures have been applied, the identified risk will be of low significance.

7.2.3 Description and Assessment of Potential Impacts

The potential impacts of the proposed project activities are described and assessed in Table 7. The management and mitigation measures in the form of management action plans are provided in the Draft EMP.

Table 7: Assessment of Potential Negative Impacts

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
Positive Impacts											
Employment creation	Although temporary, the project activities will create employment from sampling throughout to drilling. This will include casual laborers, technical assistants, cooks, etc.	L / M - 2	L / M - 2	L / M - 4	L - 1	L - 8	M / H - 4	H - 5	M - 6	H - 5	H - 75
Land use fees for socio-economic development	Payment of land access fees and temporary space rental (for material storage) to farmers will assist in uplifting farmers/landowners (generation of additional income).	L / M - 2	L / M - 2	L / M - 4	L - 1	L - 8	M / H - 4	H - 5	M - 6	H - 5	H - 75
Empowerment of local businesses	Procurement of local goods and services for small-scale mining by small and medium businesses will promote local entrepreneurship, empowerment, and local economic development (income generation during the project).	L / M - 2	L / M - 2	L / M - 4	L / M - 2	L - 16	M - 3	M / H - 4	L / M - 4	M / H - 4	M - 44
Negative (Adverse) Impacts											
Physical disturbance to the site soils	The excavations and land clearing to enable the siting of project structures and equipment will potentially result in soil disturbance through target site establishment, access road creation, and unnecessary off-	M - 3	M / H - 4	L / M - 4	M / H - 4	M - 44	L / M - 2	L / M - 2	L / M - 4	L / M - 2	L - 16

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	road driving. These would leave the site soils exposed to erosion (areas with no to little vegetation cover to the soils in place). The movement of heavy vehicles and equipment may lead to compaction of the soils during the small-scale mining. This will, however, be a short-term and localized impact.										
Impact on the sensitive Biodiversity: Wild Fauna and Flora Illegal hunting (poaching)	<p><u>Fauna:</u> If activities such as trenching and drilling are not carefully conducted, this would result in land degradation. The degradation would lead to habitat loss for a diversity of fauna and flora onsite. However, small-scale mining activities will be limited to specific target areas only within the MCs.</p> <p>The presence and movement of the small-scale mining workforce and the operation of project equipment and heavy vehicles would disturb wildlife in the area. There is also a potential illegal hunting (poaching) of local wildlife by project-related workers. This could lead to a loss</p>	M: -3	M: -3	M: -6	M / H: 4	M: -48	L / M: - 2	L / M: -2	L / M: -4	L / M: 2	L: -16

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	<p>or a reduction of specific faunal species, which also impacts tourism in the community (area).</p> <p><u>Flora:</u> The vegetation in the area would be impacted through land clearing to create small-scale mining access roads, setting up project equipment and infrastructure, and detailed small-scale mining activities such as trenching and drilling. The clearing of vegetation, where deemed necessary, will be limited to the specific route and minimal and avoiding protected tree species. The impact will be localized, site-specific, and therefore manageable.</p>										
Conflict between the Proponent and existing land uses	The fact that there are existing land uses such as farming and tourist activities in the area, there might be a conflict in terms of land uses, if one significantly infringes another's activities. Therefore, a good understanding should be made between the	M: -3	M: -3	M / L: -4	M / H: 4	M: -40	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	<p>proponent and the farmers on certain areas of the farms.</p> <p>Without any mitigation measures, the significance will be medium to high, but upon implementing the measures, the significance will be reduced to low.</p>										
Air Quality: Dust Generation	<p>There is a potential impact of dust emanating from small-scale mining activities such as trenching or drilling. There is also a potential dust issue from site access roads when transporting small-scale mining equipment and supplies to and from the site. The impact is considered mid-term and localized as small-scale mining activities are carried out over specified durations at selected sites only. Hence, the impact is manageable with mitigation measures.</p>	M: -3	M: -3	M / L: -4	M / H: 4	M: -40	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12
Visual impact: Scenic view of the area for Tourism	<p>Small-scale mining activities, such as mining site areas (trenches and holes) as well as project heavy vehicles, equipment, and machinery close to or along roads, may potentially become a</p>	M - 3	M - 3	M - 6	M / H - 4	M - 48	L / M: - 2	L / M: -2	L / M: -4	L / M: 2	L: -16

