Excel Dynamic Solutions (Pty) Ltd

ENVIRONMENTAL SCOPING ASSESSMENT (ESA) FOR THE PROPOSED AMENDMENTS TO THE SMALL-SCALE MINING ACTIVITIES ON MINING CLAIMS (MCS) NO. 69840 - 69843 ENVIRONMENTAL CLEARNCE CERTIFICATE (ECC) LOCATED NORTHWEST OF OKOMBAHE IN THE ERONGO REGION, NAMIBIA

ENVIRONMENTAL ASSESSMENT REPORT

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EXECUTIVE SUMMARY

Siegfried Steyn Hengari (herein referred to as The Proponent) currently holds the rights to explore and mine on four Mining Claims (MCs) No. 69840 – 69843. The MCs were granted to the Proponent by the Ministry of Mines and Energy (MME) on the 1st of July 2016 and these rights expire on the 24th of July 2024. The Proponent currently undertakes small-scale mining activities of Precious Stone on the 69.9733 hectares (ha) MCs located about 11 km northwest of Okombahe Settlement (within the Okombahe Reserve) in the Erongo Region. The MCs have the potential for Base & Rare Metals, Industrial Minerals (applied for), Precious Metals, and Semi-Precious Stones.

To continue with the mining of other commodities within the Mining Claims, the Proponent applied to MME for the mining rights amendments to mine Industrial Minerals (lithium). However, this action and approval is subject to an Environmental Clearance Certificate (ECC).

All mining-related activities are among the listed activities that may not be undertaken without an ECC under the Environmental Management Act (EMA) (2007) and its 2012 Environmental Impact Assessment (EIA) Regulations. To fulfill the EMA and EIA Regulation requirements, the Proponent has a valid ECC issued for the activities (Semi-Precious Stones only) on the Mining Claims on the 20th of May 2020, and this ECC is still valid until the 20th of May 2023. However, due to the proposed amendments to the project activities (as mentioned above), the ECC needs to be amended to make provision for the proposed changes to the activities (intention to mine industrial minerals).To ensure that the proposed activity is compliant with the national environmental legislation, the project Proponent, appointed an independent environmental consultant, Excel Dynamic Solutions (Pty) Ltd to undertake the required Environmental Assessment (EA) process and apply for the ECC on their behalf.

The application for the ECC amendment was compiled and submitted to the competent authority (Ministry of Environment, Forestry, and Tourism (MEFT)) as the environmental custodian for project registration purposes. Upon submission of an Environmental Scoping Assessment (ESA) Report and Draft Environmental Management Plan (EMP), an ECC for the proposed project may be considered by the Environmental Commissioner at the MEFT's Department of Environmental Affairs and Forestry (DEAF).

Brief Project Description

Planned Activities: Proposed Small-scale mining activities methods

The Proponent intends to adopt a systematic prospecting and mining approach of the following:

1. **Non-invasive Technique:** Detailed prospecting mapping. No ground geophysics surveys are planned for the project.

2. **Invasive Technique:** Trenching and pitting, open pit mining

The Proponent plans to conduct a staged small-scale mining approach with three phases including the Pre-Development Phase, Operation and Maintenance Phase, and the Decommissioning and Rehabilitation Phase.

Public Consultation

Public Consultation Activities

Regulation 21 of the EIA Regulations details steps to be taken during a public consultation process and these have been used in guiding this process. The public consultation process assisted the Environmental Consultant in identifying all potential impacts and aid in the process of identifying possible mitigation measures and alternatives to certain project activities. The communication with I&APs about the proposed small-scale mining activities was done through the following means in this order to ensure that the public is notified and afforded an opportunity to comment on the proposed project:

- A Background Information Document (BID) containing brief information about the proposed project was compiled and shared with the relevant authoritative, and upon request to all new registered Interested and Affected Parties (I&APs)
- Project Environmental Assessment notices were published in *The Namibian* and *New Era* newspapers on 13 September 2022 and 20 September 2022 briefly explaining the activity and its locality, inviting members of the public to register as I&APs and submit their comments/concern.
- Public notices placed around Baukwab Mine inform members of the public of the EIA process and register as I&APs, as well as submit comments.
- A public meeting was scheduled and held on 13 October 2022 at Baukwab Mine

Potential Impacts identified

The following potential negative impacts are anticipated:

- **Positive impacts**: Socio-economic development through employment creation (primary, secondary, and tertiary employment) and skills transfer; Opens up other investment opportunities and infrastructure-related development benefits; Produces a trained workforce and small businesses that can serve communities and may initiate related businesses; Boosts the local economic growth and regional economic development and; Increased support for local businesses through the procurement of consumable items such as Personal Protective Equipment (PPE), machinery spare parts, lubricants, etc.
- **Negative impacts**: Potential disturbance of existing pastoral systems; Physical land/soil disturbance; Impact on local biodiversity (fauna and flora); Habitat disturbance and potential illegal wildlife and domestic hunting in the area; Potential impact on water resources and soils particularly due to pollution; Air quality issue: potential dust generated from the project; Potential occupational health and safety risks, Vehicular traffic safety and impact on services infrastructures such as local roads, Vibrations, and noise associated with drilling activities may be a nuisance to locals; Environmental pollution (solid waste and wastewater), Archaeological and heritage impact and Potential social nuisance and conflicts (theft, damage to properties, etc.).

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

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The potential impacts that are anticipated from the proposed project activities were identified, described, and assessed. For the significant adverse (negative) impacts with a medium rating, appropriate management and mitigation measures were recommended for implementation by the Proponent, their contractors, and project-related employees.

The public was consulted as required by the EMA and its 2012 EIA Regulations (Sections 21 to 24). This was done via the two newspapers (*New Era* and *The Namibian*) used for this environmental assessment. A face-to-face consultation meeting was scheduled with the directly Interested and affected parties at Baukwab mine on the 13th of October 2022.

Most of the potential impacts were found to be of medium-rating significance. With the effective implementation the recommended management and mitigation measures, this will particularly see the reduction in the significance of adverse impacts that cannot be avoided completely (from medium rating to low). To maintain the desirable rating, the implementation of management and

mitigation measures should be monitored by the Proponent directly, or their Environmental Control Officer (ECO) is highly recommended. The monitoring of this implementation will not only be done to maintain the impacts' rating or maintain a low rating but to also ensure that all potential impacts identified in this study and other impacts that might arise during implementation are properly identified in time and addressed right away too.

An Archaeological & Heritage Impact Assessment (AHIA) was done by a specialist for this ESA Study. The findings of this AHIA and the Scoping assessment (ESA) were deemed sufficient and conclude that no further detailed assessments are required for the ECC application.

Recommendations

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

It is therefore, recommended that the proposed small-scale mining activities be granted an Environmental Clearance Certificate, 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 access agreements to explore and ensure compliance with these specific legal requirements.
- The Proponent and all 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 undertaking specific site activities are obtained and renewed as stipulated by the issuing authorities.
- Site areas where the small-scale mining activities ceased, they need to be rehabilitated, as far as practicable, to their pre-extraction state.
- Environmental Compliance monitoring reports should be compiled and submitted to the DEAF Portal as per provision made on the MEFT/DEAF's portal.

Disclaimer

Excel Dynamic Solutions (EDS) warrants that the findings and conclusion contained herein were accomplished in accordance with the methodologies set forth in the Scope of Work and Environmental Management Act (EMA) of 2007. These methodologies are described as representing good customary practice for conducting an EIA of a property for the purpose of identifying recognized environmental conditions. There is a possibility that even with the proper application of these methodologies there may exist the subject property conditions that could not be identified within the scope of the assessment, or which were not reasonably identifiable from the available information. The Consultant believes that the information obtained from the record review and during the public consultation processes concerning the proposed small-scale mining activities work is reliable. However, the Consultant cannot and does not warrant or guarantee that the information provided by the other sources is accurate or complete. The conclusions and findings set forth in this report are strictly limited in time and scope to the date of the evaluations. No other warranties are implied or expressed.

Some of the information provided in this report is based upon personal interviews, and research of available documents, records, and maps held by the appropriate government and private agencies. This report is subject to the limitations of historical documentation, availability, and accuracy of pertinent records, and the personal recollections of those persons contacted.

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LIST OF ABBREVIATIONS

Abbreviation	Meaning
AMSL	Above Mean Sea Level
BID	Background Information Document
CV	Curriculum Vitae
DEA	Department of Environmental Affairs
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
EDS	Excel Dynamic Solutions
ESA	Environmental Scoping Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPL	Exclusive Prospecting Licence
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
MCs	Mining Claims

DEFINITION OF TERMS

Alternative	A possible course of action, in place of another that would meet the same purpose and need of the proposal.
Baseline	Work done to collect and interpret information on the condition/trends of the existing environment.
Biophysical	That part of the environment that does not originate with human activities (e.g. biological, physical and chemical processes).
Cumulative Impacts/Effects Assessment	In relation to an activity, means the impact of an activity that in it may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.
Decision-maker	The person(s) entrusted with the responsibility for allocating resources or granting approval to a proposal.
Ecological Processes	Processes which play an essential part in maintaining ecosystem integrity. Four fundamental ecological processes are the cycling of water, the cycling of nutrients, the flow of energy and biological diversity (as an expression of evolution).
Environment	As defined in Environmental Management Act - the complex of natural and anthropogenic factors and elements that are mutually interrelated and affect the ecological equilibrium and the quality of life, including – (a) the natural environment that is land, water and air; all organic and inorganic matter and living organisms and (b) the human environment that is the landscape and natural, cultural, historical, aesthetic, economic and social heritage and values.

Environmental Management Plan	As defined in the EIA Regulations (Section 8(j)), a plan that describes how activities that may have significant environments effects are to be mitigated, controlled and monitored.
Exclusive Prospecting Licence	Is a license that confers exclusive mineral prospecting rights over land of up to 1000 km2 in size for an initial period of three years, renewable twice for a maximum of two years at a time
Interested and Affected Party (I&AP)	In relation to the assessment of a listed activity includes - (a) any person, group of persons or organization interested in or affected by activity; and (b) any organ of state that may have jurisdiction over any aspect of the activity. Mitigate - practical measures to reduce adverse impacts. Proponent – as defined in the Environmental Management Act, a person who proposes to undertake a listed activity. Significant impact - means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment.
Fauna	All of the animals that are found in a given area.
Flora	All of the plants found in a given area.
Mitigation	The purposeful implementation of decisions or activities that are designed to reduce the undesirable impacts of a proposed action on the affected environment.

Monitoring	Activity involving repeated observation, according to a pre-determined schedule, of one or more elements of the environment to detect their characteristics (status and trends).

Nomadic Pastoralism	Nomadic pastoralists live in societies in which the husbandry of grazing animals is viewed as an ideal way of making a living and the regular movement of all or part of the society is considered a normal and natural part of life. Pastoral nomadism is commonly found where climatic conditions produce seasonal pastures but cannot support sustained agriculture.
Proponent	Organization (private or public sector) or individual intending to implement a development proposal.
Public Consultation/Involvement	A range of techniques that can be used to inform, consult or interact with stakeholders affected by the proposed activities.
Protected Area	Refers to a protected area that is proclaimed in the Government Gazette according to the Nature Conservation Ordinance number 4 of 1975, as amended
Scoping	An early and open activity to identify the impacts that are most likely to be significant and require specialized investigation during the EIA work. Can, also be used to identify alternative project designs/sites to be assessed, obtain local knowledge of site and surroundings and prepare a plan for public involvement. The results of scoping are frequently used to prepare a Terms of Reference for the specialized input into full EIA.
Terms of Reference (ToR)	Written requirements governing full EIA input and implementation, consultations to be held, data to be produced and form/contents of the EIA report. Often produced as an output from scoping.

1. INTRODUCTION

1.1 Project Background

Siegfried Steyn Hengari (herein referred to as *The Proponent*) currently holds the rights to explore and mine on four Mining Claims (MCs) No. 69840 – 69843. The MCs were granted to the Proponent by the Ministry of Mines and Energy (MME) on the 1st of July 2016 and these rights expires on the 24th of July 2024. The Proponent currently undertakes small-scale mining activities of Precious Stone on the 69.9733 hectares (ha) MCs located about 11 km northwest of Okombahe Settlement (and within the Okombahe Reserve) in the Erongo Region as shown in Figure 1. The MCs have potential for Base & Rare Metals, Industrial Minerals (applied for), Precious Metals and Semi-Precious Stones.

To continue with the mining of other commodities within the Mining Claims, the Proponent applied to MME for the mining rights amendments to mine Industrial Minerals (lithium). However, this action and approval is subject to an Environmental Clearance Certificate (ECC).

All mining-related activities are among the listed activities that may not be undertaken without an ECC under the Environmental Management Act (EMA) (2007) and its 2012 Environmental Impact Assessment (EIA) Regulations. To fulfill the EMA and EIA Regulation requirements, the Proponent has a valid ECC issued for the activities (Semi-Precious Stones only) on the Mining Claims on the 20th of May 2020, and this ECC is still valid until the 20th of May 2023. However, due to the proposed amendments to the project activities (as mentioned above), the ECC needs to be amended to make provision for the proposed changes to the activities (intention to mine industrial minerals).

Subsequently, the Proponent has appointed Excel Dynamic Solutions (Pty) Ltd (EDS Namibia), an independent team of Environmental Consultants / Environmental Assessment Practitioners to conduct the Environmental Scoping Assessment (ESA) process. EDS Consultants will also submit the application for ECC amendment to the Environmental Commissioner at the Department of Environmental Affairs and Forestry (DEAF) of the Ministry of Environment, Forestry & Tourism.

