ENVIRONMENTAL IMPACT ASSESSMENT (SCOPING) REPORT

Aloe Two Hundred and Thirty-Eight Investments (PTY) Ltd

04 April 2025

ECC: APPLICATION NO:

3924

Proposed Development of the Okohongo Copper-Silver Mine within the Proposed Mineral License Area of EPL 7071,Opuwo Rural Constituency, Kunene Region, Namibia

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CERTIFICATION

AFFIRMATION BY ENVIRONMENTAL ASSESSMENT PRACTITIONER

I, Mr MKL Shikongo (EIA EAP: ECC Application No 3924.) affirm that to the best of my knowledge , the contents of this report are a correct representation of the findings of the Environmental Impact Assessment(EIA) carried out for the Proposed Development of the Okohongo Copper-Silver Mine within the Proposed Mineral License Area of EPL 7071, located in Opuwo Rural Constituency, Kunene Region , Namibia.

EAP

Signature

Date: 2/04/2025

AFFIRMATION BY PROPONENT

I , Mr Craig Hutton on behalf of **Aloe 238 PTY LTD** proponent of the Proposed Development of the Okohongo Copper-Silver Mine within the proposed Mineral License Area of EPL 7071, located in Opuwo Rural Constituency, Kunene Region , Namibia acknowledge to the best of my knowledge, the contents of this report are a correct representation of the findings of Environmental Impact Assessment(EIA) Study as carried out by EAP for the proposed project.

Proponent: Signature.....

Date: ...02/04/...../2025

PROJECT APPLICANT

Aloe 238 (PTY) Ltd is the applicant for the Environmental Clearance Certificate.

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ENVIRONMENTAL ASSESSMENT PRACTITIONERS (EAPs)

Cuvepalm Consulting cc is an independent environmental assessment consulting firm that undertookthe EIA study.

DETAILS OF EAPS

Name of firm	Cuvepalm Consulting cc
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CV of EAP	Appendix E

DEFINITION OF TERMS

Adaptive capacity: the ability to adjust, to take advantage of opportunities, or to cope with consequences

Archaeological - in relation to a place or an object, means (a) any remains of human habitation or occupation that are 50 or more years old found on or beneath the surface on land or in the sea; (b) rock art, being any form of painting, engraving or other representation on a fixed rock surface or loose rock or stone which is 50 or more years old;

Archaeological site – refers to an area in which archaeological objects are situated expected climatic stimuli and their effects or impacts. This term refers to changes in processes, practices, or structures to moderate or offset potential damages or to take advantage of opportunities associated with changes in climate. It involves adjustments to reduce the vulnerability of communities, regions, or activities to climatic change and variability. Adaptation is important in the climate change issue in two ways—one relating to the assessment of impacts and vulnerabilities, the other to the development and evaluation of response options.

Climate change is the mean change and variability of properties in global and local weather conditions and takes place on the scale of tens, hundreds, and thousands of years due to natural internal processes, external forcing, and prevalent anthropogenic changes.

Local community - refers to the geographic community in the surrounding study area under consideration

Biodiversity refers to all the different kinds of life you will find in one area - the variety of animals, plants, fungi, and even microorganisms like bacteria that make up our natural world.

The '**Consultant**' – this refers to the firm and team conducting the ESIA and preparing the EMP for development.

Mineral beneficiation or value added processing - this refers to the transformation of the primary material (i.e. mineral won through mining or extraction) to a product with a higher sale value.

Mining operation refers to operations undertaken to win any mineral in a mining license area. The term may include but is not limited to in situ mining or excavations, tailing management, trial processing of any mineral, and transportation

The '**Proponent'** - this refers to the institutions directly involved in the implementation of the project,

The '**Stakeholders'** refers to the people, organizations and NGOs that are directly or

indirectly affected and interested in the project.

The '**Environment**' - this refers to ecology, economy, society, and politics.

Susceptibility: The degree to which a system is open, liable, or sensitive to climate stimuli (similar to sensitivity, with some connotations toward damage.

Resilience – is the degree to which a system rebounds, recoups, or recovers from a stimulus.

Rehabilitation - the re-instatement of a disturbed area into a useable state (not necessarily its pre-mining state) or as defined by broad land use and related performance objectives

Social impacts- the consequences to human populations of any public or private actions-that alter the ways in which people live, work, play, relate to one another, organize to meet their needs and generally cope as members of community at local or regional scale

Target – a smaller area of EPL 7071 where detailed exploration was undertaken on mineral deposit and is of interest for later Okohongo mine development.

Study area or project area – refers to the area where the proponent want to focus its development activities

SCOPE OF STUDY AND OBJECTIVE OF REPORT

This Environmental Scoping Report (ESR) follows the scope of work delineated by the Ministry of Environment, Forestry and Tourism (MEFT), and Aloe 238 for the Proposed Development of the Okohongo Copper-Silver Mine within the Proposed Mineral License Area of EPL 7071. Similarly, the report will assist the proponent with mine planning and design and economic assessment as part of the mining license application with MIME (competent and approving authority) as provided for under the Minerals (Prospecting and Mining) Act (Act No. 33 of 1992). Current information and input from commenting authorities, Interested and Affected Parties (I&APs) were used to identify and evaluate potential environmental impacts (both social and biophysical) associated with the proposed project. Environmental vulnerabilities associated with the proposed project were identified. A conscious decision was made based on the recommendations and EIA guidelines of the Directorate of Environmental Affairs EIA guidelines to assess both the significant and less significant environmental impacts associated with the proposed development mine. The Environmental Management Plan (EMP) for this proposed activity will have to be implemented by the proponent (Aloe 238) to ensure that adverse environmental impacts are effectively mitigated. A detailed assessment of the anticipated impacts was undertaken with the purpose of highlighting any areas of concern regarding the proposed project during its construction, operation, and decommissioning phases. In addition, a sensitivity analysis (preliminary) of the geohydrology in relation to the proposed project area was undertaken. This analysis characterized significant environmental aspects and impacts of development. This action also guided the establishment (siting) of service infrastructure relating to the project. This ESR will be used to motivate and refine project alternatives (i.e., ore processing methods, tailing management) based on the findings of the environmental baseline study. Apart from the aforementioned DEA guidelines, the ESR is prepared in accordance with the regulatory requirements stipulated in the EIA Regulations (2012. Regulations promulgated in terms of the Namibian environmental legislation (Environmental Management Act, No. 7 of 2007).

The EIAR aims to:

- Provide an overall assessment of the social, physical, and biophysical environments of areas affected by the proposed activities.
- Provide an overall assessment of the social, physical, and biophysical environments of areas affected by the proposed activities.
- Undertake a detailed environmental assessment, in terms of environmental criteria and impacts (direct, indirect, and cumulative), and based on environmental sensitivity recommended appropriate siting of accessory work connected to the development
- Identify and recommend appropriate mitigation measures for potentially significant environmental impacts

GAPS, ASSUMPTIONS, AND LIMITATIONS

The following assumptions and limitations underlie the EIA study approach:

- Findings and recommendations of this report are subjected to study area only herein referred to as the target area and not entire EPL (7071).
- The information received from the proponent, stakeholders, desktop surveys, and baseline assessments are current and valid at the time of the study.
- In cases where baseline data were insufficient or unavailable, a precautionary approach was adopted.
- Mandatory timeframes shall apply for the review and adjudication of reports by the competent authorities.
- This ESIA Report can be upgraded in accordance with statutory requirements.
- Any modification of project beyond the project description that will cause significant impacts to the environment shall be subject to approval by MEFT or if new project features are proposed.
- Assessment did not take account of any environmental liabilities that may relate to study area
- Mandatory environmental compliance monitoring and reporting will be carried out as specified.