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	<p>visual nuisance (impacting scenic views), especially for farm tourists and other road users in the vicinity.</p> <p>This impact is considered minimal as excavations and drilling will only be conducted on certain areas of the MCs for analysis as part of small-scale mining, and the duration will be about 5 – 15 years.</p>										
Water Resources Demand and Use	<p>There will be a need for water for drilling and dust suppression. The mineral mining technique, such as diamond drilling, requires more water (about 10,000 to 25,000 liters (10 to 25m³) per day per hole) compared to other techniques like reverse circulation. However, water for the project will be abstracted from local boreholes, or the proponent will drill a new boreholes owing to the low groundwater potential of the area. The Proponent will store the</p>	M - 3	M - 3	M - 6	M / H - 4	M - 48	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	water in industry-standard water reservoirs/tanks onsite and refill as required. Therefore, the impact of the project activities on the local water resources would be very low to medium. Moreover, the required water would also be dependent on the duration of the small-scale mining works and the number of MCs to be mined.										
Soil and Water Resources Pollution	The proposed small-scale mining activities are associated with a variety of potential pollution sources (i.e., lubricants, fuel, and wastewater) that may contaminate/pollute soils and eventually groundwater and surface water, if not handled properly. The anticipated potential source of pollution to water resources from the project activities would be hydrocarbons (oil) from project vehicles, machinery, equipment, and potential wastewater/effluent from small-scale mining-related activities. The spills (depending on volumes spilled on the soils)	M: -3	M: -3	M: -6	M / H: 4	M: -48	L / M: - 2	L / M: -2	L / M: -4	L / M: 2	L: -16

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	from this machinery, vehicles, and equipment could be washed into surface water bodies such as rivers and streams. However, it should be noted that the scale and extent/footprint of the activities where potential sources of pollution will be handled are relatively small. Therefore, the impact will be moderately low.										
Waste Generation (Environmental pollution)	Waste types such as solid, wastewater, and possibly hazardous will be produced onsite during small-scale mining activities. If the generated waste is not disposed of responsibly, land pollution may occur on the MCs or around the site. If solid waste such as paper and plastics is not properly stored or just thrown into the environment (littering), these may be consumed by wild animals in the area, which could be detrimental to their health. Improper handling, storage, and disposal of hydrocarbon products and hazardous materials at the site may lead to	M: -3	M: -3	M / L: -4	M / H: 4	M: -40	L - 1	L - 1	L - 2	L / M - 2	L - 8

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	soil and groundwater contamination in the case of spills and leakages.										
Occupational and Community Health and Safety Risks	<p>Project personnel (workers) involved in the small-scale mining activities may be exposed to health and safety risks. Other potential risks to both people and wildlife within the MCs are unfenced or unsecured small-scale mining trenches (or not backfilled) after completing the sampling. Unsecured small-scale mining trenches and even uncapped holes could pose a risk of people and or wildlife falling into the open trenches, leading to injuries.</p> <p>The use of heavy equipment, especially during drilling, and the presence of hydrocarbons on sites may result in accidental fire outbreaks. This could pose a safety risk to the project personnel and locals, too.</p>	M - 3	M - 3	M - 6	M / H - 4	M - 48	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12
Vehicular Traffic Safety	The local (farm) roads are the main transportation routes for all vehicular movement in the MCs area.	M - 3	M / H - 4	L / M - 4	M / H - 4	M - 44	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	<p>There would be a potential slight increase in traffic flow, especially during small-scale mining drilling stages, due to the delivery of supplies, goods, and services to the site at some point. However, there will only be about 3 heavy trucks, 5 medium vehicles, and 5 small vehicles frequenting the area to and from small-scale mining sites on the MCs, especially during trenching and drilling stages.</p> <p>Small-scale mining works will be undertaken in stages, on throughout of the week, with a few vehicles, and the work will be until if the commodities of interest deplet.</p>										
Noise and vibration from drilling	<p>There is a potential for noise from certain activities (drilling and trenching), which may be a nuisance to the farm community. The excessive noise and vibrations without any protective measures in place can also be a health risk to workers on site as well as a nuisance to farm</p>	M - 3	M - 3	M - 6	M / H - 4	M - 48	L - 1	L / M - 2	L - 2	L / M - 2	L - 10