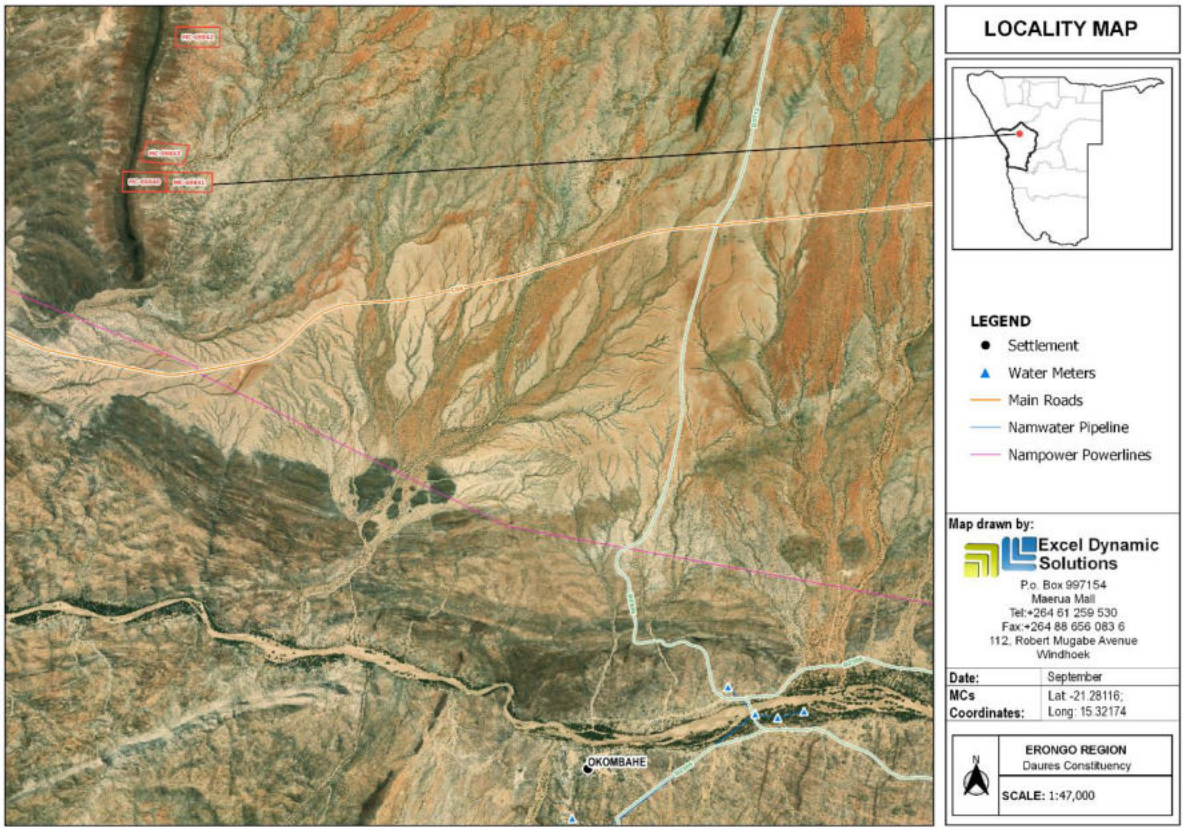

Figure 1:The location of the MCs near Okombahe

.2 Terms of Reference, Scope of Works and Appointed EA Practitioner

To satisfy the requirements of the EMA and its 2012 EIA Regulations, The Proponent appointed Excel Dynamic Solutions (Pty) Pty (EDS) to conduct the required Environmental Assessment (EA) process on their (Proponent's) behalf, and thereafter, apply for an ECC amendment for small-scale mining activities works on the MCs. There were no formal Terms of Reference (ToR) provided to EDS by the Proponent. The 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 application for the ECC (**Appendix A**) is compiled and submitted to the Ministry of Environment, Forestry and Tourism (MEFT), the environmental custodian for project registration purposes. Upon submission of an Environmental Scoping Assessment (ESA) Report and Draft Environmental Management Plan (EMP) (**Appendix B**), an ECC for the proposed project may be considered by the Environmental Commissioner at the MEFT's Department of Environmental Affairs and Forestry (DEAF).

The EIA project is headed by Mr. Nerson Tjelos, a qualified and experienced Geoscientist and experienced EAP. The consultation process and reporting are done by Ms. Fredrika Shagama Aili Iipinge respectively and reviewed by Ms. Fredrika Shagama. Mr. Nerson Tjelos CV is presented in **Appendix C.**

1.3 Motivation for the Proposed Project

The mining industry is one of the largest contributors to the Namibian economy, it contributes to the improvement of local livelihoods. In Namibia, mining activities is mostly done mainly by the private sector. Mining activities have a great potential to enhance and contribute to the development of other sectors and its activities do provide temporary employment, and taxes that fund social infrastructural development. The minerals sector yields foreign exchange and accounts for a significant portion of gross domestic product (GDP). Additionally, the industry produces a trained workforce and small businesses that can serve communities and may initiate related businesses. Mining activity fosters several associated activities such as manufacturing of mining equipment, and provision of engineering and environmental services. The mining sector forms a vital part of some of Namibia's development plans, namely: Vision 2030, National Development Plan 5 (NDP5), and Harambee Prosperity Plans (HPPs) I and II. Mining is essential to the development goals of Namibia in contributing to meeting the ever-increasing global demand for minerals, and for national prosperity. Successful amendment of the ECC to conduct small-

scale mining activities of industrial mineral on MCs 69840 – 69843 would lead to the mining of the target mineral, which would contribute towards achieving the goals of the national development plans.

2. PROJECT DESCRIPTION: PROPOSED SMALL-SCALE MINING ACTIVITIES

The description of small-scale mining activities and stages to be undertaken is presented below as well as the decommissioning of the mining activities.

2.2.1 Pre-development Phase

The small-scale mining phase includes mapping to identify the lithostratigraphic packages. In addition, literature review, fieldwork (lithological (soil/rock) and sampling) will be conducted to verify desktop work.

Operation and maintenance phase

During this phase, extraction of industrial minerals and all associated mining activities will be carried out on site. The Proponent has highlighted that both invasive and non-invasive activities are expected to take place. Non-invasive activities include detailed mapping. No ground geophysical surveys are planned for the project. While invasive activities involve trenching and pitting, open pit mining.

A 10 years of small-scale mining period is predicted. The selection of the potential mineralization model and mineral targets will be based on the local geology, trenching, and assay results of the samples collected. No explosives will be used during the operational phase.

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

2.2.2 Accessibility to Site

The MCs are accessible via a district road - D 3712 that diverts into C64 that diverts into an existing gravel that will lead into the claims. Therefore, all project related vehicles will be using these existing roads to access the MCs. It is also anticipated that, if necessary, onsite new tracks to the different targeted mining site within the MCs will be created. The Proponent may need to do some upgrade on the site access roads to ensure that they fit to accommodate project related vehicles, such as heavy trucks.

2.2.3 Material and Equipment

The requirements of the small-scale mining activities program in terms of vehicles and equipment include: (4X4) vehicles, a truck, water tanks, Jack hammer, excavator and drilling machines, and a power generator. Equipment and vehicles will be stored at a designated area near the accommodation site, or a storage site established within the MCs area.

2.2.4 Services and Infrastructure

- **Water:** Water for the operational phase will be obtained from the boreholes that will be drilled near the Mining Claims, thus the proponent will need to apply for water abstraction permit before drilling the borehole. Estimated monthly water consumptions are at +- 3000 liters, which includes water for drinking, sanitation, cooking, dust control, as well as washing equipment. Potable water will also be made available for the mining crew (workers) on site.
- **Power supply:** Power required during the operation phase will be provided from diesel-generators. About 600 litres of diesel will be used per week.
- **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, and drip trays will be readily available on this trailer 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.

2.2.5 Waste Management

The site will be equipped with secured waste bins for each type of waste (i.e., domestic, hazardous, and recyclable). Depending on the amount generated, waste will be sorted and collected as regularly as possible and taken to the nearest certified landfill site. An agreement will need to be reached with different waste management facility operators/owners and authorization or permits will be obtained prior to utilizing these facilities, in the case of production of any hazardous waste.

- **Sanitation and human waste**: Portable ablution facilities will be used, and the sewage will be disposed of as according to the approved disposal or treatment methods of the waste products.
- **Hazardous waste**: Drip trays and spill control kits will be available on site to ensure that oil/fuel spills and leaks from vehicles and equipment are captured on time and contained correctly before polluting the site.

2.2.6 Safety and Security

- **Storage Site**: Temporary storage areas for small-scale mining activities material, equipment, and machinery will be required at the campsite and/or small-scale mining activities sites. Security will be supplied on a 24-hour basis at the delegated sites for storage. A temporary

support fence surrounding the storage site will be constructed to ensure people and domestic animals are not put at risk.

- **Fire management:** A minimum of basic firefighting equipment, i.e., two fire extinguishers will be readily available in vehicles, at the working sites and camps. The small-scale mining activities crew is required to have the contact details of the nearest fire station at hand in case of a larger scale of fires at site.
- **Health and Safety**: Adequate and appropriate Personal Protective Equipment (PPE) will be provided to every project personnel while on and working at site. A minimum of two first aid kits will be readily available on site to attend to potential minor injuries.

2.2.7 Accommodation

The mining crew will be accommodated on site this will be upon agreement with the Traditional Authority .All mining activities will take place during daytime only.

2.3 Decommissioning and Rehabilitation Phase

Once the 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 activities results might force the Proponent to cease the activities program before predicted closure. Therefore, it is of best practice for the Proponent to ensure the project activities cease in an environmentally friendly manner and site is rehabilitated.

3 PROJECT ALTENATIVES

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?

The alternatives considered for the proposed development are discussed in the following subsections.

3.1 Types of Alternatives Considered

3.1.1 The "No-go" Alternative

The “no action” alternative implies that the status quo remains, and nothing happens. Should the proposal of small-scale 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 will 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. The key losses that may never be realized if the proposed project does not go ahead include:

- Loss of foreign direct investment.
- About 5-10 temporary job opportunities for community members will not be realized.
- No realization of local business supports through the procurement of consumable items such as Personal Protective Equipment (PPE), machinery spare parts, lubricants, etc.
- Loss of potential income to the local and national government through land lease fees, license lease fees, and various tax structures.

- Improved geological understanding of the site area regarding the targeted commodities.
- Socio-economic benefits such as skills acquisition to local community members would be not realized.

Considering the above losses, the “no-action/go” alternative was not considered a viable option for this project, although, in the case where parts of the project site are considered environmentally sensitive and/or protected, one or severally sections of the site may be identified as no-go zones.

3.1.2 Small-scale mining activity’s location

The mining location dependents on the geological setting (regional and local), the economic geology, and the small-scale mining activities and 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 activities 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.

Furthermore, the national mineral resources’ potential locations are also mapped and categorized by the Ministry of Mines and Energy, on exclusive prospecting licenses, mining licenses and claims, mineral deposit retention licenses, reconnaissance licenses, and exclusive reconnaissance licenses. Information on MCs 69840 – 69843 and other licenses are available on the Namibia Mining Cadastral Map here https://portals.landfolio.com/namibia/ as shown in (**Figure 3**)

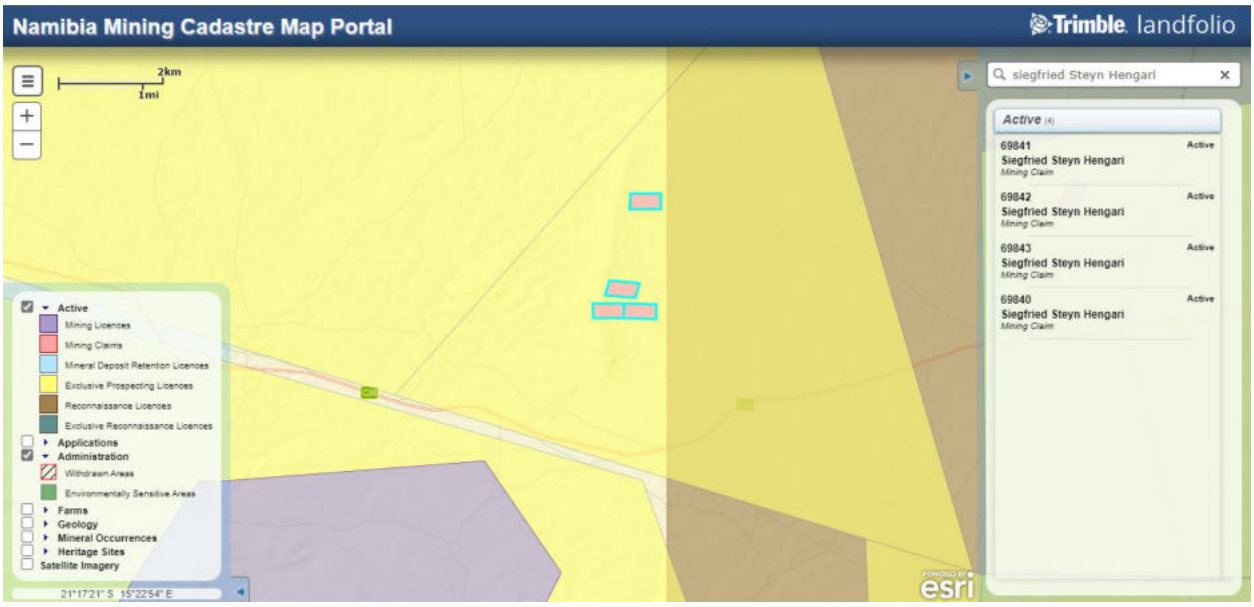

Figure 2: The location of MCs 69840 – 69843 on the National Mining Cadastre

4 .LEGAL FRAMEWORK: LEGISLATION, POLICIES AND GUIDELINES

The small-scale mining activities have legal implications associated with certain applicable legal standards. A summary of applicable and relevant international policies and Namibian legislation, policies, and guidelines for the proposed development is given in this section (**Table 2**). This summary serves to inform the project Proponent, Interested and Affected Parties, and the decision-makers at the DEAF, of the requirements and expectations, as laid out in terms of these instruments, to be fulfilled to establish the proposed mining activities.

