Excel Dynamic Solutions (Pty) Ltd

ENVIRONMENTAL SCOPING ASSESSMENT (ESA) FOR THE PROPOSED FOR SMALL-SCALE MINING ACTIVITIES OF MINING CLAIM (MC) No. 73444 LOCATED NORTHWEST OF OKANGUATI, IN THE KUNENE REGION, NAMIBIA.

ENVIRONMENTAL ASSESSMENT REPORT:

ECC Application Reference: APP- 006924

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27/02/2026

EAP Signature and Date

27/02/2026

Proponent Signature and Date

February 2026

EXECUTIVE SUMMARY

Tjikunda Katjina Kulunga (herein referred to as The Proponent), has applied to the Ministry of Industries, Mines and Energy (MIME) to be granted rights to conduct the small-scale mining activities on Mining Claim (MC) No. 73444. However, the approval of the MC is subject to a granted Environmental Clearance Certificate (ECC) from Ministry of Environment, Forestry and Tourism. The MC measures a total area of approximately 16.6843 hectares (ha) and is located about 26 km northwest of Okanguati in the Kunene region as shown in **(Figure 1).** The MC (center coordinates: -17.3411, 13.1019) lies within Epupa conservancy. The Proponent applied to conduct small-scale mining activities of **Base and Rare metals** as commodities of interest.

Mining and all extraction-related activities are among the listed activities that may not be undertaken without an ECC under the Environmental Impact Assessment (EIA) Regulations, Subsequently, 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 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 Exploration Methods

The Proponent intends to adopt a systematic prospecting and exploration approach to the project as follows:

1. **Non-invasive Technique:** This phase includes geological & geophysical mapping, reviewing of existing geological maps, field evaluation, and soil sampling.
2. **Invasive Technique:** Trenching, pitting and open pit mining.

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 allowed to comment on the proposed project:

- A Background Information Document (BID) containing information about the proposed small-scale mining activities was compiled and emailed upon request to all registered Interested and Affected Parties (I&APs).
- Project Environmental Assessment notices were readvertised in the New Era Newspaper **(12 January 2026 and 19 January 2026),** and The Namibian Newspaper **(12 January 2026 and 19 January 2026),** briefly explaining the activity and its locality, inviting members of the public to register as I&APs and submit their comments/concerns.
- Public meeting was scheduled and subsequently held at the Otjikojo settlement on 29 October 2025 at 11h00 (minutes and list of participants attached). The issues and concerns raised were noted and used to form the basis for the ESA Report and EMP.

Potential Impacts identified

The following potential 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 consultation through a face-to-face meeting with directly affected landowners whereby they raised concerns and comments on the proposed project activities (copies of scoping meetings' minutes attached).

The issues and concerns raised by the registered I&APs formed the basis for this Report and the Draft EMP. The issues were addressed and incorporated into this Report whereby mitigation measures have been provided thereof to avoid and/or minimize their significance on the environmental and social components. Most of the potential impacts were found to be of medium-rating significance. With the effective implementation of the recommended management and mitigation measures, will particularly see a 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 reduced 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.

It is crucial for the Proponent and their contractors to effectively implement the recommended management and mitigation measures to protect both the biophysical and social environment throughout the project duration. All these would be done to promote environmental sustainability while ensuring a smooth and harmonious existence and purpose of the project activities in the community and environment at large.

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 ECC, provided that:

- All the management and mitigation measures provided herein are effectively and progressively implemented.
- All required permits, licenses, and approvals for the proposed activities should be obtained as required. These include permits and licenses for land use 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 to undertake specific site activities are obtained and renewed as stipulated by the issuing authorities.
- Site areas where Mining activities have ceased are rehabilitated, as far as practicable, to their pre-mining state.
- Environmental Compliance monitoring reports should be compiled and submitted to the DEAF Portal as per the provision made on the MEFT/DEAF's portal.

Disclaimer

Excel Dynamic Solutions (EDS) warrants that the findings and conclusion contained herein were accomplished following the methodologies outlined 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 to identify recognized environmental conditions. There is a possibility that even with the proper application of these methodologies there may exist 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 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 outlined 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 on 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
MC	Mining Claims
GG	Government Gazette
GN	Government Notice
I&APs	Interested and Affected Parties
MEFT	Ministry of Environment, Forestry, and Tourism
MIME	Ministry of Industries, Mines and Energy
PPE	Personal Protective Equipment
Reg	Regulation
S	Section
TOR	Terms of Reference

DEFINITION OF TERMS

Alternative	A possible course of action, in place of another 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 does not originate with human activities (e.g. biological, physical, and chemical processes).
Cumulative Impacts/Effects Assessment	About 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 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 the 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.

Interested and Affected Party (I&AP)	Concerning the assessment of a listed activity includes - (a) any person, group of persons, or organization interested in or affected by the 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 are 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 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 the 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

Tjikunda Katjina Kulunga (herein referred to as The Proponent), has applied to the Ministry of Industries, Mines and Energy (MIME) to be granted rights to conduct the small-scale mining activities on Mining Claim (MC) No. 73444. However, the approval of the MC is subject to a granted Environmental Clearance Certificate (ECC) from Ministry of Environment, Forestry and Tourism. The MC measures a total area of approximately 16.6843 hectares (ha) and is located about 26 km northwest of Okanguati in the Kunene region as shown in **(Figure 1).** The MC (center coordinates: -17.3411, 13.1019) lies within Epupa conservancy. The Proponent applied to conduct small-scale mining activities of **Base and Rare metals** as commodities of interest.

Section 27 (1) of the Environmental Management Act (EMA) (No. 7 of 2007) and its 2012 Environmental Impact Assessment (EIA) Regulations, provides a list of activities that may not be carried out without an EIA undertaken and an ECC obtained. Small-scale mining activities are listed among activities that may not occur without an ECC. Therefore, individuals or organizations may not carry out small-scale mining activities without an ECC awarded to the Proponent.