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	animals. The small-scale mining equipment used for drilling on site is of medium size, and the noise level is bound to be limited to the site only. Thus, the impact likelihood is minimal.										
Archaeological and Heritage Resources	The area within the MCs has LOW Archaeological significance, and this is based on the surface walk-over conducted, which recorded only a few outcrops/boulders.	M / H - 4	M - 3	M - 6	M - 3	M - 39	L - 1	L / M - 2	L - 2	L / M - 2	L - 10

8 RECOMMENDATIONS AND CONCLUSION

8.1 Recommendations

The potential impacts of the proposed project activities were identified and assessed, and appropriate mitigation measures were recommended for implementation by the Proponent, their contractors, and project-related employees for significant adverse (negative) impacts rated as medium. These mitigation measures aim to reduce the impact severity to an acceptable level and prevent or minimize any negative effects on the environment, local communities, and cultural resources.

The concerns raised by registered Interested and Affected Parties (I&APs) were carefully considered, incorporated into this report, and addressed through the recommended management and mitigation measures. Most potential impacts were rated as medium in significance, but the effective implementation of these measures will minimize their severity, reducing the rating to low. To ensure this outcome and maintain low impact ratings, the Proponent, or their appointed Environmental Control Officer (ECO), should monitor the implementation of the proposed management and mitigation measures.

The Environmental Consultant is confident that the potential negative impacts associated with the proposed project activities can be managed and mitigated by effective implementation of the recommended management and mitigation measures, and with more effort and commitment put towards monitoring the implementation of these measures.

It is, therefore, recommended that in the case of ECC issuance for this project, the proposed small-scale mining activities may be granted an ECC, provided that:

- All the management and mitigation measures provided herein are effectively and progressively implemented.
- All required permits, licenses, and approvals for the proposed activities should be obtained as required. These include permits and licenses for land use agreements, and service provision agreements (water provision) to explore and ensure compliance with these specific legal requirements.
- Transparency in communication and continued engagement with landowners (for land access before and during small-scale mining), as well as other stakeholders, should be maintained before and throughout the project.

- The Proponent, their project workers, or contractors comply with the legal requirements governing their project and its associated activities and ensure that project permits and or approvals required to undertake specific site activities are obtained and renewed as stipulated by the issuing authorities.
- Respecting no-go zone areas and small-scale mining beyond buffer zones should be effectively implemented.
- Site areas where small-scale mining activities have ceased are rehabilitated, as far as practicable, to their pre-small scale mining state. This includes the leveling of stockpiled topsoil, backfilling of small-scale mining trenches, and closing/capping of small-scale mining holes.
- The EMP implementation onsite should be checked and done by the responsible team member onsite (Environmental Control Officer), and audited by an Independent Environmental Consultant on a bi-annual basis to compile Environmental Monitoring (Audit) Reports. These reports are to be submitted to the Environmental Commissioner at the DEAF. This will be required by the Environmental Commissioner (as part of the ECC conditions).

Conclusion

In conclusion, to maintain the desirable rating and ensure that the potential impacts are under control, the implementation of management and mitigation measures should be monitored by their Environmental Control Officer (ECO) and audited by an Independent Environmental Consultant on a bi-annual basis. The monitoring of this implementation will not only be done to maintain the reduced impacts' rating or maintain a low rating, but also to ensure that all potential impacts that might arise during implementation are properly identified in time and addressed immediately.

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