4.1 The Environmental Management Act (No. 7 of 2007)

This EIA was carried out according to the Environmental Management Act (EMA) and its Environmental Impact Assessment (EIA) Regulations (GG No. 4878 GN No. 30).

The EMA has stipulated requirements to complete the required documentation to obtain an ECC for permission to undertake certain listed activities. These activities are listed under the following Regulations:

- 3.1 The construction of facilities for any process or activities which requires a license, right of other forms of authorization, and the renewal of a license, right, or other forms 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.

Other legal obligations that are relevant to the proposed activities of Client: MCs No. 69840 – 69843 related activities are presented in **Table 1 bellow.**

Table 1: Applicable local, national and international standards, policies and guidelines governing the proposed development

Legislation / Policy / Guideline: Custodian	**Relevant Provisions**	**Implications for this project**
The Constitution of the Republic of Namibia, 1990 as amended:	The Constitution of the Republic of Namibia (1990 as amended) addresses matters relating to environmental protection and sustainable	By implementing the environmental management plan, the establishment will be in conformant to the constitution in terms of

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
Government of the Republic of Namibia	development. Article 91(c) defines the functions of the Ombudsman to include: "…the duty to investigate complaints concerning the over-utilisation 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…" Article 95(l) commits the state to actively promoting and maintaining the welfare of the people by adopting policies aimed at the: "…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."	environmental management and sustainability. Ecological sustainability will be main priority for the proposed development.
Minerals (Prospecting and Mining) Act (No. 33 of 1992): **Ministry of Mines and Energy (MME)**	Section 52 requires mineral license holders to enter into a written agreement with affected landowners before exercising rights conferred upon the license holder. Section 52(1) mineral licence holder may not exercise his/her rights in any town or village, on or in a proclaimed road, land utilised for cultivation, within 100m of any water resource (borehole, dam, spring, drinking trough etc.) and boreholes, or no operations in municipal areas, etc.), which should individually be checked to ensure compliance. Section 54 requires written notice to be submitted to the Mining Commissioner if the holder of a mineral license intends to abandon the mineral license area. Section 68 stipulates that an application for any Mining Claims (MCs) shall contain the particulars of the condition of, and any existing damage to,	The Proponent should enter into a written agreement with landowners before carrying out small-scale mining activities on their land. On communal land, the Proponent should engage the Traditional Authorities for land use consent. An assessment of the impact on the receiving environment should be carried out. The Proponent should include as part of their application for the MCs, measures by which they will rehabilitate the areas where they intend to continue carrying out mineral small-scale mining activities. The Proponent may not carry out small-scale mining activities within

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
	the environment in the area to which the application relates and an estimate of the effect which the proposed prospecting operations may have on the environment and the measures to be taken to prevent or minimize any such effect. Section 91 requires that rehabilitation measures should be included in an application for a mineral license.	the areas limited by Section 52 (1) of this Act.
Nature Conservation Amendment Act, No. 3 of 2017: **Ministry of Environment, Forestry and Tourism (MEFT)**	National Parks are established and gazetted in accordance with the Nature Conservation Ordinance, 1975 (4 of 1975), as amended. The Ordinance provides a legal framework with regards to the permission of entering a state protected area, as well as requirements for individuals damaging objects (geological, ethnological, archaeological and historical) within a protected area. Though 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 PA's and prohibits certain acts therein as well as the purposes for which permission to enter game parks and nature reserves may be granted.	The Proponent will be required to enhance maintenance of the ecological integrity of protected areas and other State land in the Project Site area. The Proponent will also be required to comply with the existing and planned local operational management plans, regulations and guidelines of the three conservancies.
The Parks and Wildlife Management Bill of 2008: **Ministry of Environment, Forestry and Tourism (MEFT)**	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 to contribute to national development.	
Mine Health & Safety Regulations, 10th Draft: **Ministry of Health and Social Services (MHSS)**	Makes provision for the health and safety of persons employed or otherwise present in mineral licenses area. These deal with among other matters; clothing and devices; design, use, operation, supervision and control of machinery;	The Proponent should comply with all these regulations with respect to their employees.

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
	fencing and guards; and safety measures during repairs and maintenance.	
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001): **Ministry of Mines and Energy (MME)**	Regulation 3(2)(b) states that "No person shall possess [sic] or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area"	The Proponent should obtain the necessary authorisation from the MME for the storage of fuel on-site.
The Regional Councils Act (No. 22 of 1992): **Ministry of Urban and Rural Development (MURD)**	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 perspective, 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, urbanisation patterns, natural resources, economic development potential, infrastructure, land utilisation pattern and sensitivity of the natural environment.	The relevant Regional Councils are IAPs and must be consulted during the Environmental Assessment (EA) process of the amendment of the ECC . The project site falls under the Erongo Regional Council therefore, they should be consulted.
Traditional Authority Act (Act No. 25 of 2000): **Ministry of Urban and Rural Development (MURD)**	The Act also stipulates that Traditional Authorities (TAs) should ensure that natural resources are used on a sustainable basis that conserves the ecosystem. The implications of this Act are that TAs must be fully involved in the planning of land use and development for their area. It is the responsibility of the TA's customary leadership, the Chiefs, to exercise control on behalf of the state and the residents in their designated area.	The MCs considered under this project are predominantly located near Okombahe which are mainly communal land. Therefore, they should be consulted throughout the ECC amendment process of the Project.
Water Act 54 of 1956: **Ministry of Agriculture, Water and Land Reform (MAWLR)**	The Water Resources Management Act 11 of 2013 is presently without regulations; therefore, the Water Act No 54 of 1956 is still in force: Prohibits the pollution of water and implements the principle that a person disposing of effluent or	The protection (both quality and quantity/abstraction) of water resources should be a priority. The permits and license required thereto should be obtained from

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
	waste has a duly of care to prevent pollution (S3 (k)). Provides for control and protection of groundwater (S66 (1), (d (ii)). Liability of clean-up costs after closure/abandonment of an activity (S3 (l)). (l)).	MAWLR's relevant Departments (these permits include Borehole Drilling Permits, Groundwater Abstraction & Use Permits, and when required, the Wastewater / Effluent Discharge Permits).
Water Resources Management Act (No 11 of 2013): **Ministry of Agriculture, Water and Land Reform (MAWLR)**	The Act provides for the management, protection, development, use and conservation of water resources; and provides for the regulation and monitoring of water services and to provide for incidental matters. The objects of this Act are to: Ensure that the water resources of Namibia are managed, developed, used, conserved and protected in a manner consistent with, or conducive to, the fundamental principles set out in Section 66 - protection of aquifers, Subsection 1 (d) (iii) provide for preventing the contamination of the aquifer and water pollution control (S68).	
National Heritage Act No. 27 of 2004: **Ministry of Education, Arts and Culture (MEAC)**	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.	The Proponent should ensure compliance with this Acts' requirements. The necessary management measures and related permitting requirements must be taken. This done by consulting with the National Heritage Council (NHC) of Namibia. The management measures should be incorporated into the Draft EMP.
The National Monuments Act (No. 28 of 1969): **Ministry of Education, Arts and Culture (MEAC)**	The Act enables the proclamation of national monuments and protects archaeological sites.	
Soil Conservation Act (No 76 of 1969): **Ministry of Agriculture, Water and Land Reform (MAWLR)**	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.

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
Forestry Act (Act No. 12 of 2001: **Ministry of Environment, Forestry and Tourism (MEFT)**	The Act provides for the management and use of forests and forest products. Section 22. (1) provides: "Unless otherwise authorised by this Act, or by a licence 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 sand dune or drifting sand or on a gully unless the cutting, destruction or removal is done for the purpose of stabilising 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.
Public Health Act (No. 36 of 1919): **Ministry of Health and Social Services (MHSS)**	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.
Health and Safety Regulations GN 156/1997 (GG 1617): **Ministry of Health and Social Services (MHSS)**	Details various requirements regarding health and safety of labourers.	
Public and Environmental Health Act No. 1 of 2015: **Ministry of Health and Social Services (MHSS)**	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.	The Proponent should ensure that the project infrastructure, vehicles, equipment, and machinery are designed and operated in a way that is safe, or not injurious or dangerous to public health and that the noise and dust emissions which could be considered a nuisance remain at acceptable levels.

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
		The public and environmental health should be preserved and remain uncompromised.
Atmospheric Pollution Prevention Ordinance (1976): **Ministry of Health and Social Services (MHSS)**	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 the purposes of 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 on site.
Hazardous Substance Ordinance, No. 14 of 1974: **Ministry of Health and Social Services (MHSS)**	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: **Ministry of Works and Transport (Roads Authority of Namibia)**	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 incidental thereto. Should the Proponent wish to undertake activities involving road transportation or access onto existing roads, the relevant permits will be required.	Mitigation measures should be provided for, if the roads and traffic impact cannot be avoided, the relevant permits must be applied for.
Labour Act (No. 6 of 1992): **Ministry of Labour, Industrial Relations and Employment Creation (MLIREC)**	Ministry of Labour, Industrial Relations and Employment Creation is aimed at ensuring harmonious labour relations through promoting social justice, occupational health and safety and enhanced labour market services for the benefit of all Namibians. This ministry insures effective implementation of the Labour Act No. 6 of 1992.	The Proponent should ensure that the prospecting and small-scale mining activities do not compromise the safety and welfare of workers.

4.2 **International Policies, Principles, Standards, Treaties and Conventions**

The international policies, principles, standards, treaties, and conventions applicable to the project are as listed in **Table 2** below.

Table 2: International Policies, Principles, Standards, Treaties and Convention applicable to the project

Statute	Provisions	Project Implications
Equator Principles	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 with to apply for approved funding by Equator Principles Financial Institutions (EPFIs). The Principles apply to all new project financings globally across all sectors. **Principle 1:** Review and Categorization **Principle 2**: Environmental and Social Assessment **Principle 3:** Applicable Environmental and Social Standards **Principle 4:** Environmental and Social Management System and Equator Principles Action Plan **Principle 5:** Stakeholder Engagement **Principle 6:** Grievance Mechanism **Principle 7:** Independent Review **Principle 8:** Covenants **Principle 9:** Independent Monitoring and Reporting **Principle 10:** Reporting and Transparency	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.'
The International Finance Corporation (IFC) Performance Standards	The International Finance Corporation's (IFC) Sustainability Framework articulates the Corporation's strategic commitment to sustainable development and is an integral part of IFC's	The Performance Standards are directed towards clients, providing guidance on how to identify risks and impacts, and

	approach to risk management. The Sustainability Framework comprises IFC's Policy and Performance Standards on Environmental and Social Sustainability, and IFC's Access to Information Policy. The Policy on Environmental and Social Sustainability describes IFC's commitments, roles, and responsibilities related to environmental and social sustainability. As of 28 October 2018, there are ten (10) Performance Standards (Performance Standards on Environmental and Social Sustainability) that the IFC requires a project Proponents to meet throughout the life of an investment. These standard requirements are briefly described below. **Performance Standard 1**: Assessment and Management of Environmental and Social Risks and Impacts **Performance Standard 2**: Labour and Working Conditions **Performance Standard 3:** Resource Efficient and Pollution Prevention and Management **Performance Standard 4:** Community Health and Safety **Performance Standard 5:** Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement **Performance Standard 6:** Biodiversity Conservation and Sustainable Management of Living Natural Resources **Performance Standard 7**: Indigenous Peoples/Sub-Saharan African Historically Undeserved Traditional Local Communities **Performance Standard 8:** Cultural Heritage **Performance Standard 9:** Financial Intermediaries (FIs) **Performance Standard 10:** Stakeholder Engagement and Information	are designed to help avoid, mitigate, and manage risks and impacts as a way of doing business in a sustainable way, including stakeholder engagement and disclosure obligations of the Client (Borrower) in relation to project-level activities. In the case of its direct investments (including project and corporate finance provided through financial intermediaries), IFC requires its clients to apply the Performance Standards to manage environmental and social risks and impacts so that development opportunities are enhanced. IFC uses the Sustainability Framework along with other strategies, policies, and initiatives to direct the business activities of the Corporation to achieve its overall development objectives.

	A full description of the IFC Standards can be obtained from http://www.worldbank.org/en/projects-operations/environmental-and-social-framework/brief/environmental-and-social-standards?cq_ck=1522164538151#ess1	
The United Nations Convention to Combat Desertification (UNCCD) 1992	Addresses land degradation in arid regions with the purpose to contribute to the conservation and sustainable use of biodiversity and the mitigation of climate change. The convention objective is to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in affected areas to support poverty reduction and environmental sustainability United Nation Convention.	The project activities should not be such that they contribute to desertification.
Convention on Biological Diversity 1992	Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use. Promote the protection of ecosystems, natural habitats, and the maintenance of viable populations of species in natural surroundings.	Removal of vegetation cover and destruction of natural habitats should be avoided and where not possible minimised.
Stockholm Declaration on the Human Environment, Stockholm (1972)	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.	Protection of natural resources and prevention of any form of pollution.

Relevant international Treaties and Protocols ratified by the Namibian Government

- Convention on International Trade and Endangered Species of Wild Fauna and Flora (CITES), 1973.
- Convention on Biological Diversity, 1992.
- World Heritage Convention, 1972.

5 ENVIRONMENTAL BASELINE

The proposed small-scale mining programme will be undertaken in specific environmental and social conditions. Understanding the pre-project conditions of the environment will aid in laying down background "information" of the status quo and future projections of environmental conditions after proposed works on the MCs. This also helps the EAP in identifying the sensitive environmental features that may need to be protected through the recommendations and effective implementation of mitigation measures provided.

The baseline information presented below is sourced from a variety of sources including reports of studies conducted in the Erongo. Further information was obtained by the Consultant during the site visit.