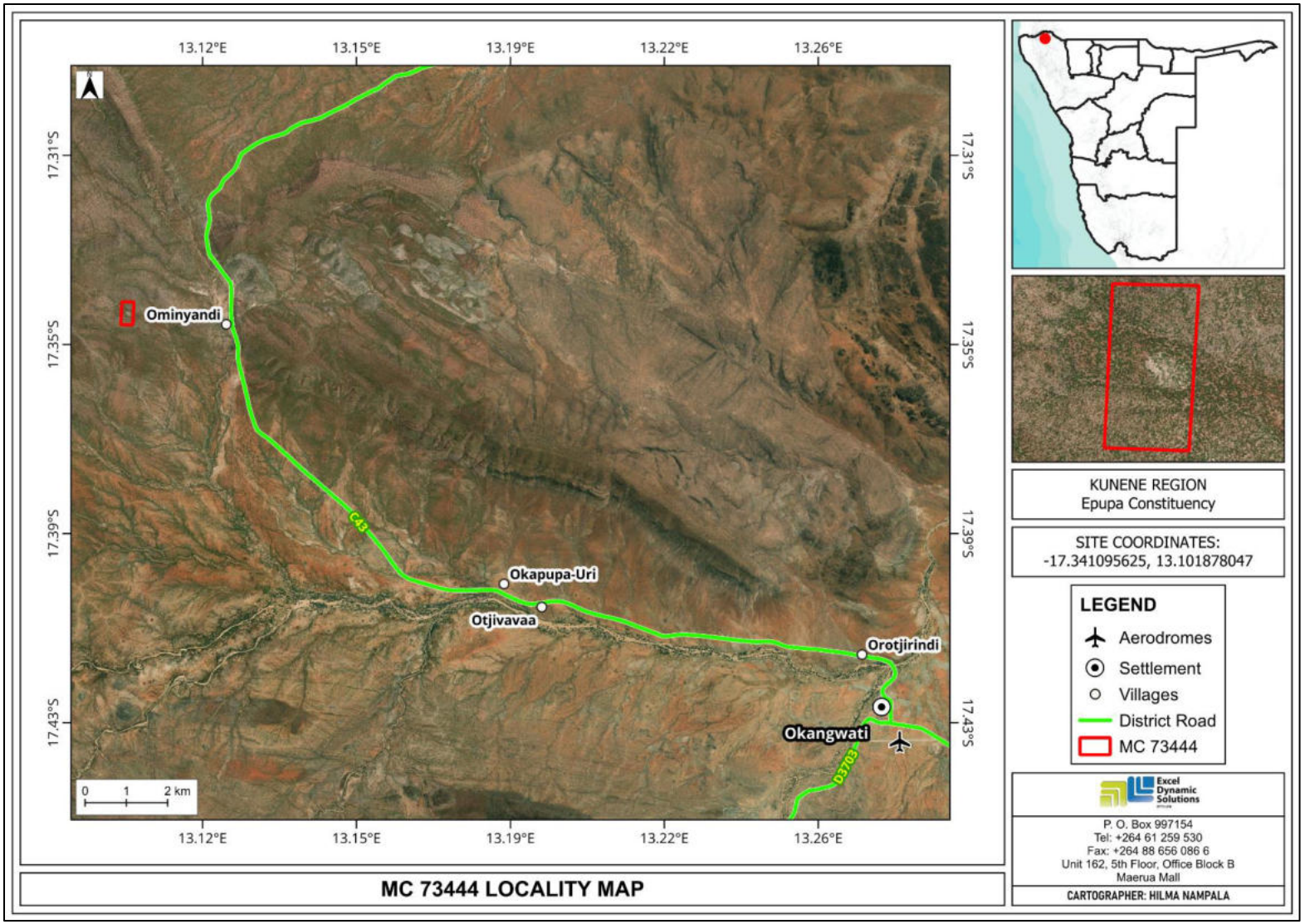

Figure 1: Locality map for MC No. 73444.

2 PROJECT DESCRIPTION: PROPOSED SMALL SCALE MINING ACTIVITY

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

2.1 Pre-development Phase

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

2.2 Operation and maintenance phase

During this phase, extraction of minerals and all associated mining activities are carried out on site. 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.

An initial 10-year period 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:

2.1.1 Accessibility to Site

The MC is accessible via informal track from the C43 from Okanguati, Kunene Region. All project related vehicles will be using these existing roads to access the MC. It is also anticipated that, if necessary, new tracks to the different targeted mining sites within the MC 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.

2.1.2 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, Excavators, front-end loader, 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 MC area.

2.1.3 Services and Infrastructure

- **Water:** Operational water requirements will be met by either drawing water from existing nearby boreholes, or sourcing it from the town supply. This will be done upon agreement with the land owners and relevant authorities. In the case that the proponent needs to source water elsewhere, this needs to be carried out through the appropriate approval channels from relevant authorities. Estimated monthly water consumptions are at +- 2500 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 500 litres of diesel will be used per day.
- **Fuel (diesel for generators and other equipment):** The fuel (diesel) required for small-scale mining activities equipment will be stored in a tank mounted on a mobile trailer, 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.

2.1.4 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 before utilizing these facilities, in the case of generation of any hazardous waste.

- **Sanitation and human waste**: Portable ablution facilities will be used, and the sewage will be disposed of 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.

The waste produced on-site can also be categorized as mineral or non-mineral waste:

- **Mineral Waste:** Consists of solid products of mining and mineral concentration to acquire the targeted minerals. Mineral waste will potentially be produced throughout the project mining phase. This waste will be stripped and dumped in allocated areas as stipulated in the EMP.
- **Non-mineral Waste:** Consists primarily of auxiliary materials that will support the mining phase. This includes but is not limited to items such as empty containers, plastic, etc., and other domestic waste. This waste will be collected, sorted, and taken to the dumpsite as regularly as necessary.

2.1.5 Safety and Security

- **Storage Site**: Temporary storage areas for exploration material, equipment, and machinery will be required at the campsite and/or mining 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:** Basic firefighting equipment, i.e., fire extinguishers will be readily available in vehicles, at the working sites and camps. The mining crew is required to have the contact details of the nearest fire station at hand in case of a larger scale of fires at the site.
- **Health and Safety**: Adequate and appropriate Personal Protective Equipment (PPE) will be provided to every project personnel while on and working at the site. A first aid kit will be readily available on-site to attend to potential minor injuries.

2.1.6 Accommodation

The mining crew will be accommodated either Otjikoyo or in Okanguati, but if accommodation camp is to be set up near the MC, necessary arrangements will be made with the land owners. All mining activities will take place during daytime only and staff will commute to site(s) from their place of accommodation if they are not accommodated on site.

2.2 Decommissioning and Rehabilitation Phase

Once the mining activities on the MC 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 unfavourable economic situation or unconvincing mining results might force the Proponent to cease the mining program before the predicted

closure. Therefore, it is best practice for the Proponent to ensure the project activities cease in an environmentally friendly manner and the 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 MC, 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.
- 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 for local community members would be not realized.

Considering the above losses, the “no-action/go” alternative may not necessarily be 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 several sections of the site may be identified as no-go zones.

3.1.2 Small-scale mining activities Location

The mining location is dependent on the geological setting (regional and local), the economic geology, and the small-scale mining activities and mining history of the MC area. Therefore, finding an alternative location for the planned mining activities is not possible. This means that the mineralization of the target commodities is area-specific, and exploration targets are primarily determined by the geology (host rocks) and the tectonic environment of the site (an ore-forming mechanism)). The tenement has a 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 Industries, Mines and Energy, on exclusive prospecting licenses, mining licenses and claims, mineral deposit retention licenses, reconnaissance licenses, and exclusive reconnaissance licenses. Available information on the MC (**Figure 2**) and other licenses is available on the Namibia Mining Cadastral Map here https://maps.landfolio.com/Namibia/