NB: The EAP will not take any responsibility for any additional information obtained during the later stages of the EIA process. All data from unpublished research used for this project are valid and accurate. The scope of this investigation is limited to assessing the potential biophysical, social, and economic impacts of the proposed project.

EXECUTIVE SUMMARY

Aloe Two Hundred and Thirty-Eight Investments (PTY) Ltd (Aloe 238) proposes mining base and earth metals in the Kunene Region, Namibia. An application (no.3924) for ECC was lodged with the Ministry of Environment, Forestry and Tourism on June 4, 2024 and the Ministry of Industries, Mines and Energy (Namibia) to undertake mining operations in the proposed mining license area within EPL 7071. The proposed mining site is located approximately 80 km south of Opuwo Town in the Kunene Region (Namibia). The total surface area of the proposed mineral license is 14 square kilometers (km^2) or 1400 hectares (ha) which stretch across EPL 7071.

Aloe238 under ECC no. 23300259 (**Appendix B**) undertook recent exploration work on EPL 7071. Based on the results of detailed geophysical surveys and mineral assessment reports, the study area has reasonable prospects for eventual economic extraction of base and precious metals, hence the need to advance mine development. The open-pit mining method, mineral recovery, or ore processing is assumed in view of the beneficiation objectives set by Aloe 238. To satisfy the requirements of Namibia's Environmental Management Act No.7 of 2007, Aloe 238 appointed CPC to conduct the environmental assessment (scoping). Based on the assessment method employed, land degradation and water security concerns were regarded significantly critical for purpose of assessment. The project has the potential in transform and develop the rural economy and upgrade or provide service infrastructure. Based on the analysis, most impacts are anticipated to be localized and can be effectively mitigated through the implementation of mitigation measures recommended in the Environmental and Social Management Plan (ESMP). Observation of ultimate control measures regarding environmental pollution that may manifest is paramount to ensuring environmental sustainability, in particular, the welfare and livelihoods of communities adjacent to or surrounding the proposed mine site. Impacts deemed to be of "*high*" significance are not expected if EMP is fully implemented, mindful of financial commitments to concurrent or progressive rehabilitation and adoption of a robust monitoring program. The findings and recommendations of this report are subjected to the study area only herein referred to as the target area and not entire EPL (7071). This Report was prepared for Aloe 238(PTY) LTD and the Office of the Environmental Commissioner (Namibia).

1. CHAPTER ONE: BACKGROUND

1.1 Introduction

Aloe Investments Two Hundred and Thirty-Eight (Pty) Ltd (hereinafter referred to as Aloe 238-the Proponent) is an indigenous Namibian enterprise involved in the business of finding and extracting minerals. Aloe 238 currently owns the right to an Exclusive Prospecting License (EPL: 7071). The EPL was first issued in 2019 and has subsequently been renewed twice. The EPL expires on June12, 2025. Based on the recent exploration work undertaken under EPL 7071 and ECC no.2300259, the development of mineral ore deposit (target) at Okohongo was confirmed as a reasonable prospect for extraction subject to further specialist investigations in support of economic viability assessment of future mine operations. Aloe 238 is planning to proceed with Okohongo mine development (i.e. construction, mineral extraction, ore processing operations) within the proposed mineral license area (MLA) which stretches across EPL 7071. The extraction and processing of minerals is a '(listed) activity that may not be undertaken without an Environmental Clearance Certificate (ECC) from the Ministry of Environment Forestry and Tourism (MEFT): Department of Environmental Affairs (DEA). As part of its pre-development activities, Aloe 238 has submitted an application for a mining license in accordance with Section 91 of the Minerals Prospecting and Mining Act (Act no 33 of 1992). A Mineral Deposit Retention License application was submitted to MIME in 2024. An ECC must support the application for a mining license. Aloe 238 secured the services of Cuvepalm Consulting cc (CPC) on May 12, 2024, to conduct an Environmental and Social Impact Assessment (ESIA) and develop an environmental and social management plan (ESMP) for the proposed project. The ECC application was filed with the Ministry of Environment Forestry and Tourism (MEFT: Directorate of Environmental Affairs (DEA) on 20 May 2024. Subsequently, an ECC application was registered under application no 3529 on 4 June 2024. This document forms part of the application to be submitted to the DEA's office for an Environmental Clearance Certificate for the proposed activity, in accordance with the guidelines and statutes of the Environmental Management Act No.7 of 2007 and the environmental impacts assessment regulations (GN 30 in GG 4878 of 6 February 2012).

1.2 Project Location

The proposed mineral license area, which covers the area of EPL 7071, is situated in the northwestern part of Namibia, specifically within the Kunene Region (see Figure1). The site is located approximately 700 km northwest of the national capital, Windhoek. The nearest urban center, Opuwo Town, the regional capital of Kunene, is situated about 80 km to the north of the proposed mine site. The proposed mining operation will be restricted to land area (200 hectares) within the EPL 7071 marked in the diagram below. The remaining area will continue to be explored to further sustain future mining operations.

Access to the proposed mining license area on EPL 7071 is via two gravel district road (D3710 and D3709) branching off from national road C41, which connects Opuwo and the settlement of Omakange. This gravel road leads to the eastern boundary of the proposed target area for the first mining activities and infrastructure shown in Figure 1 by a yellow polygon. The target area (area of focus for this Scoping report and specialist studies) is proximate to the Ombombo Settlement, in the Opuwo Rural Constituency within the Kunene Region of Northern Namibia.

The Mining License application covers the current boundary coordinates of EPL 7071 in order to retain the ability to continue exploring the additional mineral resources to sustain operations and jobs in the future. However, the ECC application will only relate to the target area i.e. Figure 2 which highlights the area within EPL 7071 where open pit mining will be take place.