5.1 Biophysical Environment

5.1.2 Climate

Climate has impacts on mining activities. Climatic conditions may be used to determine the appropriate and/or inappropriate times and conditions to conduct operational activities on the MCs. The Erongo Region generally receives high temperature between January and June, at an average of 24.19^0 C; and the lowest temperatures are experienced at an average of 14.21^0 C in September. The highest average rainfall of 29.35 mm is experienced in March, and the lowest average rainfall of 0.35 mm is experienced in July. Moreover, January months experience the highest humidity of 78.98% and low humidity in July at 54.12%. **Figure 4** shows the climatic condition in Okombahe

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Nov	Oct	Dec	Year
Record high °C (°F)	29.45 (85.01)	28.44 (83.19)	36.56 (97.81)	32.5 (90.5)	33.51 (92.32)	30.47 (86.85)	31.48 (88.66)	32.5 (90.5)	31.48 (88.66)	30.47 (86.85)	29.45 (85.01)	26.41 (79.54)	36.56 (97.81)
Average high °C (°F)	22.51 (72.52)	23.04 (73.47)	23.92 (75.06)	24.13 (75.43)	24.19 (75.54)	22.6 (72.68)	22.48 (72.46)	20.85 (69.53)	20.66 (69.19)	20.84 (69.51)	21.45 (70.61)	21.72 (71.1)	22.36 (72.25)
Daily mean °C (°F)	21.01 (69.82)	21.44 (70.59)	22.15 (71.87)	22.09 (71.76)	21.77 (71.19)	19.96 (67.93)	19.69 (67.44)	18.09 (64.56)	18.18 (64.72)	18.73 (65.71)	19.64 (67.35)	20.17 (68.31)	20.24 (68.43)
Average low °C (°F)	18.78 (65.8)	19.15 (66.47)	19.56 (67.21)	19.18 (66.52)	18.52 (65.34)	16.34 (61.41)	15.79 (60.42)	14.24 (57.63)	14.21 (57.58)	15.05 (59.09)	16.31 (61.36)	17.33 (63.19)	17.04 (62.67)
Record low °C (°F)	14.22 (57.6)	16.25 (61.25)	14.22 (57.6)	13.2 (55.76)	13.2 (55.76)	11.17 (52.11)	11.17 (52.11)	10.16 (50.29)	11.17 (52.11)	10.16 (50.29)	12.19 (53.94)	14.22 (57.6)	10.16 (50.29)
Average precipitation mm (inches)	16.74 (0.66)	27.88 (1.1)	29.35 (1.16)	10.43 (0.41)	5.18 (0.2)	0.38 (0.01)	0.35 (0.01)	0.54 (0.02)	3.52 (0.14)	2.91 (0.11)	4.95 (0.19)	12.9 (0.51)	9.6 (0.38)
Average precipitation days (≥ 1.0 mm)	3.5	3.79	3.97	2.49	0.46	0.09	0.09	0.09	0.56	0.65	1.11	2.12	1.57
Average relative humidity (%)	78.98	77.44	71.64	64.1	56.94	56.09	54.12	63.97	69.39	72.15	72.93	77.14	67.91
Mean monthly sunshine hours	11.64	11.65	11.68	11.41	11.18	11.06	11.08	11.33	11.65	11.74	11.75	11.72	11.49

Figure 3 :Shows the climate condition around the project area, Okombahe (source: www.Okombahe climate: Climate-Data.org)

5.1.3 Topography

The EPL area is dominated by the Central-Western plains landscapes. The Central-western Plains stretches back from the coast, extending inland for about 450 km in places. The plains were largely formed by erosion cutting into higher ground and carving out catchment areas, of several major rivers. The Khan River, Omaruru River, Swakop River, and Ugab River. Much of the area is between 1000 m – 2150 m above the sea level, and consists of the metamorphic rocks, that were forced up out of the sea during the formation of the Gondwana continent some 500 million years ago, (Mendelsohn, 2003)**. Figures 5a and 5b,** below show the landscape map and the topographic map, respectively.

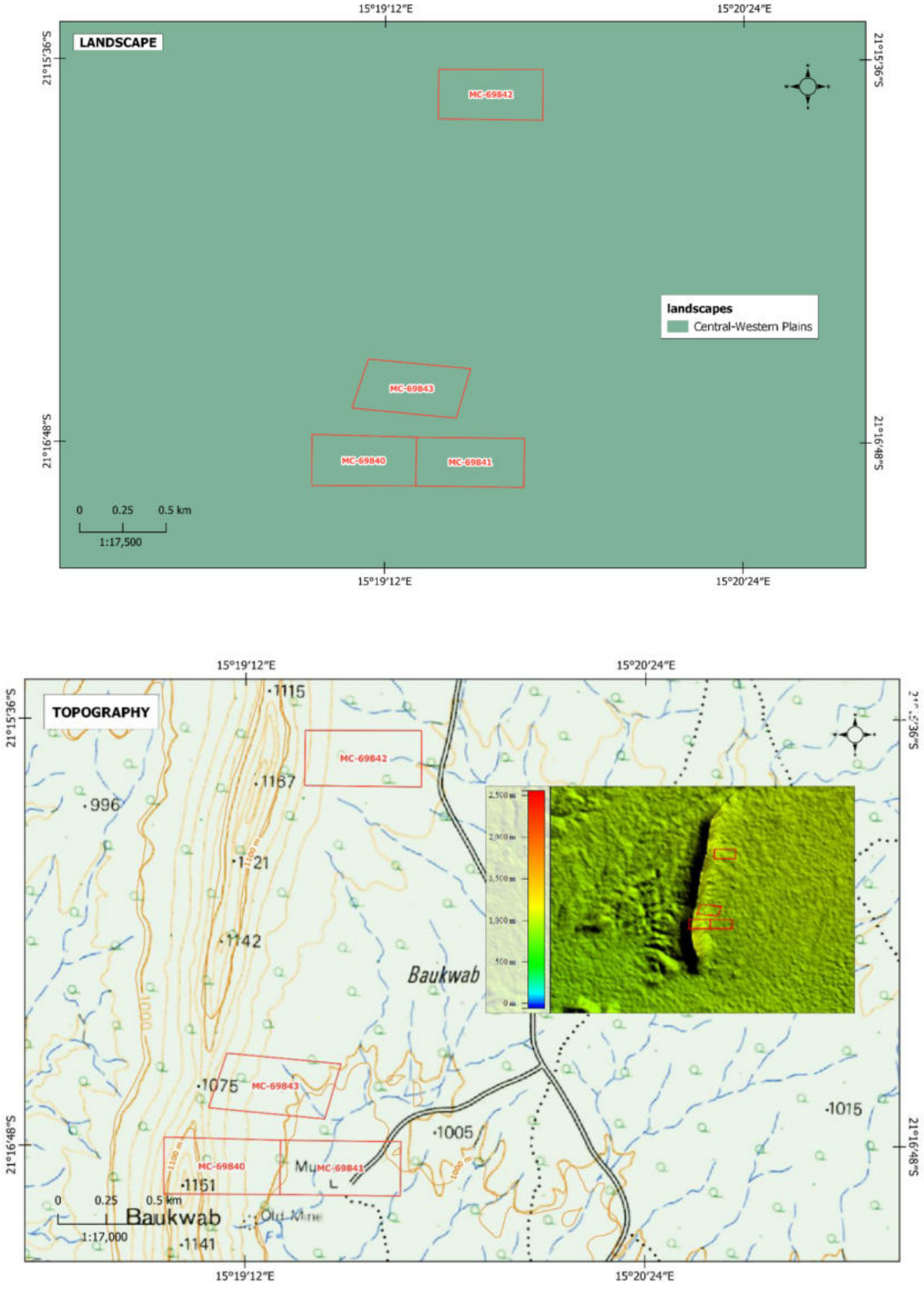

Figure 3: Landscape and Topographic map of project area near Okombahe

5.1.4 Geology

The project area is underlain by the Damara Supergroup and is dominated by Swakop group metasediments. The Swakop Group metasediments were deposited approximately 550Ma during the formation of Gondwana. Within the project area most of these metasediments are covered by sand, gravel scree and calcrete, which obscure the rocks below. **Figure 6** below shows the general geology map for the project.

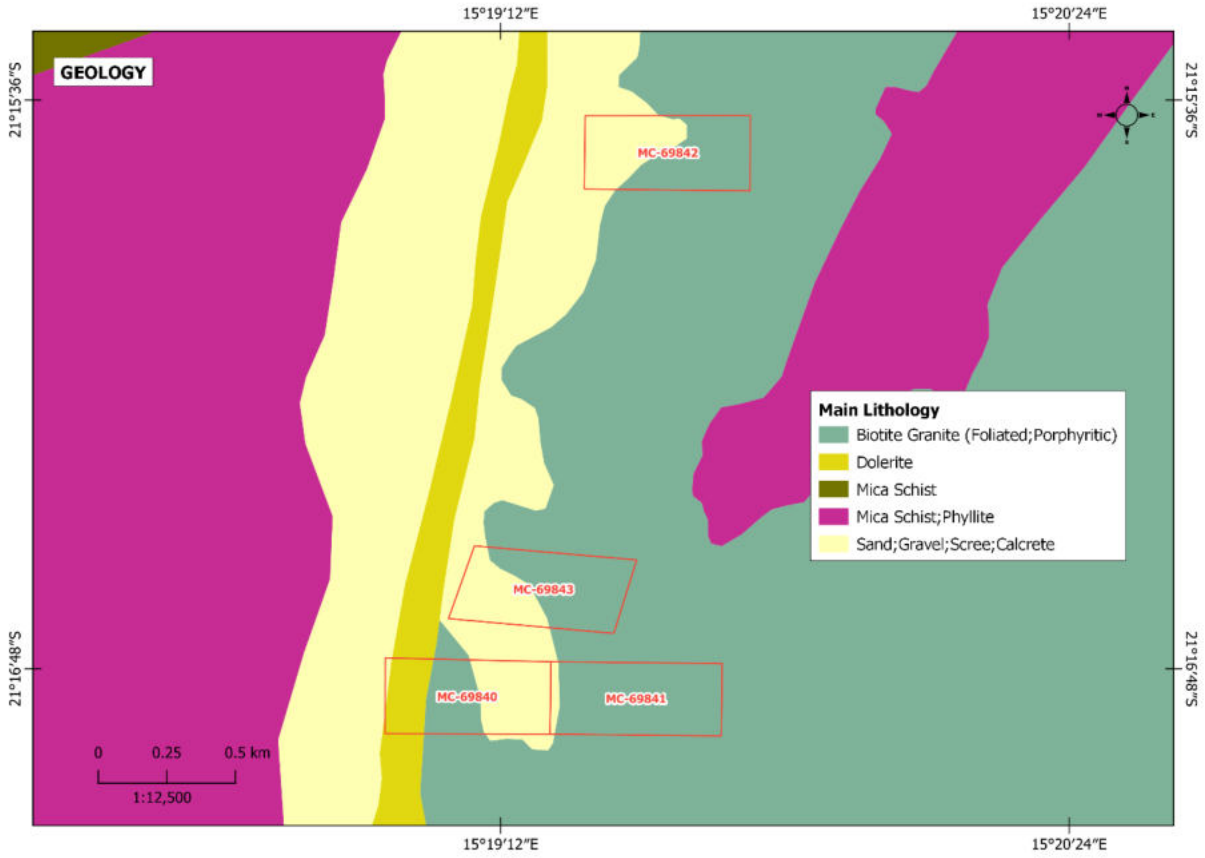

Figure 4: A map of the general geology of the project area

Soils

The majority portion of the MCs are made up of rock outcrops. These are soils that have a solid layer at a shallow depth that remains hard even when wet and are found normally found in low-lying areas of the landscape (Mendelsohn et al, 2003). These soils have a very low fertility level and therefore only the toughest vegetation survive here (Mendelsohn et al, 2003). Figure 6 below

shows the soil types found within the MCs area and Figure 7 shows a typical soil type found within the MCs

During the mining phase ,the Soil Conservation Act (No 76 of 1969) should be considered to ensure that soils are conversed in way that does not promote soil erosions, which result in creation of gullies (refer to the EMP).