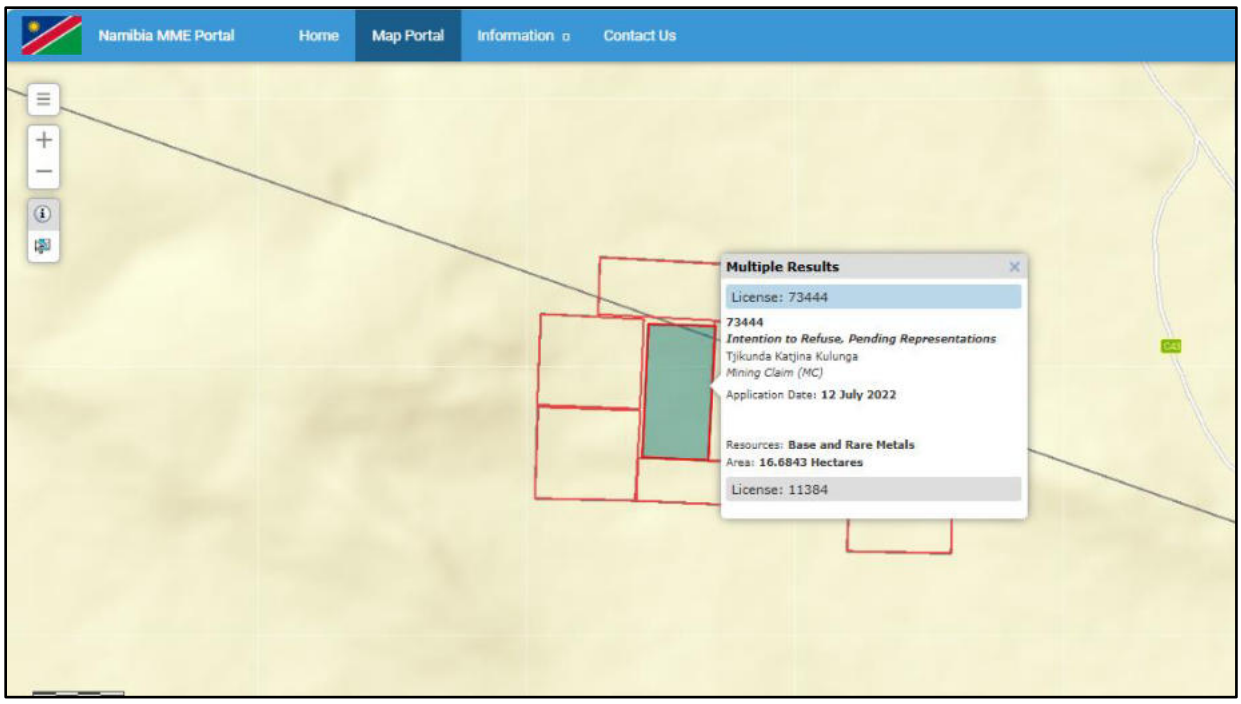

Figure 2: The location of MC no. 73444 on the National Mining Cadastre.

3.1.3 Small-scale mining Methods

Both invasive and non-invasive activities as indicated under the project description chapter are expected to take place. If an economically viable discovery is made, the project will proceed to the mining phase upon approval of a small-scale mining EIA and issuance of a mining claims license. If any other alternative viable mining methods are found to achieve the purpose more effectively and/or efficiently without aggravating any environmental measures put in place, it can be implemented.

4 LEGAL FRAMEWORK: LEGISLATION, POLICIES AND GUIDELINES

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 small-scale 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, the 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.*

The Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878) detail requirements for public consultation within a given environmental assessment process (GN 30 S21). The EIA regulations also outline the required details of a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15).

Other legal obligations that are relevant to the proposed mining activities on MC No. 73444 and related activities are presented.

Table 1: Applicable local, national and international standards, policies and guidelines governing the proposed Small-Scale Mining activities.

Legislation / Policy / Guideline: Custodian	**Relevant Provisions**	**Implications for this project**
The Constitution of the Republic of Namibia, 1990 as amended: **Government of the Republic of Namibia.**	The Constitution of the Republic of Namibia (1990 as amended) addresses matters relating to environmental protection and sustainable development. Article 91(c) defines the functions of the Ombudsman to include: "…the duty to investigate complaints concerning the over-utilization of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia…" 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."	By implementing the environmental management plan, the establishment will be conformant to the constitution in terms of environmental management and sustainability. Ecological sustainability will be the main priority for the proposed development.
Minerals (Prospecting and	Section 52 requires mineral license holders to enter into a written	The Proponent should enter into a written agreement with

Legislation / Policy / Guideline: Custodian	**Relevant Provisions**	**Implications for this project**
	has been established with a view to physical, social and economic characteristics, urbanization patterns, natural resources, economic development potential, infrastructure, land utilization pattern and sensitivity of the natural environment.	
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. This Act implies 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 MC falls under the Kapika Traditional Authority . Therefore, the Traditional authorities and community members should be consulted.
Water Act 54 of 1956**: Ministry of Agriculture, Water and Land Reform (MAWLR)**	The Water Resources Management Act 11 of 2013 is present 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 waste has a duly of care to prevent pollution (S3 (k)).	The protection (both quality and quantity/abstraction) of water resources should be a priority. The permits and license required thereto should be obtained from MAWLR's relevant Departments (these permits include Borehole Drilling

Legislation / Policy / Guideline: Custodian	**Relevant Provisions**	**Implications for this project**
	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)).	Permits, Groundwater Abstraction & Use Permits, and when required, 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; provides for the regulation and monitoring of water services, and provides 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	The Proponent should ensure compliance with this act's requirements. The necessary management measures and related permitting requirements must be taken. This is done by

Legislation / Policy / Guideline: Custodian	**Relevant Provisions**	**Implications for this project**
	Heritage Register; and to provide for incidental matters.	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.
Local Authorities Act No. 23 of 1992: **Ministry of Urban and Rural Development (MURD)**	To provide for the determination, for purposes of traditional government, of traditional authority councils; the establishment of such authority councils; and to define the powers, duties and functions of traditional authority councils; and to provide for incidental matters.	Epupa constituency is the responsible local authority of the area therefore they should be consulted.
Public Health Act (No. 36 of 1919)**: Ministry of Health and**	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	The Proponent and all its employees should ensure

Legislation / Policy / Guideline: Custodian	**Relevant Provisions**	**Implications for this project**
Social Services (MHSS)	charge any nuisance or other condition liable to be injurious or dangerous to health."	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 the 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. Public and environmental health should be preserved and remain uncompromised.
Atmospheric Pollution Prevention Ordinance (1976)**: Ministry**	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	The proposed project and related activities should be undertaken in such a way that they do not pollute or compromise the surrounding air