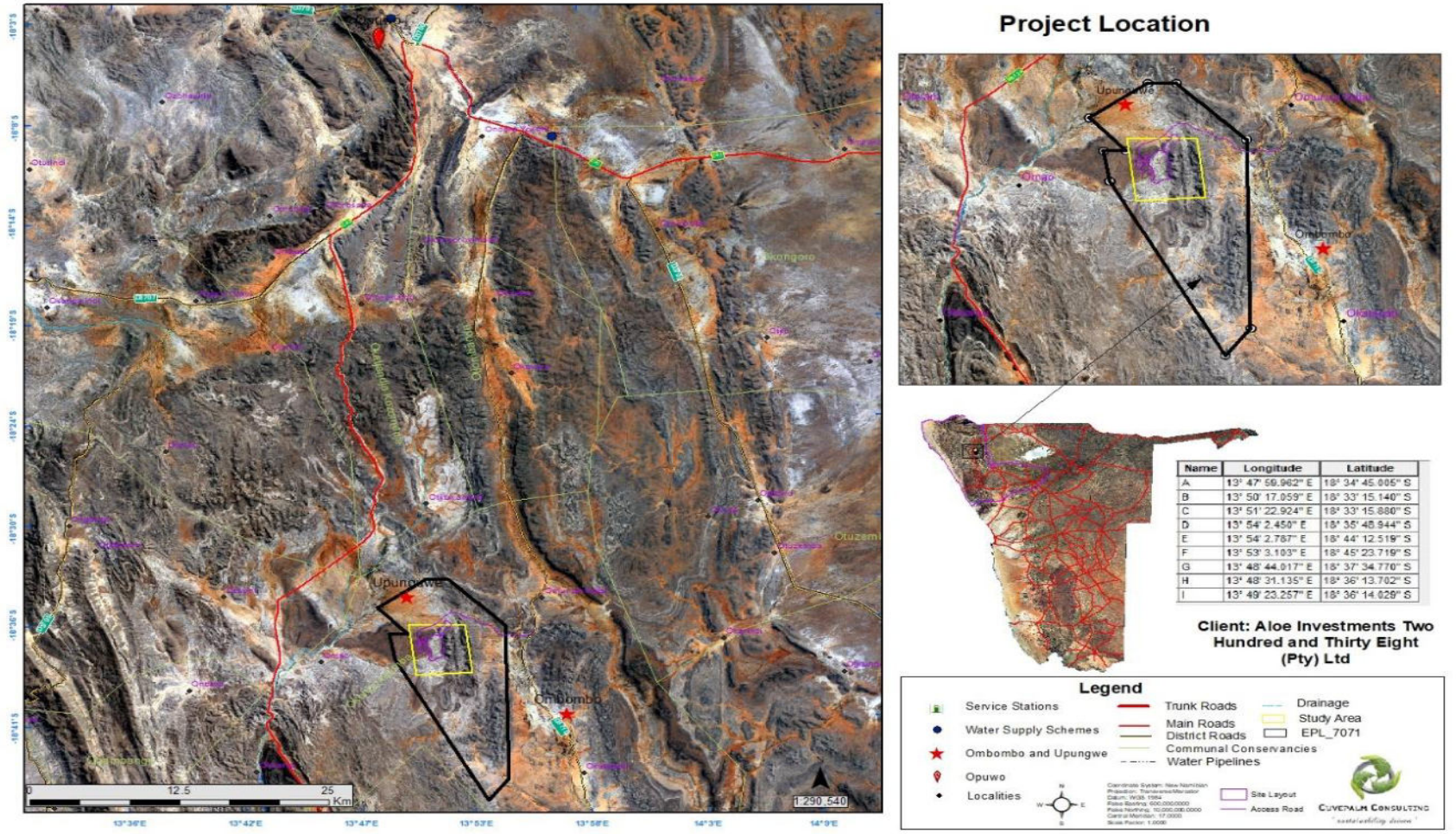


Figure 1 Location Map

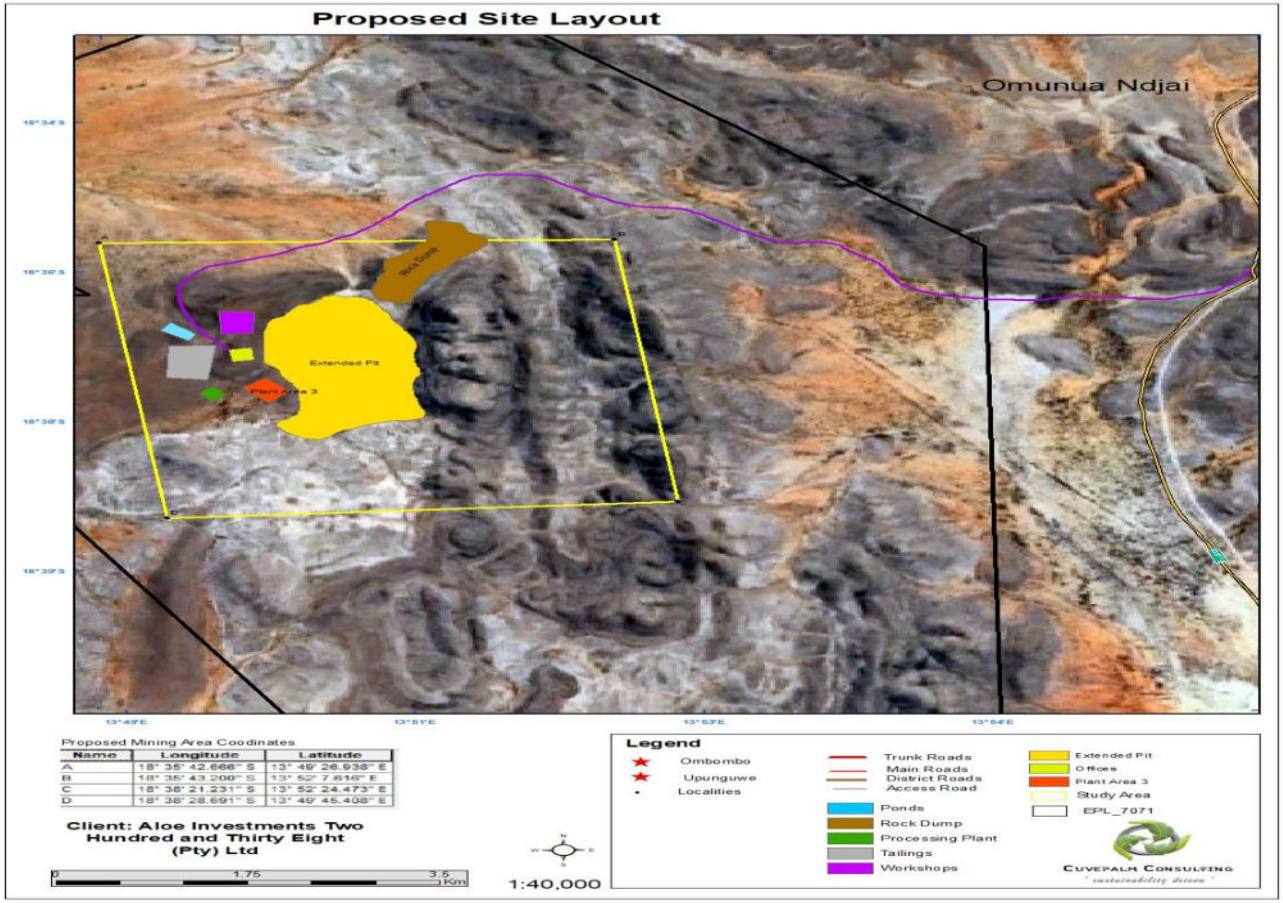


Figure 2 Site layout

1.3 Site History

The Kunene Copper Belt (the area within which the project is set to take place) has been actively explored for over 60 years. Known copper showings in the Sesfontein-Opuwo areas of northwestern Namibia ("Kaokoland") were recognized as potential Copper belt analogues by Goldfields, Anglo, the African Selection Trust, and others in the late 1960s. These companies conducted the first regional stream sediment surveys in Kaokoland in the early 1970s (INV Metals Inc., 2010). In addition, mineral exploration is known to have been undertaken by Teck Cominco, INV Metals, Kaokoland Mining and Exploration Company and Siberia Metal Traders and a number of independent prospectors (Ermorlina, 2013). Specifically, the proposed mining area extensively underwent geological and geochemical exploration as proven by historic exclusive exploration licenses linked to the study area.