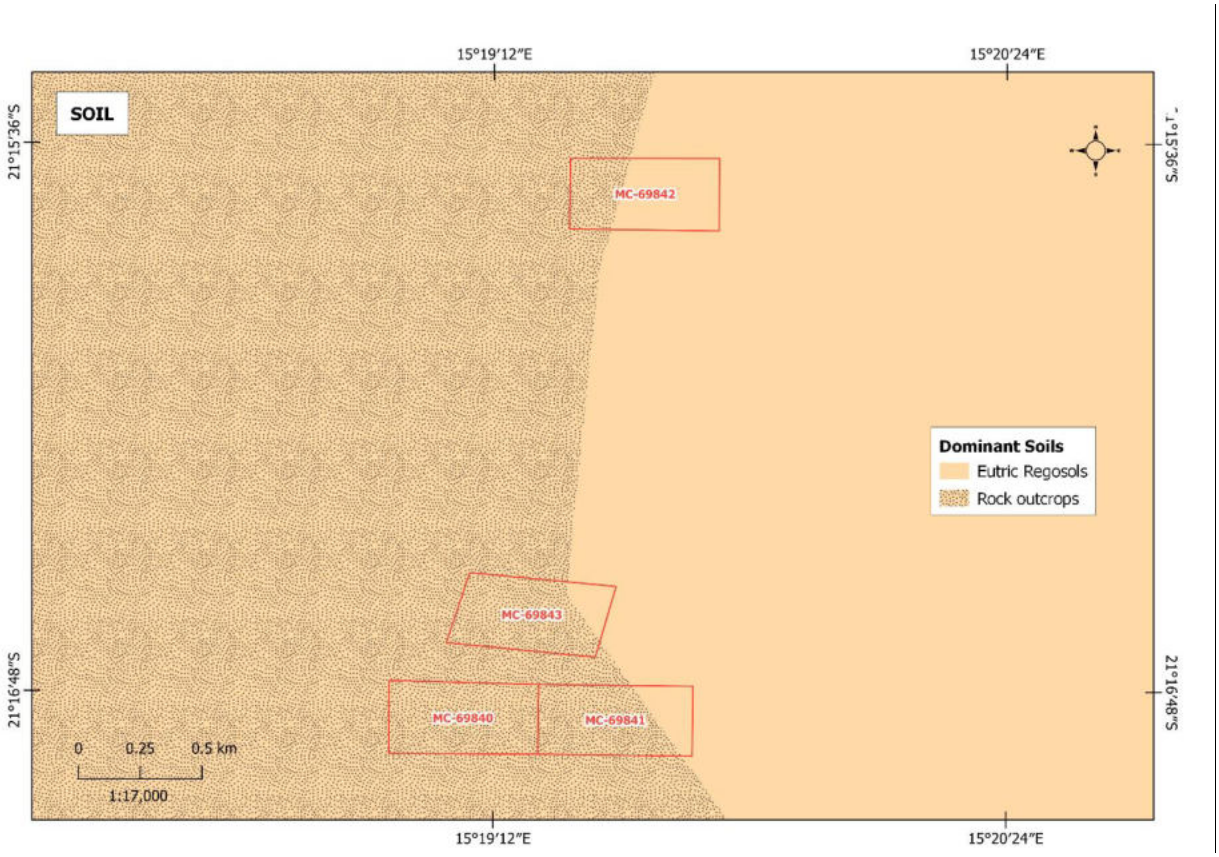

Figure 6: shows the dominant soil types found within the MCs

5.1.5 Hydrology, Water Resources and Groundwater Vulnerability to Pollution

In terms of hydrology, there are no rivers (surface water/) that pass through the MCs. The MCs falls within the fractured, fissured aquifers. The MCs lies in an area of Moderate vulnerability sensitivity to groundwater drought as shown in **Figure 8.**

In the case of consideration abstraction of water from onsite water sources, it is recommended that the Proponent should obtain a water abstraction permit, as required

under the Water Act No. 54 of 1956 (enforced), and the Water Resources Management Act, No. 11 of 2013.

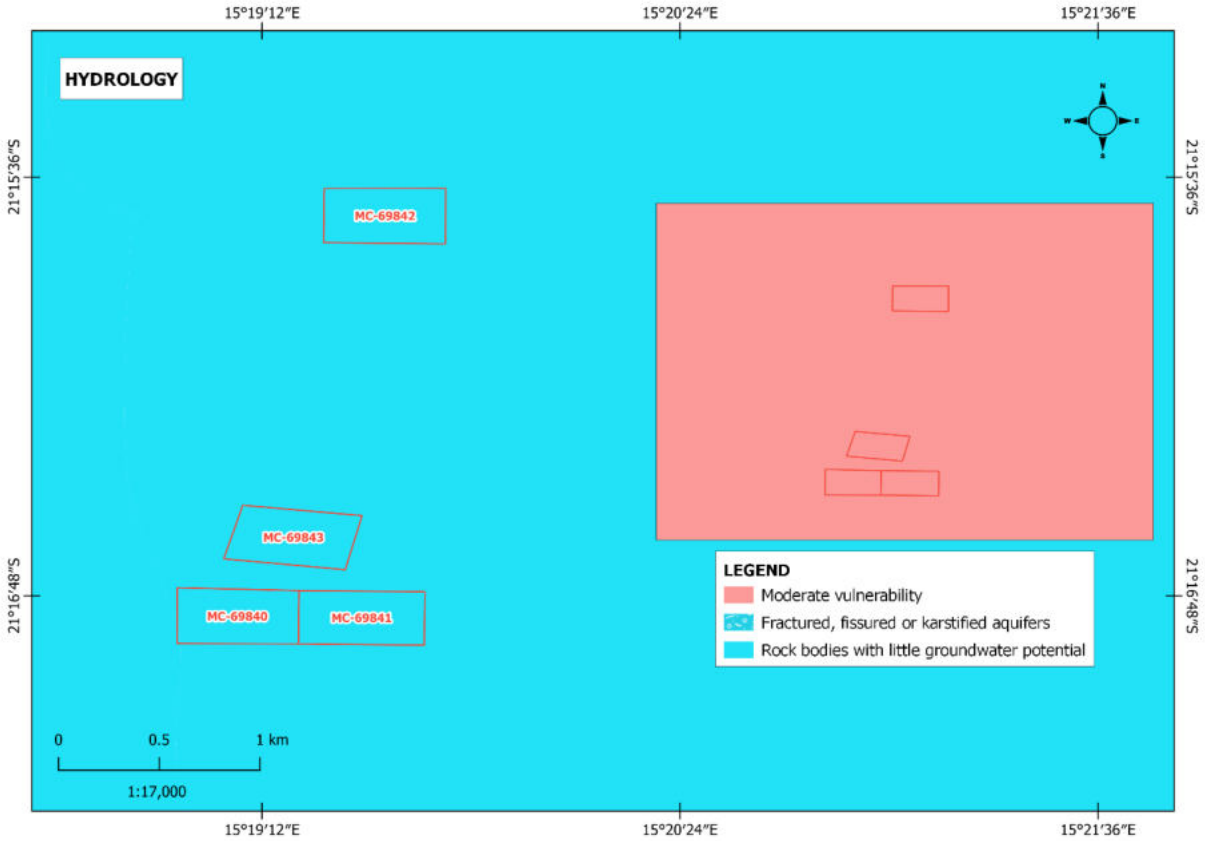

Figure 4: Hydrology and groundwater vulnerability map

Figure 5: The water tank (water source) observed within the MCs during the site visit

5.1.6 Flora and Fauna

Flora

The area around Okombahe, the dominant vegetation structure is known as varied shrubland and grasslands. It however supports a diversity of natural flora such as: the devil's claw (*Harpagophytum procumbens* subsp. procumbens), tsamma melon (*Citrullus lanatus*) welwitschia (*Welwitschia mirabilis*), quiver tree (*Aloe dichotoma*), and the red-thorn (*Acacia reficiens*). The vegetation within the study site is dominated by accacia trees and mopane tree (*Colophospermum mopane*) and purple-pod terminalia (*Terminalia prunioides),* which are co-dominant. The MCs falls within the Accacia hilly shrubland and insebergs as shown in the vegetation map around the MCs **Figure 10**.

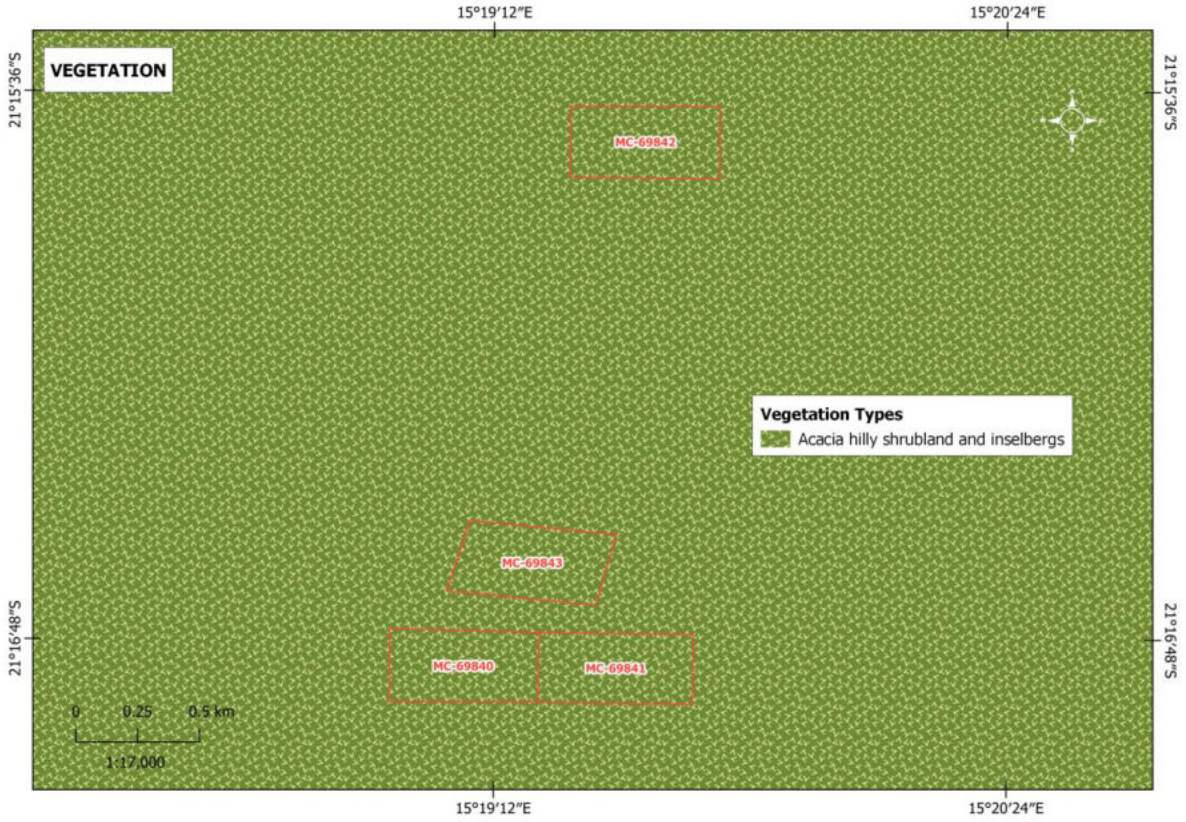

Figure 6:The vegetation map around the project area

Fauna

Okombahe is found in the western highlands biome regions. The area supports a variety fauna, which including kudu (*Tragelaphus strepsiceros*), springbok (*Antidorcas marsupialis*), gemsbok (*Oryx gazella*), and mountain zebra (*Equus zebra hartmannae*), lion (*Panthera leo*), leopard (*Panthera pardus*), cheetah (*Acinonyx jubatus*), spotted hyena (*Crocuta crocuta*), and brown hyena (*Hyaena brunnea*) (Mendelsohn, *et al*., 2009 as cited by EDS, 2021).

Additionally, the MCs are located within a communal land. However, no wildlife or livestock was observed during the site visit. This could be because the explained that the area is said to have lost a lot of livestock due to a devastating drought period experienced in 2019 .It can also be because the fact that wildlife was hiding (in shades) of the far vegetation and possibly under rock outcrops, out of sight and away from human presence.

5.2 Heritage and Archaeology

5.2.1 Local Level and Archaeological Findings

Archaeological remains in Namibia are protected under the National Heritage Act (27 of 2004) which makes provision for archaeological impact assessment of propose projects like these. Modern humans and their ancestors have lived in Namibia for more than one million years (Kinahan 2011), and there are fossil remains of lineal hominin ancestors as early as the Miocene Epoch (Conroy *et al.* 1992). The Mining Claims 69840 – 69843 are located about 11 km northwest of Okombahe Settlement and within the Okombahe Reserve in the Erongo Region. The MCs are situated within a transition zone between a semi-arid climate and an arid climate due to its geographic location in the escarpment between the Namib Desert and the Central Plateau. Modern humans and their ancestors have lived in Namibia for more than one million years (Kinahan 2011), and there are fossil remains of lineal hominin ancestors as early as the Miocene Epoch (Conroy *et al.* 1992). Namibia has a relatively complete sequence covering the mid-Pleistocene to Recent Holocene period, represented by thousands of archaeological sites mainly concentrated in the central highlands, escarpment and Namib Desert.

The Recent Holocene archaeological sequence in Namibia, i.e. the last 5 000 years, is of particular importance because it provides the background evidence for the development and recent history of the indigenous peoples of Namibia before the advent of written historical records during the colonial era. Many archaeological sites from this period are of great significance to the understanding of Namibian history, and some are considered to be of global importance to our understanding of the African past.

Site visit:

A detailed inspection of the site was carried out on 13th October, 2022, the site surveys were undertaken on foot in these mining claims, whereby it involved direct observation with any areas with archaeological or cultural materials significances, positions were fixed by hand-held GPS *etrex 32,* documented and plotted on topographic maps. All archaeological sites are assessed as to their significance and vulnerability, using two independent parallel scales devised for archaeological assessment in Namibia. In general, no trace of any significant archaeological or historical remains of national significance, and as relevant to the National Heritage Act 27 of 2004, were found in surveyed area. However, at the localized level, the recorded sites/artifacts/ or features which they are of low significance are illustrated herein in figures and presented in Table 3 below. The following archaeological sites were recorded during the site observation and surface walk-over, however none of these are within the proposed project.

Table 3Findings of the Archaeological and Cultural sites on MCs 69840 - 69843

Waypoint	Location	Elevation	Description of the findings	Heritage Significance	Grading
219	S 21º 16' 42.3'' E 15º 19' 30.3''	999 m	River channel	Moderate/High	3
220	S 21º 16' 42.3'' E 15º 19' 30.3''	1001 m	**Old grave site:** There are about 5 old graves, the area is full of grasses, and these graves are presumed to be of white German and locals.	Moderate	3
221	S 21º 16' 50.5'' E 15º 19' 30.6''	999 m	Ruin: An old house that were used by Dutch missionaries	Moderate	3
222	S 21º 16' 54.0'' E 15º 19' 36.6''	1001 m	Graves; Two old graves of a father and daughter buried in the same place	Moderate	3
223	S 21º 16' 53.5'' E 15º 19' 35.5''	1000 m	Rock outcrop with holes on it, seems that these holes collect water during rains.	Moderate	3

Table 4 a Ruins which was for Dutch missionaries

Table 5 Old grave site within the Mining Claims

Table 6 Recorded old graves

5.2.2 Surrounding Land Uses

The MCs overlies within communal land as previously stated under Chapter 1.The Proponent is required to secure a signed agreement from the affected landowners to gain access to the areas of interest for mining investigations as per the 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 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 waked 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 Licence Holder and/or mineral explorers currently have to negotiate a contract with landowners to gain access for or mining purposes.