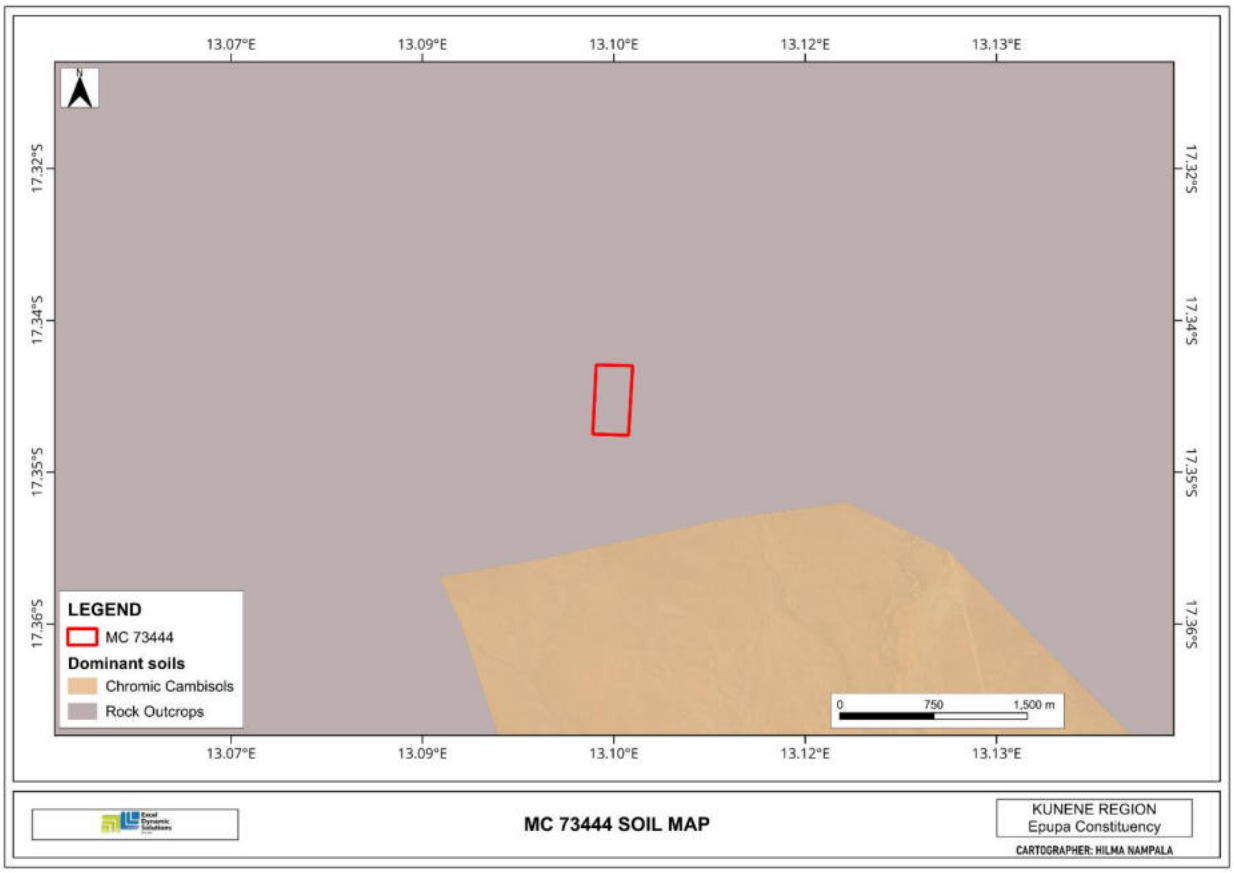

Figure 7: Dominant soil type on the MC.

Figure 8: Observed soil type.

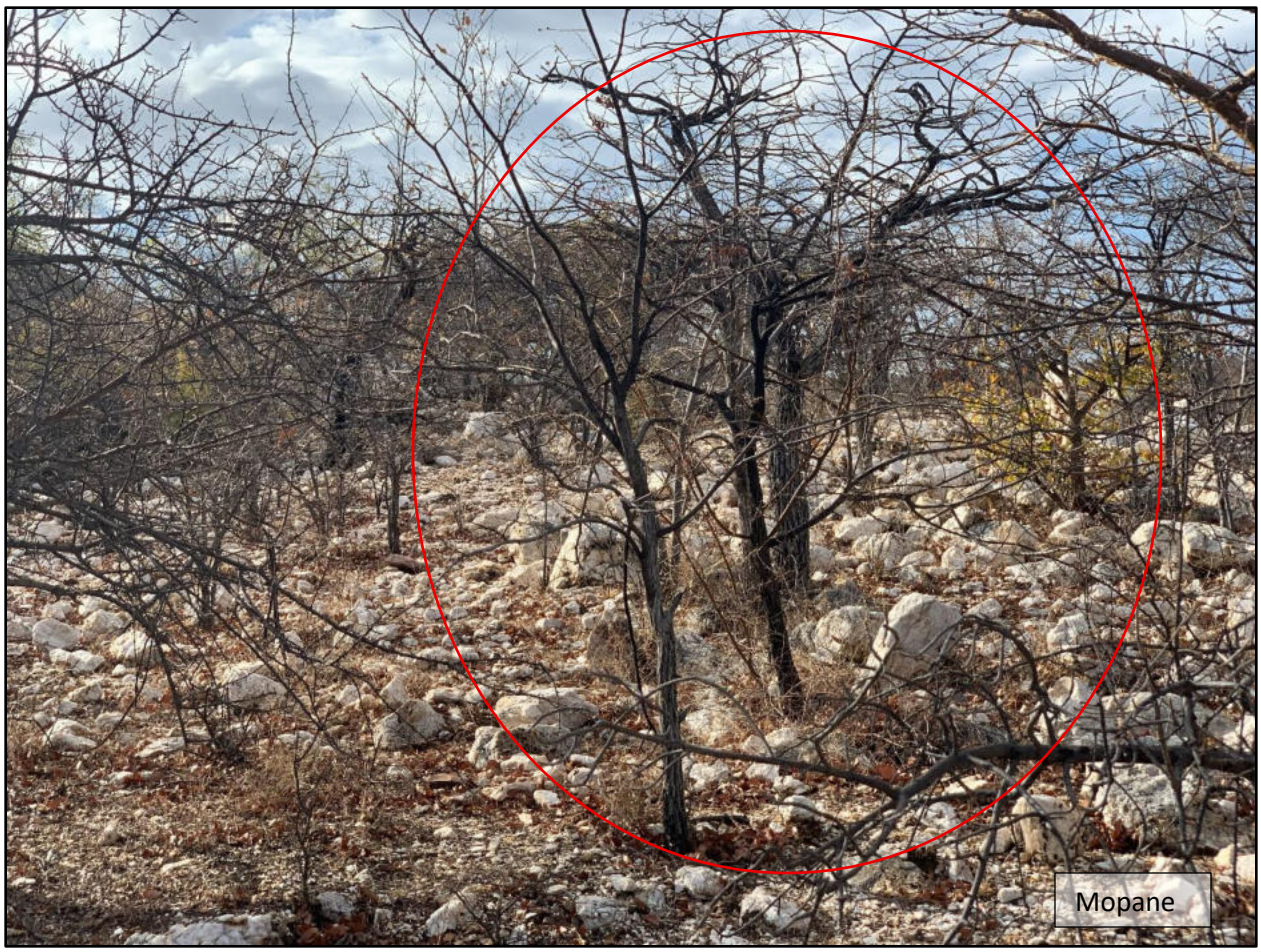

Figure 12: Typical vegetation observed on MC.

5.1.6.2 Fauna

The MC is situated within the Epupa communal conservancy. According to biodiversity data from the Atlas of Namibia Team (2022), the area supports diverse fauna, including an estimated 61-75 mammal species, 1-2 large herbivore species, 18-20 carnivore species, 111-140 bird species, 51-60 reptile species, and 13-16 amphibian species. Invertebrate diversity is comparatively lower, documented at fewer than two nematode species, 3-4 solifuge species, and 10-14 beetle species. In terms of regular fauna observations in the immediate vicinity of the MC, domestic livestock are predominant. Various bird species are also commonly noted, including rosy-faced lovebirds, sociable weavers, house sparrow, namaqua doves, and turtle doves. According to the conservancy representative, mobile wildlife such as kudus, jackals, and cheetahs is occasionally present near the site.

Figure 15: Environmental Condition on the MC.

5.4 Socio-Economic conditions

According to the Kunene Regional Development Profile (2015), the Kunene region is geographically located in the north-western part of Namibia, the region's administrative capital is Opuwo. The region covers an area of 115 293 square km of the total Namibian land, making it the second largest region in Namibia after //Karas region. The MC lies northwest of Okanguati the socio-economic characteristics are linked to the Epupa constituencies.