Figure 3 Remnants of copper bearing material

1.4 Project activities

The proposed mineral license area of EPL 7071 is on state land (communal area) and covers a total area of 14 km²(1400 hectares). The mining operation will involve two mineral commodity groups: (i) Base metals and (ii) precious metals. The base metal (i.e. copper) and precious metal (silver) are the main commodities of interest. The project life of mine (LOM) schedule is anticipated to be a 20 year open pit operation with an annual processing rate of 40 000 tonnes per month during the initial development period and envisaged to increase to 60,000 tonnes per month depending on the availability of power and water to expand the operations. The mine will operate on a seven-day week with a 24-hour production shift per day. Activities and operational requirements anticipated for various project phases are listed below. For the EIA, the planned phase-based activities were categorized to enable impact assessment and analysis. The project phases are as follows:

- **Phase 1 :(Site preparation & Construction)**

Labor sourcing: Temporary and permanent employment opportunities will be created during the duration of the project. Most laborers will be sourced from Kunene, providing the available skills and expertise.

Accessory works: Considerable construction work will occur before the ore production begins. Access roads leading to the proposed MLA and roads within the boundary of MLA will be constructed. Other amenities to be constructed include power generation and transmission facilities, change rooms, crib rooms, toilet blocks, plant workshops, warehouses, and storage sheds, security installations, fencing, accommodation camps to host about 100 - 200 personnel, ore processing plants (spiral, flotation, leaching), administrative offices, a telecommunication communication infrastructure, an explosive storage facility, decentralized wastewater treatment. A fence will be erected around the open pit, TSF, and ponds. Fencing will help to keep out livestock from working areas. The site layout will be refined to guide the ultimate sitting of the facilities.

- **Phase 2: Operational Phase**

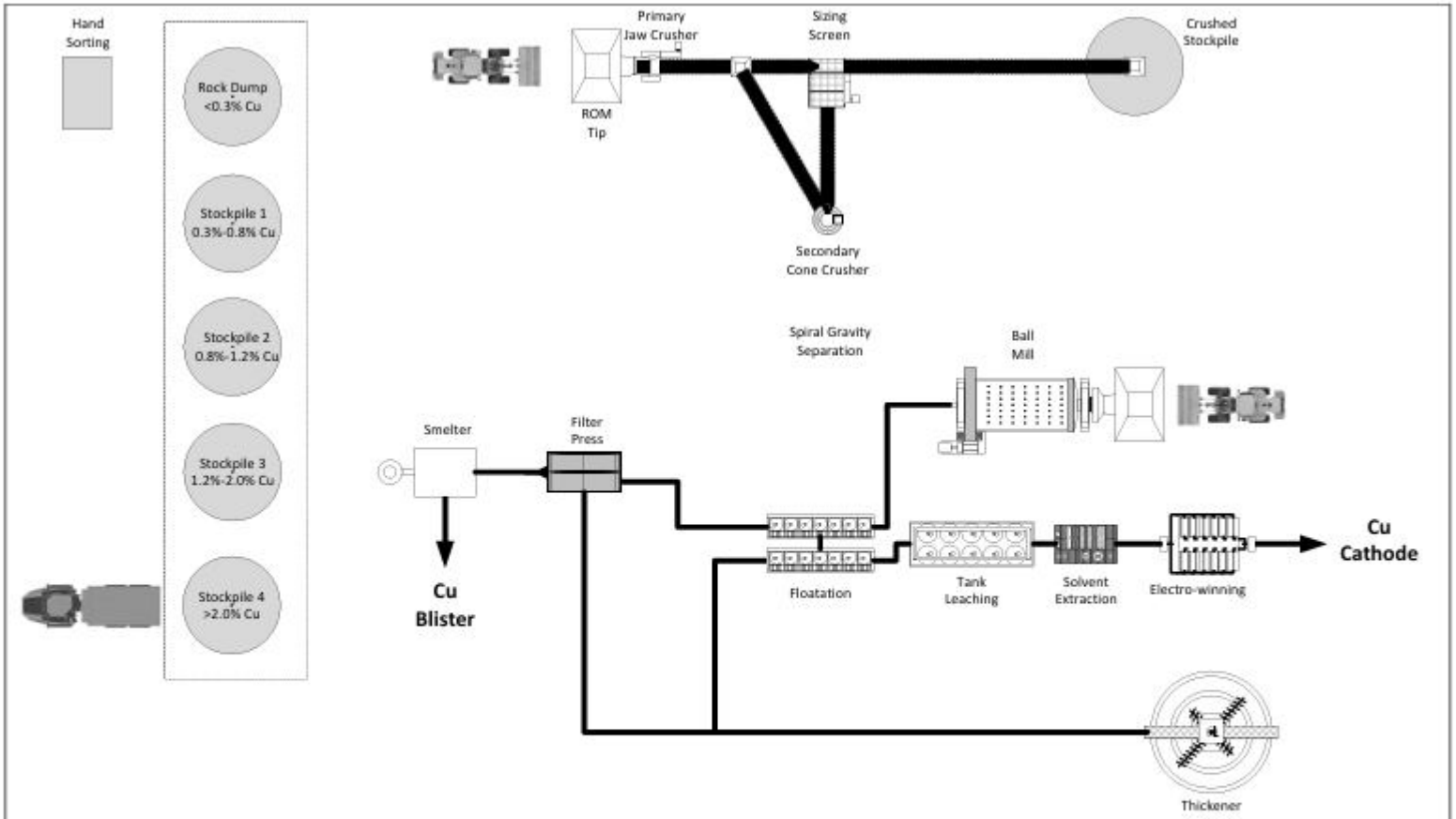
Blasting: A conventional drill and blast operation will be undertaken to develop the open pit to an ultimate depth of 200m (subjects to ruling economics of the day).

Surface Mining: Open pit mining will be employed due to the orebody's gentle dip and shallow occurrence. The shallow occurrence of the orebody allows for a low stripping ratio in the early stages of mining operations. The tailings dam is lined if necessary, depending on the final process design. The management team has furthered the pilot plant studies with an ammonia leach that is environmentally friendly as opposed to sulphuric acid leaching. The mine design initially targets the high-grade shallow material down to 100 meters to capture the benefits of a low-cost, high-grade operation and accelerate the payback of the mine. A smart stockpiling strategy allow for the maximum metal extraction over the LoM while ensuring that the maximum economic benefits are realized.

Beneficiation: As a case study, a high-pH hydrometallurgical process was considered. A high-pH hydrometallurgical process requires ammonia as a reagent. Despite the current high cost of ammonia, the proponent is aware of the Namibian nascent hydrogen production industry, which will produce ammonia as a byproduct. The industry is an exciting development, as it will allow for vast amounts of the Kaokoland to be tapped for copper. A

diagram depicting the conceptual process design of a plant is presented in Figure 4 below.

Transportation: The mining fleet selection will be finalized during the definitive feasibility study, depending on the final mine site layout and production profile.