Figure 7 the existing infrastructure observed on site

6 Socio-Economic conditions

Socio-economic status of Okombahe

Okombahe is a settlement located in the Erongo Region, situated on the Omaruru River approximately 70 km north of Karibib (Namwater, 2020). It is regarded as the capital of the ǂNûkhoen (Damara) tribe. The Okombahe Settlement is situated in the north-western part of the Dâures Constituency in the Erongo Region of Namibia (!OWOS-OAB, 2014). Before independence of Namibia, Okombahe was situated at the edge of the Damaraland bantustan.

Infrastructure and Services

Infrastructure, particularly the conditions of transport, market and communication facilities affects both farmers and extension work. The Okombahe Settlement Area has no tarred roads and all roads linking communal farmers with the case organization are gravel and need constant maintenance. Most of the people have individual toilets and water taps, as well as electricity while others only use public prepaid water taps and the bush as an alternative to toilets. Common Infrastructure and Services in Okombahe include Omkhaidani Church, Gaob Memorial Stadium, Okombahe Secondary School, crèches, Okombahe clinic, community halls, Okombahe Cemetery, a sports field and a shopping centre. Martin Luther High School and Dibasen Junior Secondary School are situated in the village. There is 3G network coverage in the settlement of Okombahe, bringing much need fast and mobile communication services to these rural communities.

Mining Activities

Geological maps display that there are mineral deposits of Copper, Uranium, Tin and Gold minerals which are concentrated on the South-Western direction of Omaruru in the area of Okombahe (First Capital, 2018). Small-scale mining, as a sub-sector of the mining sector, provides a livelihood to a quite number of people and their dependents, alleviating poverty in the area of Okombahe and its surrounding (Erongo Regional Council, 2015).

Farming Practices

Extensive livestock farming remains the mainland-based economic activity in the communal farming area of the Okombahe Settlement. The district economy in the Okombahe Settlement Area is based on stock farming, which is the basis of livelihood. In the longer term, farming practices in communal Okombahe aim largely at the maintenance of flocks, the production of lambs and maximizing their growth to a marketable size. However, the day-to-day practices are mostly geared towards finding suitable grazing. The Dâures Constituency is the largest constituency in the Erongo Region with an area of 13,490 km². It has a population of 11,300 people (NSA, 2011). This constituency is divided into centres, which constitute individual farms. The Dâures Constituency office is located at Okombahe and governed by a council of senior headmen. This office facilitates a political link between the Agricultural Extension Office and the farmers. The Okombahe settlement is sparsely populated and the distances between the farms are vast. (!OWOS-OAB, 2014).

Water and Power Source

Okombahe groundwater scheme supplies potable water to the Erongo Regional Council, a police station and two schools. (Namwater, 2020). The Okombahe Water Supply Scheme consists of three boreholes (WW 25885, WW 25886 and WW 25887), which pump water into two reservoirs, one set of elevated HDPE tanks and a concrete ground reservoir with capacities of 40 m³ and 1 000 m³ respectively. Thereafter, water is distributed to the consumer reticulation system. The boreholes are between 25 m and 26 m deep. The boreholes yield between 18 m³/h and 22 m³/h. Electricity is supplied by NamPower from pole-mounted transformers.

Summary of Demographics and Socio Economy of Erongo region and Dâures Constituency:

Indicators		**Values**	
		Erongo	**Dâures**
Population Size	Males	79 823	6 041
	Females	70 986	5 309
Sex ratio: Males per 100 females		112	114
Age composition, %	Under 5 years	11	15
	5 – 14 years	17	23
	15 – 59 years	67	51
	60+ years	6	11
Literacy rate, 15+ years, %		97	82
Education, 15+ years, %	Never attended school	6	20
	Currently at school	9	8
	Left school	83	69
Labour force, 15+ years, %	In labour force	79	66
	Employed	70	56
	Unemployed	30	44
	Outside labour force	16	29
	Student	45	26
	Homemaker	11	11
	Retired, too old, etc.	44	63
Main source of income, %	Farming	3	24
	Wages & Salaries	73	28
	Cash remittance	5	11

Indicators		Values	
		Erongo	**Dâures**
	Business, non-farming	9	9
	Pension	8	24
Housing conditions, % Households with	Safe water	96	65
	No toilet facility	11	61
	Wood/charcoal for cooking	15	82

Source: 2011 Population and Housing Census Regional Profile, Erongo Region

7 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 to 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.

7.1 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. Newspaper advertisements of the proposed small-scale mining activities were placed in two widely read national newspapers in the region (The Namibian Newspaper and New Era Newspaper). The project advertisement/announcement ran for two consecutive weeks inviting members of the public to register as I&APs and submit their comments. The summary of pre-identified and registered I&APs is listed in Table 4 below and the complete list of I&APs is provided in Appendix D.

Table 7: Summary of Interested and Affected Parties (I&APs)

National (Ministries and State-Owned Enterprises)
Ministry of Environment, Forestry and Tourism
Ministry of Mines and Energy
Ministry of Health and Social Services
Regional, Local and Traditional Authorities
Erongo Regional Council
Daures Constituency office
Okombahe Settlement Office
General Public
Landowners /Interested members of the public
Namibia Community Based Tourism Association

7.2 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 regards to the proposed development was facilitated through the following means and in this order:

- A Background Information Document (BID) containing brief information about the proposed small-scale mining activities works was compiled and delivered to relevant Authoritative Ministries, and upon request to all new registered Interested and Affected Parties (I&APs);
- Project Environmental Assessment notices were published in The Namibian and New Era (Dated 13 September 2022 and 20 September 2022), briefly explaining the activity and its locality, inviting members of the public to register as I&APs and submit their comments/concerns;
- Public notices were placed at around Baokwab Farm (**Figure 15**) to inform members of the public of the EIA process and register as I&APs, as well as submit comments.
- A public meeting was scheduled and held on 13 November 2022, at Baokwab farm near Hengari Mine at 14H30 (**Figure 16**).

Figure 16: Consultation meeting held on the Baokwab Farm

Issues were raised by I&APs and these issues have been recorded and incorporated in the environmental report and EMP. The summarized issues raised during the public meeting are presented in **Table 5** below. The issues raised and responses by EDS are attached under **Appendix G (Meeting Minutes).**

Table 8: Summary of main issues and comments received during the community consultation meeting

Issue	Concern or Comment
Employment	Will the Proponent hire local people during the mining phase

Blasting	Can anyone mine within an EPL
Social Corporate Responsibility (CSR)	The Proponent should provide the community member with solar panels to power their community borehole

8. IMPACT IDENTIFICATION, ASSESSMENT AND MITIGATION MEASURES

8.1 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 mining activities are listed as follow:

Positive impacts:

- Creation of jobs to the locals (primary, secondary and tertiary employment).
- Producing of a trained workforce and small businesses that can service communities and may initiate related businesses.
- Boosting of the local economic growth and regional economic development.
- Open up other investment opportunities and infrastructure-related development benefits.

Negative impacts:

- Disturbance to the grazing area
- Land degradation and Biodiversity Loss.
- Generation of dust
- Water Resources Use
- Soil & Water Resources Pollution
- Waste Generation
- Occupational Health & Safety risks
- Vehicular Traffic Use & Safety
- Noise & Vibrations
- Disturbance to Archaeological & Heritage Resources
- Impacts on local Roads
- Social Nuisance: local property intrusion & disturbance
- Social Nuisance: Job seeking & differing Norms, Culture & values
- Impacts associate with closure and decommissioning of small-scale mining works

8.2 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 in accordance with 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**, **Table 7**, **Table 8** and **Table 9**, respectively.

In order 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 were applied in this impact assessment:

8.2.1 Extent (spatial scale)

Extent is an indication of the physical and spatial scale of the impact. **Table 6** shows rating of impact in terms of extent of spatial scale.

Table 9: Extent or spatial impact rating

Low (1)	Low/Medium (2)	Medium (3)	Medium/High (4)	High (5)
Impact is localized within the site boundary: Site only	Impact is beyond the site boundary: Local	Impacts felt within adjacent biophysical and social environments: Regional	Impact widespread far beyond site boundary: Regional	Impact extend National or over international boundaries

8.2.2 Duration

Duration refers to the timeframe over which the impact is expected to occur, measured in relation to the lifetime of the project. **Table 7** shows the rating of impact in terms of duration.

Table 10: Duration impact rating

Low (1)	Low/Medium (2)	Medium (3)	Medium/High (4)	High (5)
Immediate mitigating measures, immediate progress	Impact is quickly reversible, 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

8.2.3 Intensity, Magnitude / severity

Intensity refers to the degree or magnitude to which the impact alters the functioning of an element of the environment. The magnitude of alteration can either be positive or negative. These ratings were also taken into consideration during the assessment of severity. **Table 8** shows the rating of impact in terms of intensity, magnitude or severity.

Table 11: Intensity, magnitude or severity impact rating

Type of criteria	Negative				
	H- (10)	M/H- (8)	M- (6)	M/L- (4)	L- (2)
Qualitative	Very high deterioration, high quantity of deaths, injury of 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.

8.2.4 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. **Table 9** shows impact rating in terms of probability of occurrence.

Table 12: Probability of occurrence impact rating

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.

8.2.5 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 section, for this assessment, the significance of the impact without prescribed mitigation actions is measured.

Once the above factors (**Table 6**, **Table 7**, **Table 8** and **Table 9**) have been ranked for each potential impact, the impact significance of each is assessed using the following formula:

SIGNIFICANCE POINTS (SP) = (MAGNITUDE + DURATION + SCALE) X 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 13**).

Table 13: Significance rating scale

Significance	***Environmental Significance Points***	***Colour Code***
High (positive)	>60	H
Medium (positive)	30 to 60	M
Low (positive)	1 to 30	L
Neutral	0	N
Low (negative)	-1 to -30	L
Medium (negative)	-30 to -60	M

Significance	*Environmental Significance Points*	*Colour Code*
High (negative)	-60<	H

Positive (+) – Beneficial impact

Negative (-) – Deleterious/ adverse+ Impact

Neutral – Impacts are neither beneficial nor adverse

For an impact with a significance rating of high (-ve), mitigation measures are recommended to reduce the impact to a medium (-ve) or low (-ve) 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 small-scale mining phases is done for pre-mitigation and post-mitigation.

The risk/impact assessment is driven by three factors:

Source: The cause or source of the contamination.

Pathway: The route taken by the source to reach a given receptor

Receptor: A person, animal, plant, eco-system, property or a controlled water source. If contamination is to cause harm or impact, it must reach a receptor.

A pollutant linkage occurs when a source, pathway and receptor exist together. Mitigation measures aim firstly, avoid risk and if the risk cannot be avoided, mitigation measures to minimize the impact are recommended. Once mitigation measures have been applied, the identified risk would reduce to lower significance (Booth, 2011).

This assessment focuses on the three project phases namely, the prospecting, small-scale mining activities and decommissioning. The potential negative impacts stemming from the proposed activities of the MCs are described, assessed and mitigation measures provided thereof. Further mitigation measures in a form of management action plans are provided in the Draft Environmental Management Plan.

8.3 Assessment of Potential Negative Impacts

The main potential negative impacts associated with the operation and maintenance phase are identified and assessed below. The management and mitigation measures to address the potential impact are provided in the Draft EMP.

8.3.1 Disturbance to the grazing areas

The MCs are overlying a communal land and the conservancy that practice livestock farming wildlife (Flora and fauna conservation). Small-Scale mining activities such as site clearing, trenching, and drilling can potentially lead to the disturbance of grazing land. This will potentially affect the grazing land available to' livestock and wildlife, and since the farmers greatly depend on these types of farming for subsistence and commercial purposes, this would have an impact on their livelihood through potential feeding/grazing for animals and eventual losses.

The effect of mining activity on the land (when done over a wider spatial extent), if not mitigated, may hinder animal husbandry in the area and its surrounding. The project area might experience loss of its pastoral system over time. Losing grazing pastures for livestock minimizes the number of animals on the farms and overall farming activity in the area, and lead to loss of livelihoods. Under the status quo, the impact can be of a medium significance rating. With the implementation of appropriate mitigation measures, the rating will be reduced to a lower significance. The impact is assessed in **Table 11** below.

Table 14: Assessment of the impacts of small-scale mining activity on grazing areas

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M: -4	M: -3	M: -5	M/H: 5	M: -60
Post mitigation	L/M: -2	L/M: -2	L/M: -4	L/M: 3	L: -24

Mitigations and recommendations to lower the possibility of disturbance and loss of the Pastoral system

- Any unnecessary removal or destruction of grazing land, due to mining activities should be avoided.
- Vegetation found on the site, but not in the targeted mining areas should not be removed but left to preserve biodiversity and grazing land.

- Workers should refrain from driving off road and creating unnecessary tracks that may contribute to the loss of grazing land.
- Environmental awareness on the importance of the preservation of grazing land for local livestock should be provided to the workers.

8.3.2 Land Degradation and Loss of Biodiversity

Fauna: The trenching, pitting and drilling activities done for detailed small-scale mining activities would result in land degradation, leading to habitat loss for a diversity of flora and fauna ranging from microorganisms to large animals and vegetation. Endemic species are most severely affected since even the slightest disruption in their habitat can results in extinction or put them at high risk of being wiped out.

The presence and movement of the mining workforce and operation of project equipment and heavy vehicles could disturb the livestock and wildlife present on the MCs. This may occur through human and vehicle movements or potential illegal hunting (poaching) of local wildlife, reducing the numbers of faunal species, which eventually negatively impacts tourism in the community.