5.4.1 Epupa constituency

According to the 2023 Population and Housing Census, Epupa constituency has a total population of 26,491 inhabitants, of which 12,436 are males, while 14,055 are females. The total area size of Epupa constituency is 23,617.36 square kilometers representing a population density of 1.1 inhabitants, among the least populated constituency in the region. Epupa constituency has 24,326 household population, 4,424 households representing an average household size of 5.5, the highest in the region (NSA, 2024). The area has a literacy rate of 29% of the total population of the area, 70% of the children from this constituency never attended school. The area has a 60% labor force participation rate; it is the lowest labor participation rate and the least developed in the Region. Epupa constituency has one proclaimed settlement Okangwati which is 120kms from Opuwo, and several growth points such as Etanga, Etoto, Ohandungu. Okangwati settlement area is regarded as the Business and Administration Center of the Constituency.

5.4.2 Farming

According to the Economy Profile Report (First Capital, 2022), Kunene Region is one of the least economically developed regions in Namibia, with high poverty levels, limited access to basic services, and high unemployment rates. The local economy is predominantly based on subsistence agriculture and livestock farming, supplemented by remittances and government social support programs. Infrastructure is underdeveloped, with limited road networks, electricity access, and water supply systems. The local economy is largely dependent on livestock production, with sales in centers like Opuwo providing a critical income source. Gender dynamics show women bearing a dual burden of domestic and agricultural work, with little access to formal employment. The proposed small-scale mining project could address some these challenges by generating temporary jobs, transferring skills, empowering women, and stimulating local businesses through procurement (Kunene Regional Development Profile, 2015).

5.4.3 Tourism

The Kunene Region is a prime tourist destination, renowned for its rugged landscapes and rich cultural traditions. Its economy is significantly strengthened by tourism, centered around a network of conservancies that host 46% of the nation's protected wildlife, including desert elephants and rhinos. Key attractions range from the Epupa Falls and the Twyfelfontein World Heritage Site to the vibrant cultural heritage of the Ovahimba and Ovazemba communities near Opuwo (Kunene Regional Development Profile, 2015).

5.4.4 Mining

The Kunene Region's mountainous formations host significant mineral reserves, making it highly prospective for exploration and mining activities. Advanced-stage projects there have strong potential to become major drivers of regional economic growth which are pivotal for regional economic growth and development. Extensive mineral exploration activities are underway in and around mountainous areas in the region (Kunene Regional Development Profile, 2015).

6 PUBLIC CONSULTATION PROCESS

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

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

Relevant and applicable national, regional, and local authorities 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 exploration activities were placed in two widely read national newspapers in the region (New Era Newspaper and The Namibian 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 3** below and the complete list of I&APs is provided in **Appendix D**.

Table 3: Summary of Interested and Affected Parties (I&APs)

National (Ministries and State-Owned Enterprises)
Ministry of Environment, Forestry and Tourism
Ministry of Industries, Mines and Energy

Regional, Local, and Traditional Authorities
Kunene Regional Council, Okanguati settlement and Epupa constituency
Vita Royal House Traditional Authority
General Public
Landowners /Interested members of the public

6.2 Communication with I&APs

Regulation 21 of the EIA Regulations details the steps to be taken during a public consultation process and these have been used in guiding this process. Communication with I&APs concerning 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 works was compiled and emailed to registered and Identified Interested and Affected Parties (I&APs), We also verbally contacted and briefed stakeholders without email access, extending a direct invitation to the meeting.
- Project Environmental Assessment notices were readvertised in the New Era Newspaper (**12 January 2026 and 19 January 2026),** and The Namibian Newspaper **(12 January 2026 and 19 January 2026),** briefly explaining the activity and its locality and inviting members of the public to register as I&APs and submit their comments/concerns.
- Public notice to inform members of the public about the EIA process was placed at Kunene Reginal Council **(Figure 15).**
- Public meeting was scheduled and subsequently held at the Otjikojo settlement on 29 October 2025 at 11h00 (minutes and list of participants attached). The issues and concerns raised were noted and used to form the basis for the ESA report and EMP (**Figure 16**).

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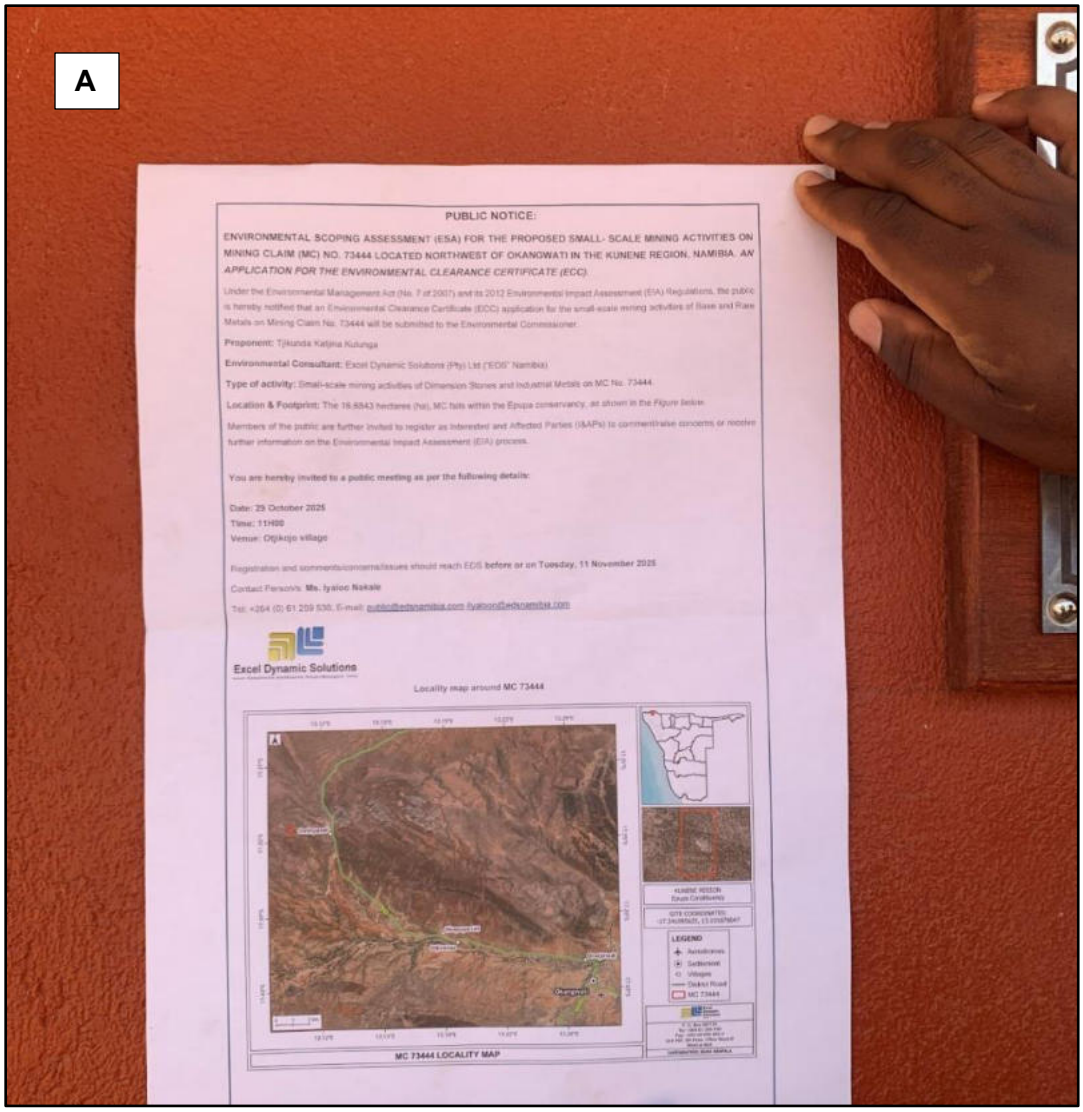