Hand Sorting
Rock Dump <0.3% Cu
Stockpile 1 0.3%-0.8% Cu
Stockpile 2 0.8%-1.2% Cu
Stockpile 3 1.2%-2.0% Cu
Stockpile 4 >2.0% Cu
ROM Tip
Primary Jaw Crusher
Sizing Screen
Crushed Stockpile
Secondary Cone Crusher
Spiral Gravity Separation
Ball Mill
Smelter
Filter Press
Cu Blister
Floatation
Tank Leaching
Solvent Extraction
Electro-winning
Cu Cathode
Thickener
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CLIENT:
IRON BULL MINING INC.
TITLE:
IRON BULL MINING
OKOHONGO
PROCESSING PLANT
GENERAL ARRANGEMENT DRAWING
DATE: 25.03.2025
REV: 04
SCALE: NTS
CLIENT DWG NO: IBM-PP-GA-004
PROJECT NO: TBA
SHEET: 1 of 1
MHA DWG NO: OKOHONGO PROCESS GA-004

Figure 4 Conceptual process design and general arrangement of plant.

The key design features considered are summarized as follows:

- Primary Jaw Crusher Feeding Stockpiled of classified material
- Secondary cone crusher feed from composite stockpiled material for maintaining a constant head grade and feed rate
- Tank leaching followed by solvent extraction and electro winning
- Spiral tailings and Ball Mill feed to a floatation circuit

Smelting Process: The smelter that have been considered is small mobile smelter produced by XRAM and that have been deployed at Witvlei Village (Omaheke Region) in Namibia. The smelter has received appropriate environmental clearance (Ministry of Environment, Namibia).The smelting option will only be required for the small amount of sulphide concentrate that will be produced from the sequential flotation phase of processing. The options will be to either erect an XRAM mobile smelter similar to that already operating in Namibia or to sell the concentrated to an established commodity trader. If the regulations prove to be overly onerous then the smelter option will not be considered.

Water abstraction:

Water will be sourced from subterranean water sources (aquifers). The following studies to investigate the feasibility of underground water. Boreholes will be used to pump the water needed for domestic purposes and for processing plant areas daily. The allocation of water will form part of the total water balance and requirements for ensuring the optimal and sustainable use of water sources for the project.

Waste management: Major mining-related waste will be in the form of rock material (non-mineral) and waste (tailings).Waste derived from the beneficiation plants will be disposed at the tailing storage facility (TSF). The plant process design and tailing disposal method will help minimize the use of ground water and reduce the amount wastewater treated for discharge in accordance with applicable standards. Alternative waste disposal

technologies will be investigated as part of the project to ensure environmentally responsible waste generation and disposal. Domestic and mining waste generated will be stored, treated, and disposed in accordance with applicable legal standards or legislative guidelines for managing waste. There are no licensed waste disposal sites proximate to the proposed MLA.

Tailing management: Tailings will be used for backfilling if it is proven feasible during the design phase thereby reducing the Tailings Storage Facility ("TSF") footprint and the visual impact on the landscape. The TSF size depends on the final production profile of the mine and processing facility. The base case will be a two-cell, paddock-type facility located west of the plant site. The TSF starter embankments are zone embankments comprising an upstream zone of compacted selective mine waste and a downstream zone of traffic-compressed mine waste. The final TSF design will be aligned with best practices and legislation guidelines.

Sewage Management: Sewage management facilities will be constructed in accordance with applicable legislation. Options under consideration include a bio-digestive system. Bio-digester units are designed to handle the normal sewage from a specific number of people e.g. 10, 50, 100 or 500. The footprint allows for a small area required. The anaerobic process generates biogas (methane) during the breakdown of human or animal excretion and it can be used as source of energy. If sewage is not treated at source, then a wastewater treatment plant will be required.

Reclamation: The open pit will follow a rollback mining philosophy in which the mining void will be backfilled as mining progresses. Environmental rehabilitation will be undertaken concurrent with mining operations. Mining voids will be backfilled in accordance with best practices or sectoral standards. The use of tailings as backfill will be investigated, thereby reducing the Tailings Storage Facility ("TSF") footprint and the visual impact on the landscape.

- **Phase 3: Decommissioning/Closure**

This phase involves the removal of equipment, dismantling of facilities, and safe closure of all infrastructure that does not form part of post-mining land use. Final rehabilitation will be carried out during this phase according to the closure plan and objectives, in accordance with applicable standards and the rehabilitation plan. A detailed closure plan with specific closure objectives and post-mining land use will form part of the environmental studies to be finalized during project implementation.

1.5 Project schedules and phases

A project schedule was developed to guide and ensure the effective execution of activities under various phases of mine development. Details of project activities are elucidated in Table 1 and Table 2. Activities include studies to assess the economic parameters of its future mining activities (pre-feasibility study and feasibility study etc.).

Table 1 Tentative timelines

PHASE	DATE	ACTIVITY DESCRIPTION
Phase 1	The exact start date is unknown	The start date is dependent on regulatory approvals. Once regulatory approval has been secured
Phase 2	Start date	The planned dated for the commencement of mining operations is expected to begin once the processing plant has been erected, which will be 18 months from the issuance of the Mining License. Project will be conducted over a period of twenty years (20) years (phase 1). Depending on progress made in terms of commercial viability, an application for renewal of the ML may be required.

Table 2 Draft Project Schedule

Description	Q1-2025	Q2-2025	Q3-2025	Q4-2025	Q1-2026	Q2-2026	Q3-2026	Q4-20265	Q1-2027
Pre-feasibility									
Metallurgical testwork									
Process Design									
Mining Design									
Environmental and Social Studies (Specialist Studies)									
Regulatory approvals									
Site establishment									
Construction (18 Months) 1									

2. CHAPTER TWO: NEEDS AND DESIRABILITY

Namibia's economic model continues to be influenced by the exploitation of mineral resources. According to the Namibia Chamber of Mines (2024), the mining sector's contribution to GDP continues to grow, with 11.9% contribution in 2022 and 14 % contribution in 2023. Mining is Namibia's largest foreign exchange earner, at approximately 45%. Mineral development is enshrined in the National Development Plan (NDP V). The Harambee Prosperity Plan II plan (Pillar 2) emphasizes economic advancement with the aim of enhancing the productivity of priority sectors such as mining. Mineral development is thus encouraged so that this sector can contribute more to the Namibian economy (NPC, 2021). Mining inherently promote socio-economic advancement. Mineral production continues to contribute significantly to job and wealth creation.

The 2018 Labor Force Survey showed that approximately 1.7% of the formal Namibian labor force is directly employed by mining. The multiplying effect of income from employment in the mining sector is deemed significant. Not only is it estimated that each employed person provides for four other persons, but the mining industry also contributes in various ways to the national economy through taxes and royalties. At a global level, Industrialization and green energy transition continue to drive high demand for strategic minerals, such as copper. It's projected that base minerals, such as copper, lead, and zinc, will be Namibia's top-performing exports in the immediate future. In areas where mining companies undertake their operations, corporate investments can be key to advancing local communities social development agenda. The latter is of importance given that project area is in a rural area that is underdeveloped. According to the National Planning Commission (NPC), expenditure on CSR initiatives to the community has varied over the years, with mining companies investing a total of N$ 537.9 billion between 2013 and 2018. CSRs is not imposed by legislation as a condition of obtaining a mining license but is it considered best practice for mining companies to take the initiative to improve the living conditions of the local communities in which they operate. To this end, the global de-carbonization agenda continues to drive the demand for metals like copper. Despite recent progress in boosting the production of certain materials, supply shortages are still anticipated, hence the need for many more new mining projects like Okohongo to mine metals necessary for the production of lower-carbon technologies that are key to the energy transition.