Un-rehabilitated and/or unfenced boreholes, trenches and pits could pose a high risk of unstable ground that could lead to animals falling into holes and pits, causing injuries and potentially deaths.

Flora: The direct impacts of mining activities on flora and vegetation communities will mainly occur through clearing for the small-scale mining activities access roads and associated infrastructure. The dust emissions from drilling may affect surrounding vegetation through the fall of dust. Some loss of vegetation is an inevitable consequence of the development. However, given the abundance of the shrubs and site-specific areas of mining activities on the MCs, the impact will be localized, therefore manageable.

Under the status, the impact can be of a medium significance rating. With the implementation of appropriate mitigation measures, the rating will be reduced to a low significance rating. The impact is assessed in **Table 12** below.

Table 15: Assessment of the impacts of small-scale mining activities on biodiversity

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M: -4	M: -4	M: -6	M/H: 4	M: -56

Post mitigation	L/M: -3	L/M: -3	L/M: -4	L/M: 3	L: -30

Mitigations and recommendations to minimize the loss of biodiversity

- The Proponent should avoid unnecessary removal of vegetation, to promote a balance between biodiversity and their operations.
- Vegetation found on the site, but not in the targeted small-scale mining activities site areas should not be removed but left to preserve biodiversity on the site.
- Shrubs or trees found along trenching, drilling, or sampling spots on sites should not be unnecessarily removed.
- Protected and threatened plants along trenching, drilling, or sampling spots on sites should not be unnecessarily removed.
- Movement of vehicle and machinery should be restricted to existing roads and tracks to prevent unnecessary damage to the vegetation.
- No onsite vegetation should be cut or used for firewood related to the project's operations. The Proponent should provide firewood for his onsite camping workers from authorized firewood producer or seller.
- Design access roads appropriately in a manner that disturbs minimal land areas as possible.
- Vegetation clearing to be kept to a minimum. The vegetation of the site is largely low and open and therefore whole-sale vegetation clearing should only be applied where necessary and within the MCs footprint.
- Formulate and implement suitable and appropriate operational management guidelines for the cleared areas. Incorporated in the guidelines are the progressive rehabilitation measures.
- Workers should refrain from disturbing, killing or stealing farm animals and killing small soil and rock outcrops' species found on sites.
- Prevent the killing of species viewed as dangerous – e.g. various snakes – when on site;
- Poaching (illegal hunting) of wildlife from the area is strictly prohibited.
- Environmental awareness on the importance of biodiversity preservation should be provided to the workers.
- Avoid the removal and/or damaging of protected flora potentially occurring in the general area

8.3.3 Generation of Dust (Air Quality)

Dust emanating from site access roads when transporting small-scale mining activities equipment and supply to and from site may compromise the air quality in the area. Vehicular movements from heavy vehicles such as trucks would potentially create dust even though it is not always so severe. Additionally, activities carried out as part of the small-scale mining activities works such as drilling would contribute to the dust levels in the air. The medium significance of this impact can be reduced to a low significance rating by properly implementing mitigation measures. The impact is assessed in **Table 13** below.

Table 16: Assessment of the impacts of small-scale mining activities on air quality

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M: -3	M: -3	M/L: -4	M/H: 4	M: -40
Post mitigation	L - 2	L - 2	L- 2	L - 1	L - 6

Mitigations and recommendations to minimize dust

- Small-scale mining activities vehicles should not drive at a speed more than 40 km/h to avoid dust generation around the area.
- The Proponent should ensure that the small-scale mining activities schedule is limited to the given number of hours and days of the week. This will keep the vehicle-related dust level minimal in the area.
- When and if the project reaches the advanced stages of small-scale mining activities producing high dust levels, a reasonable amount of water should be used on gravel roads, using regular water sprays on gravel routes and near small-scale mining activities sites to suppress the dust that may be emanating from certain mining areas on the MCs.

8.3.4 Water Resources Use

Water resources is impacted by project developments/activities in two ways. Through pollution (water quality) or over-abstraction (water quantity), or at times, both.

The abstraction of more water would negatively affect the local communities (communal farmers and livestock) that depend on the same low potential groundwater resource (aquifer).

The impact of the project activities on the resources would be dependent on the water volumes required by each project activity. Commonly, small-scale mining activities use a lot of water,

mainly for drilling. However, this depends on the type of drilling methods employed (diamond drilling is more water-consuming compared to drilling methods such as reverse circulation for instance) and the type of mineral being explored for.

The planned Reverse Circulation drilling method requires about 4000 litres of water per month. This water will be used for drilling purposes, drinking and other domestic purposes. Given the low to medium groundwater potential of the project site area, the Proponent may consider carting some of the water volumes from outside the area and store it in industry standard water reservoirs/tanks on site, if necessary. Although small-scale mining activities may be requiring this much water, this would also be dependent on the duration of the small-scale mining activities works and number of small-scale mining activities boreholes required to make reliable interpretation on the commodities explored for. The small-scale mining activities period is temporally limited, therefore, the impact will only last for the duration of the small-scale mining activities and ceases upon completion.

Without the implementation of any mitigation measures, the impact can be rated as medium, but upon effective implementation of the recommended measures, the impact significance would be reduced to low as presented in the **Table 17** below.

Table 17: Assessment of the project impact on water resource use and availability

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M - 3	M/H - 3	L/M - 4	M/H - 4	M - 40
Post mitigation	L/M - 1	L/M - 1	L - 2	L/M - 3	L - 12

Mitigations and recommendations to manage water use

- Water abstracted from boreholes or supplied by carting should be used efficiently.
- Water reuse/recycling methods should be implemented as far as practicable. Water used to cool off small-scale mining activities equipment may be captured and used for the cleaning of project equipment, if possible.
- Water storage tanks should be inspected daily to ensure that there are no leakages, resulting in wasted water on site.
- Water conservation awareness and saving measures training should be provided to all the project workers.

8.3.5 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. The anticipated potential source of pollution to water resources from the project activities would be hydrocarbons (oil) from project vehicles, machinery, and equipment as well as potential wastewater/effluent from small-scale mining related activities.

The spills (depending on volumes spilled on the soils) from machinery, vehicles and equipment could infiltrate into the ground and pollute the fractured or faulted aquifers on site, and with time reach further groundwater systems in the area. However, it should be noted that the scale and extent/footprint of the activities where potential sources of pollution will be handled is relatively small. Therefore, the impact will be moderately low.

Pre-mitigation measure implementation, the impact significance is low to moderate and upon implementation, the significance will be reduced to low. The impact is assessed in **Table 18** below.

Table 18: Assessment of the project impact on soils and water resources (pollution)

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M - 4	M/H - 3	M - 6	M - 4	M - 52
Post mitigation	L - 2	M - 3	L - 3	L/M - 3	L - 24

Mitigations and recommendations to manage soil and water pollution

- Spill control preventive measures should be in place on site to manage soil contamination, thus preventing and/or minimizing the contamination from reaching surface and ground water bodies. Some of the soil control preventive measures that can be implemented include:
    - Identification of oil storage and use locations on site and allocate drip trays and polluted soil removal tools suitable for that specific surface (soil or hard rock cover) on the sites.
    - Maintain equipment and fuel storage tanks to ensure that they are in good condition thus preventing leaks and spills.
    - The oil storage and use locations should be visually inspected for container or tank condition and spills.

- All project employees should be sensitized to the impacts of soil pollution and advised to follow appropriate fuel delivery and handling procedures.
- The Proponent should develop and prepare countermeasures to contain, clean up, and mitigate the effects of an oil spill. This includes keeping spill response procedures and a well-stocked cache of supplies easily accessible.
- Ensure employees receive basic Spill Prevention, Control, and Countermeasure (SPCC) Plan training, and mentor new workers as they get hired.
- Project machinery and equipment should be equipped with drip trays to contain possible oil spills when operated on site.
- Polluted soil should be removed immediately and put in a designated waste type container for later disposal.
- Drip trays must be readily available and monitored to ensure that accidental fuel spills along the tank trailer path/route around the mining sites are cleaned on time (soon after the spill has happened).
- Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility.
- Washing of equipment contaminated by hydrocarbons, as well as the washing and servicing of vehicles should take place at a dedicated area, where contaminants are prevented from contaminating soil or water resources.

8.3.6 Waste Generation

During the mining phase, domestic and general waste is produced on site. If the generated waste is not disposed of in a responsible way, land pollution may occur on the MCs or around the sites. The MCs are in an area of moderate sensitivity to pollution. Improper handling, storage and disposal of hydrocarbon products and hazardous materials at the site may lead to soil and groundwater contamination, in case of spills and leakages. Therefore, the small-scale mining activities programme needs to have appropriate waste management for the site. To prevent these issues, biodegradable and non-biodegradable wastes must be stored in separate containers and collected regularly for disposal at a recognized landfill/dump site. Any hazardous waste that may have an impact on the animals, vegetation, water resources and the general environment should be handled cautiously. Without any mitigation measures, the general impact of waste generation has a medium significance. The impact will reduce to low significance, upon implementing the mitigation measures. The assessment of this impact is given in **Table 19**.

Table 19: Assessment of waste generation impact

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	L/M - 2	L/M - 2	M - 6	M - 5	M – 50
Post mitigation	L - 1	L - 1	L - 2	L/M - 2	L - 8

Mitigations and recommendations to waste management

- Workers should be sensitized to dispose of waste in a responsible manner and not litter.
- After each daily works, the Proponent should ensure that there is no waste left on the sites.
- All domestic and general operational waste produced daily should be contained onsite until such that time it will be transported to designated waste sites.
- No waste may be buried or burned on site or anywhere else.
- The small-scale mining activities site should be equipped with separate waste bins for hazardous and general/domestic waste.
- Sewage waste should be stored as per the portable chemical toilets supplied on site and regularly disposed of at the nearest treatment facility
- Oil spills should be taken care of by removing and treating soils affected by the spill.
- A penalty system for irresponsible disposal of waste on site and anywhere in the area should be implemented.
- Careful storage and handling of hydrocarbons on site is essential.
- Potential contaminants such as hydrocarbons and wastewater should be contained on site and disposed of in accordance with municipal wastewater discharge standards so that they do not contaminate surrounding soils and eventually groundwater.
- An emergency plan should be available for major/minor spills at the site during operation activities (with consideration of air, groundwater, soil, and surface water) and during the transportation of the product(s) to the sites.

8.3.7 Occupational Health and Safety Risks

Project personnel (workers) involved in the small-scale mining activities may be exposed to health and safety risks, which could result from accidental injury, owing to either minor (i.e., superficial

physical injury) or major (i.e., involving heavy machinery or vehicles) accidents. The site safety of all personnel is the Proponent's responsibility and should be adhered to as per the requirements of the Labour Act (No. 11 of 2007) and the Public Health Act (No. 36 of 1919). The heavy vehicle, equipment and fuel storage area should be properly secured to prevent any harm or injury to the Proponent's personnel or local domestic animals.

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, equipment and vehicles. It may also lead to widespread veld fires if an outbreak is not contained and if machinery and equipment are not properly stored and packed, the safety risk may be a concern for project workers and residents.

The impact is probable and has a medium significance rating. However, with adequate mitigation measures, the impact rating will be reduced to low. This impact is assessed in **Table 20** below and mitigation measures provided.

Table 20: Assessment of the impacts of small-scale mining activities on health and safety

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M - 3	M/L - 2	M - 6	M/H - 4	M – 44
Post mitigation	L/M - 2	L/M - 2	L - 2	L/M - 2	L - 12

Mitigations and recommendations to minimize health and safety issues

- The Labour Act's Health and Safety Regulations should be complied with.
- The Proponent should commit to, and make provision for full medical check-up for all the workers at site to monitor the impact of project related activities on them (workers).
- As part of their induction, the project workers should be provided with an awareness training of the risks of mishandling equipment and materials on site as well as health and safety risk associated with their respective jobs.
- When working on site, employees should be properly equipped with adequate personal protective equipment (PPE) such as coveralls, gloves, safety boots, earplugs, dust masks, safety glasses, and hard hats.
- Heavy vehicle, equipment and fuel storage site should be properly secured, and appropriate warning signage placed where visible.

- Drilled boreholes that will no longer be in use or to be used later after being drilled should be properly marked for visibility and capped/closed off.
- Ensure that after completion of mining activities holes and trenches, drill cuttings are put back into the hole and the holes filled and levelled, and trenches backfilled respectively.
- An emergency preparedness plan should be compiled, and all personnel appropriately trained.
- Workers should not be allowed to consume alcohol or any other intoxicants prior to and during working hours nor allowed on site when under the influence, as this may lead to mishandling of equipment which results into injuries and other health and safety risks.
- The site areas that are considered temporary risks should be equipped with cautionary signs.

8.3.8 Vehicular Traffic Use and Safety

The district roads are the main transportation routes for all vehicular movement in the area and provide access to the MCs and connect the project area to other towns such as okombahe .Traffic volume will increase on these district roads during small-scale mining activities as the project would need a delivery of supplies and services on site.

Depending on the project needs, trucks, and medium and small vehicles will be frequenting the area to and from mining sites on the MCs. This would potentially increase slow moving heavy vehicular traffic along these roads. This would add additional pressure on the roads, and the impact would be felt by the local road users such as those accessing farms (via local access gravel and single-track roads).

However, the mining related heavy trucks will only be transporting materials and equipment to and from site, limited number of times a month during mining phase . Therefore, the risk is anticipated to be short-term, not frequent, and therefore of medium significance. Pre-mitigation, the impact can be rated medium and with the implementation of mitigation measures, the significance will be low as assessed in **Table 21** below.

Table 21: Assessment of the impacts of small-scale mining activities on road use (vehicular traffic)

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M - 4	M/H - 3	L/M - 4	M/H - 5	M - 55
Post mitigation	L/M - 2	L/M - 2	L - 2	L/M - 2	L - 12

Mitigations and recommendations to minimize impact on road safety and related vehicular traffic issues.