PUBLIC NOTICE:

ENVIRONMENTAL SCOPING ASSESSMENT (ESA) FOR THE PROPOSED SMALL- SCALE MINING ACTIVITIES ON MINING CLAIM (MC) NO. 73444 LOCATED NORTHWEST OF OKANGWATI IN THE KUNENE REGION, NAMIBIA. AN *APPLICATION FOR THE ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC).*

Under the Environmental Management Act (No. 7 of 2007) and its 2012 Environmental Impact Assessment (EIA) Regulations, the public is hereby notified that an Environmental Clearance Certificate (ECC) application for the small-scale mining activities of Base and Rare Metals on Mining Claim No. 73444 will be submitted to the Environmental Commissioner.

Proponent: Tjikunda Katjina Kulunga

Environmental Consultant: Excel Dynamic Solutions (Pty) Ltd ("EDS" Namibia)

Type of activity: Small-scale mining activities of Dimension Stones and Industrial Metals on MC No. 73444.

Location & Footprint: The 16.6843 hectares (ha), MC falls within the Epupa conservancy, as shown in the Figure below.

Members of the public are further invited to register as Interested and Affected Parties (I&APs) to comment/raise concerns or receive further information on the Environmental Impact Assessment (EIA) process.

You are hereby invited to a public meeting as per the following details:

Date: 29 October 2025
Time: 11H00
Venue: Otjikojo village

Registration and comments/concerns/issues should reach EDS **before or on Tuesday, 11 November 2025**

Contact Person/s: **Ms. Iyaloo Nakale**

Tel: +264 (0) 61 259 530, E-mail: public@edsnamibia.com iyaloo@edsnamibia.com

Excel Dynamic Solutions

Locality map around MC 73444

MC 73444 LOCALITY MAP

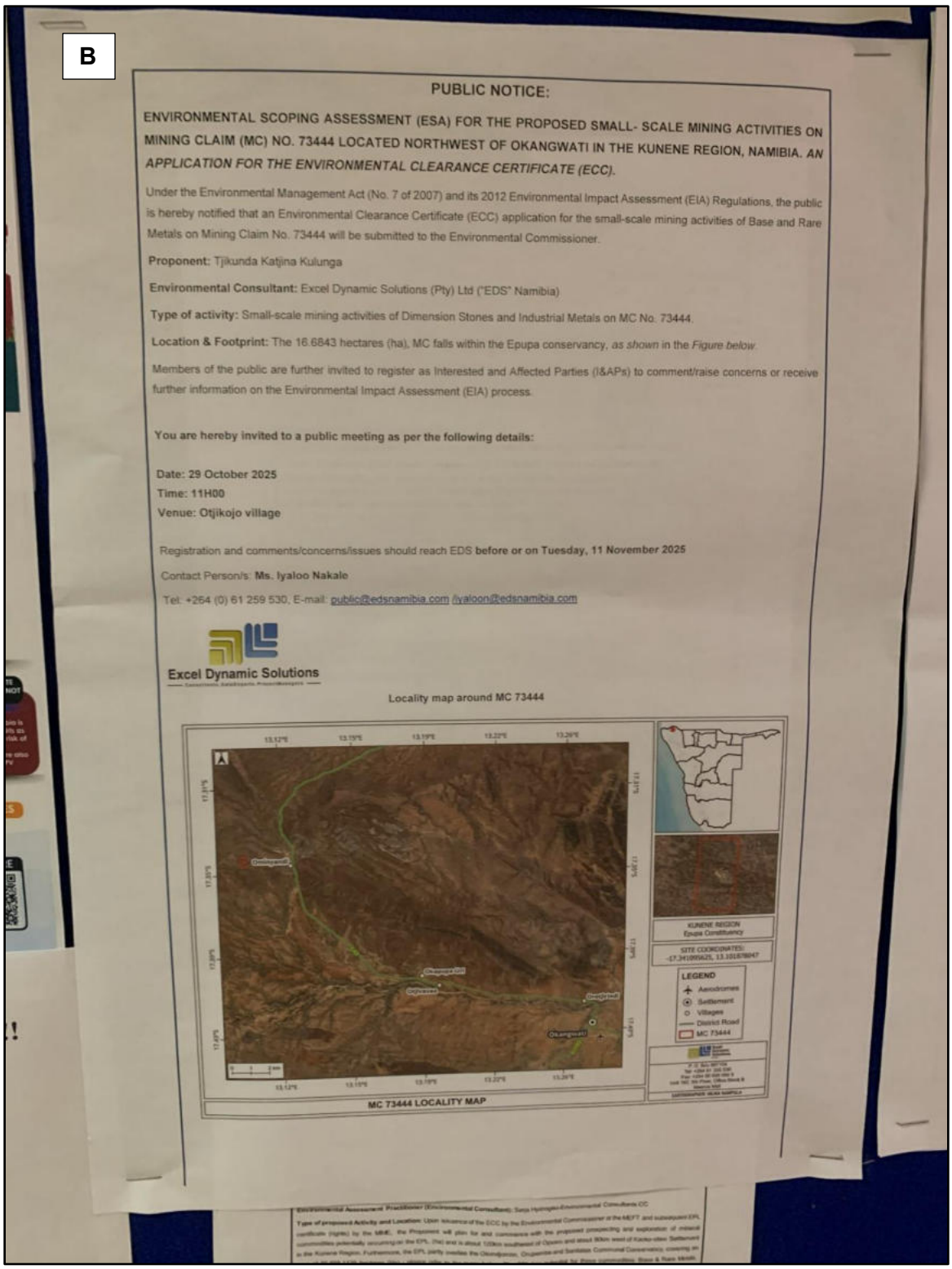

Figure 16: Public notices placed at (A) Otjikojo Primary school and (B) Kunene regional council.

Figure 17: Public Consultation meetings at Otjikojo village, Kunene region.

Issues raised by I&APs have been recorded and incorporated in the environmental report and EMP. The summarized issues raised during the public meeting are presented in **Table 4** below. The issues raised and responses by EDS are attached under **Appendix G.**

Table 4: Summary of main issues raised, and comments received during public meeting engagements

Issue	Concern
Community relation	Neighbouring (Omuhonga) village senior council member not PRO to mining activities.
Employment	Community members expressed a desire for employment opportunities arising from the project, emphasizing their interest in accessing potential economic benefits beyond their traditional reliance on cattle herding.
MC ownership	Owner of the MC not from the affected village.

7 IMPACT IDENTIFICATION, ASSESSMENT AND MITIGATION MEASURES

7.1 Impact Identification

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

Positive impacts:

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

Negative impacts:

- Disturbance to grazing areas
- 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 associated with closure and decommissioning of exploration works

7.2 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 following Namibia's Environmental Management Act (No. 7 of 2007) and its Regulations of 2012, as well as the International Finance Corporation (IFC) Performance Standards.

The identified impacts were assessed in terms of scale/extent (spatial scale), duration (temporal scale), magnitude (severity), and probability (likelihood of occurring), as presented in **Table 5**, **Table 6**, **Table 7,** and **Table 8**, respectively.