3. CHAPTER THREE: POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

3.1 Applicable legislation

To ensure that the proposed development complies with the legal requirements for environmental stewardship, a review of applicable Namibian and international legislation, policies, and guidelines was undertaken. This review serves to inform the project proponent, Interested and Affected Parties and relevant decision makers of requirements concerning the proposed development. Legislation, policies, standards, and their inclusion in the assessment are outlined in the following section.

Table 3 Policies, legal, and administrative regulations

LEGISLATION/POLICY	PROVISION/SUMMARY	PROJECT APPLICABILITY
The Constitution of the Republic of Namibia (1990)	Articles 91(c) and 95 (i) commit the state to actively promote and sustain the environmental welfare of the nation by developing and institutionalizing policies to accomplish the following Sustainable objectives: Guard against overutilization of biological natural resources, limit over-exploitation of non-renewable resources, and ensure ecosystem functionality, maintenance of biological diversity. Article 15 protects against economic exploitation and hazardous work (for children under 16) and work in factories or mines (for children under 14)	Mining operations can interfere with ecological processes. Key decisions should focus on the state of water resources and biodiversity protection. Child labor is strongly discouraged in workplaces

Environmental Management Act No. 7 of 2007	Activities with significant environmental impact must be subject to environmental assessment process (Section 27). Compels adequate public participation by stakeholders in the environmental assessment process to express their concerns about the project (Section 2(b-c)). According to Section 5(4), a person may not dispose of waste as defined in Section 5(1)(b) in any way other than at a disposal site designated by the Section 3 (2) (b) stated "community involvement in natural resources management and the sharing of benefits arising from the use of the resources, must be promoted and facilitated" is key. Section 3 (2) (e) states "assessments must be undertaken for activities which may have a significant effect on the environment or the use of natural resources".	Mining operations can cause adverse environmental impacts. Activities such as tailing disposal can have significant environmental impacts. Therefore, proper assessments should guide project planning. The EIA considered stakeholder participation. The proposed mining development involves the use of natural resources (water and land). Environmental cost related to the project shall not be borne by communities adjacent to project area. The Project shall not commence without an environmental clearance certificate.
EIA Regulations GN57/2007 (GG 3812)	Details requirements for public consultation within a given environmental assessment process (GN No 30 S21). Details of the requirements that should be included in the Environmental (Scoping)	The implementation of the project requires the consultation stakeholders concerned. Public consultation meetings are held regarding this, and all concerns and issues are captured and addressed.

	Report (GN No 30 S8) and the EIA report (GNNo 30 S15).	A waste disposal facility is a "listed activity"
Minerals (Prospecting and Mining) Act, 1992 (Act no. 33 of 1992)	Act provides for the licensing procedures, rights of ML holders, administration, and ownership of minerals. In addition, the Act requires mining companies to provide detailed studies on the potential impacts of their operations on the surrounding environment, mitigation strategies. As per Act, a mining company is required to provide for detailed rehabilitation after closure of the mine.	Mining operations shall not start except in accordance with the license issued and or conditions relating thereto.
National Human Wildlife Conflict Policy (2009)	Policy framework for addressing human wildlife conflict management issues effectively and efficiently	• The MLA is located in the Okandungumba Conservancy. The area is associated with human-wildlife conflict-related incidents. • Promote biodiversity conservation by implementing measures aimed at addressing human-wildlife conflict
Atomic Energy and radiation Protection Act 5 of 2005	The act deals with aspects related to radiation exposure.	• Radiation exposure due to mining operations
Disaster Risk Management Act 10 of 2012	The Act provides for disaster risk management. Aimed at advocating an approach to disaster risk management that focuses on reducing risks, especially to those sections of the population who are	• Industrial and technological operational hazards can be associated with project. • Partnerships should be fostered with Regional Disaster Risk Management Committees and Constituency Disaster risk Management

	most vulnerable due to poverty and a general lack of resources (rural communities), advocate for shared awareness and responsibility to reduce disaster risk in communities and society and to facilitate partnerships in disaster response.	Committees in order to provide for an integrated and coordinated disaster management approach.
Explosive Act (No. 26) Of 1956)	The Act regulates the transportation, storage, and use of explosives in mining license areas.	• The transportation and storage of explosives shall be conducted in accordance with the provisions of the Explosive Act(no.26,1956) • Only authorized explosives published in the under the Explosive Act (no.26, 1956) shall be used for mine operations.
Factories Act 1966 (Section 28 -35,99	Provides that no person shall be employed at any machine or in any process, nor shall any person be liable to cause bodily injury, unless he/she has been fully instructed as to the dangers likely to arise in connection therewith and the precautions to be observed.	• Machine Guarding: Dangerous machinery should not be left unattended.
Communal Land Reform Act 5 of 2002	The act provides for the administration of land use rights in communal areas. All communal land areas are vest in the state in trust for the benefit of the traditional communities residing in those areas to promote economic and social development.	The proposed project site is within a communal land. Rights to utilize land may be conferred to the proponent. The communal land board may grant a right of leasehold only if the Traditional Authority of the traditional community in whose

		communal area the land is situated consents to the granting of such right.
National Heritage *Act 27* of 2004	Section 48(1) states that "A person may apply to the (Heritage) Council for a permit to perform works or activities in relation to aprotected place or protected object" Protects and conserves cultural heritage and cultural resources with special emphasis on places and sources of national heritage, including graves, artifacts, and any objects older than 50 years.	No national monuments are registered in the proposed mining license area. However, if heritage resources (e.g., human remains) are discovered during the project implementation phase, guidelines dictate that a permit be acquired from the National Heritage Council of Namibia for the relocation of any artifacts or specimen.
LEGISLATION/POLICY	**PROVISION/SUMMARY**	**PROJECT APPLICABILITY**
National Climate Change Strategy and Action Plan (2013–2020)	The Strategy outlines Namibia's response to climate change. The strategy addresses and plans actions against climate change through both mitigation and adaptation. In its adaptation strategy, the Strategy recognizes the role of a sustainable water resource base.	Measures should be adopted to strengthen sustainable use of water resources. Caution should be exercised not to compromise (quality) of available water resources and to improve management through various conservation techniques.
National Climate Change Policy (NCCP,2011)	The NCCP and NCCSAP aimed at building the country's adaptive and mitigation capacities by identifying potential adaptation and mitigation options that can pave the way for a low-carbon and climate-resilient economy.	Recurring drought is common environmental phenomena in Kunene. Drought can affect water supply sources. Youth, women-headed households, and vulnerable groups should be considered when devising climate-related social investments for local communities .

Atmospheric Pollution Prevention Ordinance 11 of 1976	The law provides for the prevention of atmospheric pollution and for matters incidental thereto. The law regulates and prohibits pollution from industries, particularly smoke and dust. The ordinance considers point sources of air pollution but does not address air quality standards.	The mineral mining process will most likely affect ambient air quality. Efforts to suppress and monitor dust should be taken as recommended in the EMP.
Communications Act no. 8 of 2009.	The Act provides for regulating telecommunications services and networks, broadcasting, postal services and the use and allocation of radio spectrum.	A two-way satellite ground station with a small dish antenna is to be erected at the mine site. No person may have in his or her possession any radio apparatus unless he or she has a permit issued by the Communications Regulatory Authority of Namibia (CRAN).
Water Resources Management Act (No 11 of 2013)	The Act provides for the control of riparian zones and water pollution control, i.e. prohibits discharge of wastewater and define effluent discharge standards. Under section 68, no person may cause a water resource to be polluted directly or indirectly unless authorized under the Act. As such, a lawful occupier of land shall take reasonable steps to ensure the protection of water resources.	Water management plans can provide for the adoption of water-saving techniques and recycling. • A license or permit is required to abstract and use water and to discharge industrial effluent. • A license is required to dispose or discharge ground water generated during mining operations. • A license is required to extract sand or gravel from any watercourse.