- The transportation of mining materials, equipment and machinery should be limited to reduce the pressure on local roads.
- The heavy truck loads should comply with the maximum allowed speed limit for respective vehicles while transporting materials and equipment/machinery on the public and access roads (40km/h).
- Any carting of water to the site should be done on limited occasions in containers that can supply and store water for as long as possible.
- Drivers of all project phases' vehicles should be in possession of valid and appropriate driving licenses and adhere to the road safety rules.
- Drivers should drive slowly (40km/hour or less) and be on the lookout for livestock and wildlife as well as residents/travelers.
- The Proponent should ensure that the site access roads are well equipped with temporary road signs conditions to cater for vehicles travelling to and from site throughout the project's life cycle.
- Project vehicles should be in a road worthy condition and serviced regularly to avoid accidents owing to mechanical faults.
- Vehicle drivers should only make use of designated site access roads provided and as agreed.
- Vehicle drivers should not be allowed to operate vehicles while under the influence of any intoxicants.
- No heavy trucks or project related vehicles should be parked outside the project site boundary or demarcated areas for such purpose.
- To control traffic movement on site, deliveries from and to site should be carefully scheduled. This should optimally be during weekdays and between the hours of 8am and 5pm.
- The site access road(s) should be upgraded to an unacceptable standard to be able to accommodate project related vehicles as well as farm vehicles.

8.3.9 Noise and vibrations

During the mining phase, the mining activities may be a nuisance to surrounding communities due to the noise produced by the activity. Excessive noise and vibrations can be a health risk to workers on site. The mining equipment used for drilling on site is of medium size and the noise level is bound to be limited to the site only, therefore, the impact likelihood is minimal. Without any mitigation, the impact is rated as of medium significance. To change the impact significance to low rating, the mitigation measures should be implemented. This impact is assessed in **Table 22** below.

Table 22: Assessment of the impacts of noise and vibrations from small-scale mining activities

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	L/M - 2	L/M - 2	M - 6	M/H - 3	M – 30
Post mitigation	L - 1	L/M - 2	L - 2	L/M -2	L - 10

Mitigations and recommendations to minimize noise

- Noise from operations' vehicles and equipment on the sites should be at acceptable levels.
- The mining operational times should be set such that no mining activities is carried out during the night or very early in the mornings.
- Mining hours should be restricted to between 08h00 and 17h00 to avoid noise and vibrations generated by mining activities equipment and the movement of vehicles before or after hours.
- When operating drilling machinery onsite, workers should be equipped with personal protective equipment (PPE) such as earplugs to reduce exposure to excessive noise.

8.3.10 Disturbance to Archaeological and Heritage resources

The specialist archaeological assessment conducted, indicates that some sections and within the boundaries of the proposed project site area are highly sensitive and archaeologically significant in terms of heritage resources that characterizes the need of a detailed investigation of any other existing archaeological cultural materials in the areas. This area was mapped out, and coordinates taken to establish "No-Go-Zones", due to their sensitivity the areas were documented, and they should be protected either by fencing them off or demarcation for preservation purposes or excluded from any development i.e., no small-scale mining activities should be conducted near these recorded areas through establishment of buffer zones.

Therefore, this impact can be rated as medium significance if there are no mitigation measures in place. Upon implementation of the necessary measures, the impact significance will be reduced to a lower rating. The impact is assessed in **Table 23**.

Table 23: Assessment of the impacts of small-scale mining activities on archaeological & heritage resources

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M - 3	M/H - 4	M - 6	M/H - 4	M – 52
Post mitigation	L/M - 2	L/M - 2	L - 2	L/M - 2	L - 12

Mitigations and recommendations to minimize impact on archaeological and heritage resources

- If any archaeological material or human burials are uncovered while prospecting or mining, then work in the immediate area should be halted, the find would need to be reported to the heritage authorities and may require inspection by an archaeologist.
- Buffer zones should be maintained around known significant archaeological, historical or cultural heritage sites as far as possible. Graves and areas with cultural significance are excluded from any development.
- A “No-Go-Area” should be put in place where there is evidence of sub-surface archaeological materials, archaeological site, graves, historical site, rock paintings, cave/rock shelter or past human dwellings. It can be a demarcation by fencing off or avoiding the site completely by not working closely or near the known site. The ‘No-Go Option’ might have a neutral impact significance.
- On-site personnel (s) and contractor crews must be sensitized to exercise and recognize “chance finds heritage” in the course of their work.
- During the prospecting and mining works, it is important to take note and recognize any significant material being unearthed and making the correct judgment on which actions should be taken (*refer to CFP Attached*).
- If there is a possibility of encountering or unearthing of archaeological materials, then it is better to change the layout design so as to avoid the destruction that can occur.
- Direct damage to archaeological or heritage sites should be avoided as far as possible and, where some damage to significant sites is unavoidable, scientific/historical data should be rescued.

- All ground works should be monitored and where any stratigraphic profiles in context with archaeological material are exposed, these should be recorded, photographed and coordinates taken.
- The footprint impact of the proposed prospecting and mining activities should be kept to minimal to limit the possibility of encountering chance finds within the MCs boundaries.
- A landscape approach of the site management must consider culture and heritage features in the overall planning of mining infrastructures within and beyond the licenses' / MCs boundaries;
- Subject to the recommendations herein made and the implementation of the mitigation measures, adoption of the project HMP/EMP should be complied.
- An archaeologist, Heritage specialist or a trained Site manager should be on-site to monitor all significant earth moving activities that may be implemented as part of the proposed project activities.
- When there is removal of topsoil and subsoil on the site for mining purposes, the site should be monitored for subsurface archaeological materials by a qualified Archaeologist or Site manager.
- Show overall commitment and compliance by adapting "minimalistic or zero damage approach" throughout the mining activities.
- In addition to these recommendations above, there should be a controlled movement of the people i.e., a contractor, mining crews, equipment's, setting up of camps and everyone else involved in the prospecting and mining activities. This is recommended to limit the proliferation of informal pathways, gully erosion and disturbance to surface and sub-surface artifacts such as stone tools and other buried materials, etc.
- There should be a controlled movements of heavy loads such as abnormal vehicles and kinds of heavy-duty machineries within the MCs. This means avoiding chances of crossing paths that may lead to the destruction of on and sub-surface archaeological materials
- It is essential that cognizance be taken of the larger historical landscape of the area to avoid the destruction of previously undetected heritage sites. Should any previously undetected heritage or archaeological resources be exposed or uncovered during mining phases of the proposed project, these should immediately be reported to the heritage specialist or heritage authority (National Heritage Council of Namibia).
- The Proponent and Contractors should adhere to the provisions of Section 55 of the National Heritage Act in event significant heritage and culture features are discovered while carrying out mining works.

- Whoever is will be overseeing mitigation and monitoring measures should have the authority to stop any mining or construction activities that is in contravention with the National Heritage Act of 2004 and National Heritage Guidelines as well as the overall project EMP.

8.3.11 Impact on Local Roads/Routes

Mining projects are usually associated with movements of heavy trucks and equipment or machinery that use local roads frequently. The heavy trucks travelling on the local roads and exert more pressure on roads. The local roads may not be in a good condition for heavy vehicles, which may make it worse and difficult to be used by all vehicle types. This will be a concern if maintenance is not done, and care taken during the mining phase. The impact would be short-term (during small-scale mining activities only) and therefore, manageable.

Without any management and or mitigation measures, the impact can be rated as medium and to reduce this rating to low, the measures will need to be effectively implemented. The assessment of this impact is presented in **Table 24**.

Table 24: Assessment of small-scale mining activities on local services (roads and water)

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M/H - 4	M - 3	M - 6	M - 3	M – 39
Post mitigation	L - 1	L - 1	M/L - 4	M/L -2	L - 12

Mitigations and recommendations to minimize the impact on local services

- Heavy trucks transporting materials and services to site should have a limited schedule to avoid daily travelling to site, except in cases of emergencies.
- The Proponent should consider frequent maintenance of local roads on the farms to ensure that the roads are in a good condition for use.
- Avoid unnecessarily affecting areas viewed as important habitat – i.e. ephemeral rivers; rocky outcrops; clumps of protected tree species; lappet-faced vulture nesting sites.

- Make use of existing tracks/roads as much as possible throughout the area and do not drive off-route (could cause mortalities to vertebrate fauna and unique flora; accidental fires; erosion related problems, etc.).
- Avoid off road driving at night as these increases' mortalities of nocturnal species.
- Implement and maintain off-road track discipline with maximum speed limits (e.g., 30km/h) as this would result in fewer faunal mortalities and limit dust pollution.
- New tracks should be established in a manner that causes minimal damage to the environment – e.g., use the same tracks; cross drainage lines at right angles; avoid placing tracks within drainage lines; and select routes that do not require the unnecessary removal of trees/shrubs, especially protected species.
- Rehabilitate all new tracks created.

8.3.12 Social Nuisance: Local Property intrusion and Disturbance or Damage

The presence of some non-resident workers (workers from outside the local area) may lead to social annoyance to the local community. This could particularly be a concern if workers enter or damage private property. The private property referred to herein could be houses, fences, vegetation, or livestock and wildlife or any properties of economic or cultural value to the farm/landowners or occupiers of the land. The damage or disturbance to properties might occur to private and public properties. The unpermitted and unauthorized entry to private property may cause clashes between the affected property (land) owners and the Proponent.

Pre-implementation of mitigation measures, the impact is rated as of medium significance. However, upon mitigation (post-mitigation), the significance will change from medium to low rating. The impact is assessed below (**Table 25**).

Table 25: Assessment of social impact of community property damage or disturbance

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M - 2	M - 3	M - 4	M/H - 3	M – 27
Post mitigation	L - 1	L - 1	M/L - 4	M/L -2	L - 12

Mitigations and recommendations to minimize the issue of damage to or intrusion of properties

- The Proponent should inform their workers on the importance of respecting the farmers' properties by not intruding or vandalising property or snaring and killing their livestock and wildlife.
- Any workers or site employees that found guilty of intruding privately owned properties, should face disciplinary action or be dealt with as per their employer' (Proponent)'s code of employment conduct
- The project workers should be advised to respect the community and local's private properties, values, and norms.
- No worker should be allowed to wander or loiter on private property without permission.
- The project workers are not allowed to kill or in any way disturb local livestock and wildlife on farms.
- The cutting down or damaging of vegetation belonging to the affected farmers or neighbouring farms is strictly prohibited.

8.4 Cumulative Impacts Associated with Proposed Small-scale mining activities

According to the International Finance Corporation (2013), cumulative impacts are defined as "those that result from the successive, incremental, and/or combined effects of an action, project, or activity (collectively referred to in this document as "developments") when added to other existing, planned, and/or reasonably anticipated future ones".

Like many other mining projects, some cumulative impacts to which the proposed project and associated activities potentially contribute are:

- **Impact on road infrastructure:** The proposed small-scale mining activities contribute cumulatively to various activities such as farming activities and travelling associated with tourism and local daily routines. The contribution of the proposed project to this cumulative impact is however not considered significant given the short duration, and local extent (site-specific) of the intended mineral small-scale mining activities.
- **The use of water**: While the contribution of this project will not be significant, mitigation measures to reduce water consumption during small-scale mining activities are essential.

8.5 Mitigations and Recommendations for Rehabilitation

The rehabilitation of explored (disturbed) sites will include but not be limited to the following:

- Backfilling of trenches and or pits in such a way that subsoil is replaced first, and topsoil replaced last.
- Levelling of stockpiled topsoil, to ensure that the disturbed land sites are left as close to their original state as much as possible.
- Closing off and capping of all small-scale mining activities drilling boreholes to ensure that they do not pose a risk to people and animals in the area. The boreholes should not only be filled with sand alone, as wind will scour the sand and re-establish the holes.
- Removal of mining equipment and vehicles from the site. Transporting all machinery and equipment as well as vehicles to designated offsite storage facilities.
- Clean up of site working areas and transporting the recently generated waste to the nearby approved waste management facility (as per agreement with the facility operator/owner).

9 CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusion

In conclusion, it is crucial for the Proponent and their contractors to effectively implement the recommended management and mitigation measures, in order to protect both the biophysical and social environment throughout the project duration. This would be done with the aim of promoting environmental sustainability, while ensuring a smooth and harmonious existence and purpose of the project activities in the host community and environment at large. It is also done to ensure that all potential impacts identified in this study and other impacts that might arise during implementation are properly identified in time and addressed. Lastly, should the ECC be issued, the Proponent will be expected to be compliant with the ECC conditions as well as legal requirements governing the mineral mining activities and related activities.

9.2 Recommendations

The potential positive and negative impacts stemming from the proposed small-scale mining activities on MCs No. 69840 – 69843 were identified, assessed and appropriate management and mitigation measures (to negative impacts) made thereof for implementation by the Proponent, their contractors and project related employees.

Most of the potential impacts were found to be of medium rating significance. With the effective implementation the recommended management and mitigation measures, this will particularly see the reduction in the significance of adverse impacts that cannot be avoided completely (from medium rating to low). To maintain the desirable rating, the implementation of management and mitigation measures should be monitored to ensure that all potential impacts identified in this study and other impacts that might arise during implementation are properly identified in time and addressed right away.

An Archaeological & Heritage Impact Assessment (AHIA) was done by a specialist for this ESA Study. The findings of this AHIA and the Scoping assessment (ESA) were deemed sufficient and concluded that no further detailed assessments are required to the ECC application.

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

It is therefore, recommended that the proposed mining activities may be granted an Environmental Clearance Certificate 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 access agreements to explore and ensuring compliance with these specific legal requirements.
- The Proponent and all 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.
- Site areas where small-scale mining activities have ceased are rehabilitated, as far as practicable, to their pre-small-scale mining activities state.

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