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:

7.2.1 Extent (spatial scale)

The extent is an indication of the physical and spatial scale of the impact. **Table 5** shows the rating of impact in terms of the extent of spatial scale.

Table 5: Extent or spatial impact rating

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

7.2.2 Duration

Duration refers to the timeframe over which the impact is expected to occur, measured concerning the lifetime of the project. **Table 6** shows the rating of impact in terms of duration.

Table 6:Duration impact rating

Low (1)	Low/Medium (2)	Medium (3)	Medium/High (4)	High (5)
Immediate mitigating measures, immediate progress	The impact is quickly reversible, and short-term impacts (0-5 years)	Reversible over time; medium-term (5-15 years)	Impact is long-term	Long-term; beyond closure; permanent; irreplaceable or irretrievable commitment of resources

7.2.3 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 7** shows the rating of impact in terms of intensity, magnitude, or severity.

Table 7: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 or illness / total loss of habitat, total alteration of ecological processes, extinction of rare species	Substantial deterioration, death, illness or injury, loss of habitat/diversity or resource, severe alteration or disturbance of important processes	Moderate deterioration, discomfort, partial loss of habitat/biodiversity or resource, moderate alteration	Low deterioration, slight noticeable alteration in habitat and biodiversity. Little loss in species numbers	Minor deterioration, nuisance or irritation, minor change in species/habitat/diversity or resource, no or very little quality deterioration.

7.2.4 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 8** shows impact rating in terms of probability of occurrence.

Table 8: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	A 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, and continuous. High risk or vulnerability to natural or induced hazards.

7.2.5 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 5**, **Table 6**, **Table 7,** and **Table 8**) 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 9**).

Table 9:Significance rating scale

Significance	***Environmental Significance Points***	***Colour Code***
High (positive)	>60	H

This assessment focuses on the three project phases namely, prospecting, exploration (and possible analysis), and decommissioning. The potential negative impacts stemming from the proposed activities of the MC are described and assessed and mitigation measures are provided thereof. Further mitigation measures in the form of management action plans are provided in the Draft Environmental Management Plan.

7.3 Assessment of Potential Negative Impacts

The main potential negative impacts associated with the operation and maintenance phase are identified and assessed below:

7.3.1 Disturbance to grazing areas

The MC are overlying communal land that has livestock and wildlife. Small-scale mining activities such as site clearing, trenching, and open pit mining can potentially lead to the disturbance of grazing land. This will potentially affect the grazing land available to livestock, and since the livestock greatly depends on the little available flora, their livelihood will be impacted.

The effect of small-scale mining work on the land (when done over a wider spatial extent), if not mitigated, may hinder grazing areas. Under the status quo, the impact can be considered to be of a medium significance rating. With the implementation of appropriate mitigation measures, the rating will be reduced to a lower significance.

- **Impact:** Temporary loss of grazing land due to pitting, trenches, open pit mining or access roads.
- **Mitigation:** Minimize footprint by using existing tracks; rehabilitate disturbed sites immediately; engage local herders prior to land access, and utilize existing roads and cleared areas to minimize new land disturbance.

The impact is assessed in **Table 10** below.

Table 10:Assessment of the impacts of small-scale mining on grazing areas

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M: -3	M: -3	M: -4	M/H: 5	M: -50
Post mitigation	L/M: -2	L/M: -2	L/M: -2	L/M: 3	L: -18

Post mitigation	L/M: -2	L/M: -2	L/M: -4	L/M: 3	L: -24

7.3.3 Generation of Dust (Air Quality)

Dust emanating from mining activities and site access routes when transporting equipment and supplies to and from the site may compromise the air quality in the area. Vehicular movements from heavy vehicles such as trucks would potentially create dust, even if it is not anticipated to be low. Additionally, activities carried out as part of the small-scale mining 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.

- **Impact:** Dust from open pit mining, vehicle movement, and trenching.
- **Mitigation:** Water spraying during drilling; limit speed of vehicles; cover transported materials, dust-generating activities must be suspended during periods of high wind.

The impact is assessed in **Table 12** below.

Table 12: Assessment of the impacts of small-scale mining 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/M - 2	L/M - 2	L - 2	L/M - 2	L - 12

7.3.4 Water Resources Use

Water resources are 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 than can be replenished from low groundwater potential areas would negatively affect the local communities (communal 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. Small-scale mining activities do not 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.

Given the low to medium groundwater potential of the project site areas, the Proponent may consider carting some of the water volumes from outside the area and stored in industry-standard water reservoirs/tanks on site. The exact amounts of water required for proposed operations would be dependent on the duration of the mining works and the number of mining boreholes required to make a reliable interpretation of the commodities to be mined. The mining period can be temporally limited, therefore, the impact will only last for the duration of the mining activities and cease upon their 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 **Table 13** below.

- **Impact:** Pressure on limited groundwater; potential contamination from drilling fluids.
- **Mitigation:** Obtain water permits; monitor borehole abstraction; prevent leaks/spills; install drip trays at fuel storage; use biodegradable drilling fluids; Equip all fuel storage areas with spill containment.

Table 13: Assessment of the project impact on water resource use and availability.

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M/H - 4	M/H - 3	L/M - 4	M/H - 4	M - 44
Post mitigation	L/M - 2	L/M - 2	L - 2	L/M - 3	L - 18

7.3.5 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, surface and groundwater. 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 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 are relatively small. Therefore, the impact will be moderately low.

Pre-implementation of any mitigation measures, the impact significance is medium to high and upon implementation, the significance will be reduced to moderate.

- **Impact:** Fuel/oil leaks from machinery, improper waste disposal.
- **Mitigation:** Use spill kits; store fuel in bunded tanks; separate waste streams; dispose of waste at licensed facilities, Equip all fuel storage areas with spill containment.

The impact is assessed in **Table 14** below.

Table 14: Assessment of the project impact on soils and water resources (pollution)

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M - 5	M/L - 3	M/L - 4	M - 4	M - 44
Post mitigation	L/M - 2	L/M - 2	L - 2	L/M - 3	L - 24

7.3.6 Waste Generation

During the small-scale mining program, domestic and general waste is produced on-site. If the generated waste is not disposed of responsibly, land pollution may occur on the MC or around the sites. The MC 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 mining program needs to have appropriate waste management for the site. To prevent these issues, any hazardous waste that may have an impact on 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 be reduced to low significance, upon implementing the mitigation measures.

- **Impact:** Domestic and hazardous waste accumulation on site.
- **Mitigation:** Provide labelled bins; regular collection and transport to authorized landfill; no onsite burning or burying of waste.

The assessment of this impact is given in **Table 15** below.

Table 15: Assessment of waste generation impact

Mitigation Status	Extent	Duration	Intensity	Probability	Significance

Pre mitigation	M - 3	L/M - 2	M - 6	M - 5	M – 55
Post mitigation	L/M - 2	L - 1	L - 2	L/M - 2	L - 10

7.3.7 Occupational Health and Safety Risks

Project personnel (workers) involved in small-scale mining activities may be exposed to health and safety risks. These may 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 project workers or local animals.

The use of heavy equipment, especially during drilling, and the presence of hydrocarbons on sites may result in accidental fire outbreaks, which 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, 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.