National Veld and Forest Fire Act of 1998, 101	The aim of the National Field and Forest Fire Act 101 of 1998 is to prevent and combat field, forest, and mountain fires and to provide for a variety of institutions, methods and practices for achieving this purpose.	The occurrence of seasonal veld fires may present considerable risk to mine infrastructure. A veld fire management plan should be prepared and implemented.
Petroleum Products and Energy Act no. 13 of 1990	The Act obligates any certificate holder or persons in charge of activities related to any petroleum product to report any major petroleum product spill (defined as a spill of more than 200ℓ per spill to the Minister. Such persons are also obliged to take all necessary steps in accordance with good petroleum industry practices to clean up the spill. If this obligation is not met, the Minister is empowered to take steps to clean up the spill and to recover the costs incurred. Used oil from this project will be disposed at a Hazardous Waste Site. Permission will be required from the facility owner before the dumping of the disposed oil.SANS 310:2011: Storage tank facilities for hazardous chemicals –Top ground storage tank facilities for flammable, combustible, and non-	A certificate is required for the installation of an aboveground fuel storage facility.

	flammable chemicals and petroleum products. Approval is required for possession of diesel or petrol of more than the following 600 liters in rural areas. A person is eligible to apply for the consumer installation certificate for a commercial undertaking or a mining	
Health and Safety Regulations 156/1997 (GG 1617)	Details various health and safety requirements.	The occupational health and safety provisions during construction and operational phases should be outlined. Compliance monitoring and responsibilities for compliance monitoring should be clearly stated
Public Health Act 36 of 1919	Section 119 states that "no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health."	Compliance with the Public Health Act shall be ensured in relation to the following: • Sanitation facilities • Communicable diseases • Emergency preparedness and healthcare provision • Provision of occupational safety gear/clothing
Public and Environmental Health Act 1 of 2015.	Provide a framework for a structure and uniform public and environmental health system in Namibia; and to provide for incidental matters.	
SANS 1929: 2005	Dust particulates from excavations/ore crushing that are smaller than 1 mm are deemed dangerous to both plants and humans. Dust monitoring following the ASTM D1739 method should be used to monitor dust emissions from any	• A dust emission monitoring plan should be established within the project area

	anticipated crushing plant. Dust chemical analysis and fallout quantities are specified Industrial and residential environs.	
Factories Act 1966 (Section 28 -35,99	Provides that no person shall be employed at any machine or in any process, nor shall any person be liable to cause bodily injury, unless he/she has been fully instructed as to the dangers likely to arise in connection therewith and the precautions to be observed.	• Dangerous machinery shall not be left unattended.
Labor Act 11 of 2007	Empowers the minister responsible for labor to publish regulations on the health and safety of laborers (S135). Details regarding minimum wage and working conditions (S39-47).	Mining invites significant amount of laborious work. Therefore, there is a need to ensure that proponents without charge to employees provide a safe working environment and adequate facilities for the upkeep of employee welfare standards. The Ministry of Labor, Industrial Relations, and Employment demands that an Occupational Health Management policy be developed and instituted.
National Heritage Act 27 of 2004	Section 48(1) states that "A person may apply to the (Heritage) Council for a permit to perform works or activities in relation to aprotected place or protected object" Protects and conserves cultural heritage and cultural resources with special	There are no National Monument registered over the proposed mining license area. However, if heritage resources (e.g., human remains) discovered during the project implementation phase, guidelines dictate that a permit be acquired from the National Heritage Council of Namibia for the relocation of any

	emphasis on places and sources of national heritage, including graves, artefacts, and any objects older than 50 years.	artefacts or specimen.
Burial Place Ordinance, (Act No. 27 of 1966).	Prohibit the desecration or disturbance of graves in burial places and regulate matters relating to the removal or disposal of dead bodies.	Chance finding is highly recommended. Therefore, this Act is relevant and should be considered by the proponent.
Foreign Investment Act (27 of 1990) (Soon to be replaced by Investment Promotion Act.	The Act fosters economic growth and development by promoting trade and investment in Namibia.	The Act is aimed at attracting and facilitating inward and aftercare investment. The project can align with the objectives of the Act, which may include support to micro and small business enterprises; industrial infrastructure development and local services; promotion of investments through joint ventures and partnerships; promotion of education and skills training so as to increase productivity in business enterprises, etc.
Soil ConservationAct 76 of 1969	The Act was established to consolidate and amend the law relating tothe combating and prevention of soil erosion, the conservation, improvement, and manner of use of soil and vegetation, and the protection of water sources in the Republic of Namibia.	The construction of auxiliary infrastructure such as access roads or tracks should include systems and mechanisms for preventing erosion.
Communal Land Reform Act 5 of 2002	The act provides for the administration of land use rights in communal areas. All communal land areas are vest in the state	The proposed project site is within a communal land area vest in the State for the benefit of traditional communities. Rights to lease hold may

	in trust for the benefit of the traditional communities residing in those areas for promoting economic and social development.	be conferred to the proponent by communal land board. The communal land board may grant a right of leasehold only if the Traditional Authority of the traditional community in whose communal area the land is situated consent to the granting of the right.
National Solid Waste Management Strategy	The Strategy ensures that future directions, regulations, funding, and action plans to improve solid waste management are poorly coordinated and consistent with national policy and facilitate cooperation between stakeholders.	Mining operations generate significant amounts of waste material, which requires careful handling. The obligation to meet waste management objectives should be borne by both proponent and contractors. Key operational aspects: • Adoption of In situ waste management plans. • Rock waste and other non-mineral waste should be stored and disposed-off in an environmentally friendly manner. • Waste deemed hazardous is disposed-off at a licensed waste disposal site.
Nature Conservation Ordinance (4 of 1975) as amended	This ordinance relates to the conservation of nature; the establishment of game, parks, and nature reserves; the control of problem animals; and highlights matters incidental thereto.	Project activities will be localized. The project will not in any manner affect laid out objectives of any declared protected park, area or nature reserve. The appropriate design of any drainage and water network should aim at preventing or minimizing vegetation loss.

		All species of birds are protected except the hunt-able game birds as mentioned in Schedule 6 and expect the following birds: Weavers (All Ploceus spp.), Sparrows (All Passet spp.), Mousebirds (Colius colius; Urocolius indicus), Redheaded Quelea (Quelea quelea), Bulbul (Pycnonotus nigricans; P. barbatus) Pied Crow (Corvus albus).
Pollution Control and Waste Management Bill	The bill aims to "prevent and regulate the discharge of pollutants to the air, water and land" of particular reference to the project is: Section 21 "(1) Subject to sub-section (4) and section 22, no person shall cause or permit the discharge of pollutants or waste into any water or watercourse." Section 55 "(1) No person may produce, collect, transport, sort, recover, treat, store, dispose of or otherwise manage waste in a manner that results in or creates a significant risk of harm to human health or the environment."	The proposed activity triggers Bills 21 and 22. Activities such as clearing and primary crushing may require robust in situ pollution mitigation measures. Contractors of the civil works involved in the project should make it mandatory that they manage their waste in a manner that does not cause environmental harm or a risk to both the natural environmental and local communities.