- **Impact:** Injuries from drilling operations, dust inhalation, noise exposure.
- **Mitigation:** Enforce PPE usage; provide first aid kits; implement health & safety induction; limit working hours.

This impact is assessed in **Table 16** below and mitigation measures are provided.

Table 16: Assessment of the impacts of exploration 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

7.3.8 Vehicular Traffic Use and Safety

The MC are accessible via the informal tracks, C43 road from Okanguati. Traffic volume will therefore increase on these district roads during mining as the project would need delivery of supplies and services on site.

Depending on the project needs, trucks, medium-sized vehicles, and small vehicles will frequent the area to and from mining sites on the MC. This would potentially increase slow-moving heavy vehicular traffic along these roads and add additional pressure on the roads. However, transportation of materials and equipment is expected to occur on a limited schedule and only for the duration of the project. Therefore, the risk is anticipated to be short-term, not frequent, and therefore of medium significance. Before mitigation, the impact can be rated medium and with the implementation of mitigation measures, the significance will be low as assessed in **Table 17** below.

- **Impact:** Increased heavy vehicle movement causing road damage and safety risks.
- **Mitigation:** Use existing roads where possible; enforce speed limits; maintain vehicles; consult local authorities on road use.

Table 17: Assessment of the impacts of exploration 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	M - 3	L - 18

7.3.9 Noise and vibrations

Small-scale mining activities, including drilling and jackhammering may be a nuisance to surrounding communities due to the noise produced by the activity. Excess noise and vibrations can be a health risk to workers on site. The small-scale mining equipment used for drilling on site is of medium size and the noise level is bound to be limited to the site only, therefore, the impact likelihood is minimal. Without any mitigation, the impact is rated as of medium significance. To change the impact significance from the pre-mitigation significance to a low rating, mitigation measures should be implemented.

This impact is assessed in **Table 18** below.

- **Impact:** Noise from drilling machinery disturbing communities and wildlife.

- **Mitigation:** Daytime operations only; fit silencers on equipment; maintain buffer zones around settlements.

Table 18: Assessment of the impacts of noise and vibrations from exploration

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

7.3.10 Disturbance to Archaeological and Heritage Resources

The Kunene region contains archaeological/cultural significant sites, and there is a possibility of unveiling/discovering new archaeological and/or cultural materials in the proposed project area. If such Materials are found, the areas must be mapped out and coordinates taken to establish "No-Go-Areas", due to their sensitivity and then documented. They may be protected either by fencing them off or demarcation for preservation purposes, or excluding them from any development i.e., no small-scale mining activities should be conducted near these recorded areas through the establishment of buffer zones.

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 19**.

- **Impact:** Possible destruction of graves, stone tools, or cultural sites.
- **Mitigation:** Conduct heritage surveys before works; enforce chance find procedures; demarcate no-go zones for discovered site.

Table 19: Assessment of the impacts of small-scale mining on archaeological & heritage resources

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

7.3.11 Impact on Local Roads/Routes

Mining projects are usually associated with the movements of heavy trucks and equipment or machinery that use local roads. Heavy vehicles traveling on local roads exert pressure on the

roads and may make the roads difficult to use. This will be a concern if maintenance and care are not taken during all the phases.

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.

- **Impact:** Increased frequency of heavy vehicle traffic, leading to accelerated road deterioration (e.g., potholes, rutting, and surface wear).
- **Mitigation:** Implement a scheduled, regular road maintenance program; Enforce and clearly signpost reduced speed limits for heavy vehicles.

The assessment of this impact is presented in **Table 20**.

Table 20: Assessment of exploration of 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

7.3.12 Social Nuisance: Local Property Intrusion and Disturbance/Damage

The presence of some non-resident workers may lead to social annoyance to the local community. This could particularly be a concern if they enter or damage local private property. The private properties of the locals may include houses, fences, vegetation, livestock, wildlife, or any properties of economic or cultural value to land users. The damage or disturbance to properties may not only be private but also local public properties. The unpermitted and unauthorized entry to private property may cause crashes between the affected property (land) owners and the Proponent.

The impact is rated as of medium significance. However, upon mitigation (post-mitigation), the significance will change from a medium to a low rating.

- **Impact:** Theft, property damage, community-worker tensions.
- **Mitigation:** Engage community leaders; enforce code of conduct; provide grievance redress mechanism.

The impact is assessed below **(Table 21)**.

Table 21: Assessment of the 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

7.4 Cumulative Impacts Associated with Proposed Exploration

According to the International Finance Corporation (2013), cumulative impacts are defined as "impacts 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 impacts".

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

- **Impact on road infrastructure:** The proposed small-scale mining activity contributes cumulatively to various activities such as farming activities and traveling 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 spatial extent of the intended small-scale mining activities.
- **Use of water**: While the contribution of this project will not be significant, mitigation measures to reduce water consumption during small-scale mining are essential.

8 RECOMMENDATIONS AND CONCLUSION

8.1 Recommendations

The potential positive and negative impacts of the proposed small-scale mining activities on MC 73444 were identified and assessed and appropriate management and mitigation measures (to negative impacts) were made thereof for implementation by the Proponent, their contractors, and project-related employees.

Mitigation measures for identified issues have been provided in the Environmental Management Plan, for the Proponent to avoid and/or minimize their significant impacts on the environmental and social components. Most of the potential impacts were found to be of medium-rating significance. With effective implementation of the recommended management and mitigation measures, a reduced rating in the significance of adverse impacts is expected from Medium 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). The monitoring of implementation will not only be done to maintain a low rating but also 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.

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.

Based on the findings of the Environmental Scoping Assessment for MC 73444, the following recommendations are proposed:

- A Environmental Clearance Certificate (ECC): It is recommended that the Ministry of Environment, Forestry and Tourism (MEFT) grants the ECC for small -scale mining activities, subject to strict adherence to the Environmental Management Act (2007) and its regulations.
- Implementation of the Environmental Management Plan (EMP): The proponent must implement the EMP as an operational guide for managing all identified impacts. This should include regular monitoring, reporting, and compliance audits.
- Water Resource Management: Given the scarcity of water in the Kunene Region, strict water-use permits must be obtained. Groundwater abstraction should be monitored, and alternative water sources (such as water trucking) should be considered to minimize pressure on local aquifers.
- Community Engagement: Continuous stakeholder and community engagement with Local traditional authorities and the affected the Communities and relevant authorities is essential. Clear communication channels must be maintained to address grievances, promote transparency, and ensure local participation.
- Biodiversity Conservation: Site areas where small-scale mining activities have ceased are rehabilitated, as far as practicable, to their pre-mining state. Rehabilitation of disturbed areas must be prioritized to restore natural vegetation.
- Health and Safety: All small-scale mining activities should adhere to occupational health and safety standards. Training, provision of PPE, and emergency preparedness must be mandatory for all employees and contractors.

- Cultural and Heritage Preservation: Heritage chance find procedures must be strictly implemented. Any cultural or archaeological resources encountered must be reported immediately to the National Heritage Council.

8.2 Conclusion

It is crucial for the proponents and their contractors to effectively implement the recommended management and mitigation measures, to protect the biophysical and social environment throughout the project duration. This would be done to promote environmental sustainability while ensuring a smooth and harmonious existence and purpose of the project activities in the community and environment at large. It is also 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 accordingly. Lastly, should the ECC be issued, the Proponent will be expected to be compliant with the ECC conditions as well as legal requirements governing small-scale mining and related activities.

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