Forest Act 12 of 2001	Section 10 (1) sets out the aim of forest management as to: The purpose for which forest resources are managed and developed, including the planting of trees where necessary. Namibia intends to conserve soil and water resources, maintain biologicaldiversity, and use forest produce in a way compatible with the forest's primary role as a protector and enhancer of the natural environment.	The proposed project will likely result in disturbance of indigenous vegetation
Road Traffic and Transport Act, No. 22 of1999	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.	Mitigation measures to be implemented if road and traffic impacts cannot be avoided. Should the proponent wish to undertake activities involving road transportation or creation of new access to adjoining national roads, relevant permits will be required from the Ministry of Works and Transport. The important factors that can inform the selection of equipment for transport systems are as follows: • Transport roadway size (height and width). • Transport distance and loading points. • Roadway conditions (gradient, undulation, soft floor).

3.2 Permits & License Requirements

a) **Mining Rights:** Licenses are granted in accordance with the Minerals Prospecting and Mining Act (Act no 33 of 1992). A list of licenses associated with mining is shown in Table 4 below.

Table 4 Mining License Categories in Namibia (Source: Adopted from IGF mining policy framework assessment 2018)

Licence type	Description	Duration	Renewable	Restrictions
Non-exclusive prospecting licence (NEPL)	Gives the right to prospect on any land for any mineral or group of minerals.	12 months	No	Anyone over the age of 18 can apply; non-transferable.
Mining claims	For Namibians mining on a small scale.	3years	Two-year extension, unlimited (Providing the claim is being worked on)	A maximum of 10 claims can be held at any one time. Available to Namibian citizens only.
Reconnaissance licence	Regional, mainly remote sensing exploration for identification of exploration targets	6 months	No	Not transferable.
Exclusive prospecting licence (EPL)	For an area of up to 1,000 km2 (100,000ha). Granted for a specific mineral or group of minerals.	3 years	Twice for two-year periods, with the area decreasing by 25 per cent with each renewal	Exclusive exploration rights to the land. (Renewals beyond seven years require special approval by the minister).
Mineral deposit retention licence	Allows exploration company to retain tenure on exclusive prospecting licence, mining licence or mining claim without any mining obligations.	5 years	2-year periods.	Must meet work and expenditure obligations and submit regular project reviews
Mining licence (ML)	Exclusive rights to the mining area.	25 years or life of mine	15-year periods.	Must demonstrate financial and technical ability to develop and operate a mine

b) **Environmental Clearance Certificate**: An ECC is valid for three (3) years. ECC may be renewed or amended. Other permits and licenses that could be relevant to the various implementation phases of project are outlined below.

Table 5 Other License Requirements

PERMIT/LICENCES	RELEVANT AUTHORITY	VALIDITY/DURATION
PERMIT FOR ABOVE GROUND FUELING STORAGE TANK	Ministry of Industrialization ,Mines and Energy	Permit dependent
WATER-USE LICENCE	Ministry of Agriculture, Fisheries ,Water, and Land Reform	Permit dependent
BOREHOLE LICENCE	Ministry of Agriculture, Fisheries ,Water, and Land Reform	Permit dependent
HERITAGE CONSENT	Ministry of Education	Permit dependent
FORESTY PERMIT	Ministry of Environment , Forestry and Tourism	Permit dependent
WASTE WATER DISCHARGE PERMIT	Ministry of Agriculture, Fisheries ,Water, and Land Reform	Approval
SAND and GRAVEL EXTRACTION PERMIT	Ministry of Agriculture, Fisheries ,Water, and Land Reform	Permit dependent
EXPLOSIVE PERMIT	Ministry of Home Affairs , Immigration, Safety and Security	Permit dependent
TELECOMMUNICATIONS LICENCE	Communications Regulatory Authority of Namibia	Permit dependent

4. CHAPTER FOUR: APPROACH TO STUDY

4.1 EIA Methodology

The provisions of the Environmental Management Act (No. 7 of 2007) and related regulations guided the environmental assessment. Potential impacts associated with the project activities were identified. The public participation process provided stakeholders with an opportunity to express their views on the proposed project. This public participation process component is fundamental to the impact assessment process and integral to decision-making regarding the authorization (ECC). An EMP that considers environmental aspects and corresponding mitigation measures for all phases of the project is part of this EIA Report. Figure 5 shows the environmental impact assessment process followed in Namibia.

4.2 Desktop Research

Data was derived from various sources. Information was sourced from peer-reviewed articles, maps, the Internet, photographs, and GIS datasets.

4.3 Initial Screening and Scoping

The main purpose of the scoping was to identify key issues for consideration during the EIA study. Main activities covered during the scoping phase included.

- Distribution of the BID.
- Identifying I&APs and announcing the EIA process/registration of I&APs.
- Identification of key specialist studies to be conducted.

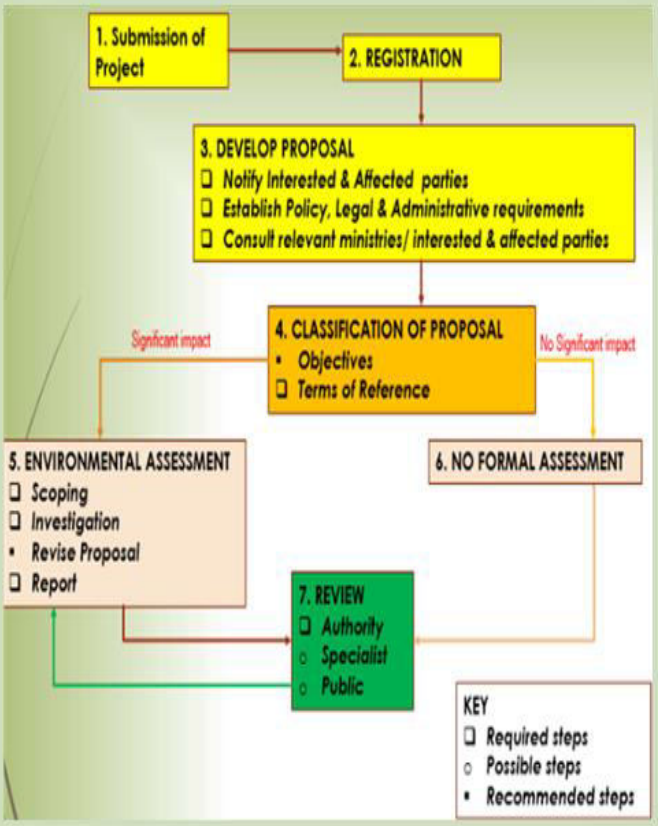


Figure 5 EIA Process in Namibia: (Image Source: MEFT, 2024)

5. CHAPTER FIVE: ENVIRONMENTAL SETTING

Baseline conditions related to the project area are explained in sections 5.1 to 5.7.

5.1 Biophysical Environment

- **Topography, elevation**

Namibia is divided into three main topographic elements: (a) An extensive plateau, b) A narrow coastal plain, and (c) an eroded escarpment characterized by rugged topography. The project site is situated in a region with varied terrain, ranging from approximately 1440 m to 1747 m in elevation. The central part of the map, including the mine area, shows higher elevations and steep slopes.

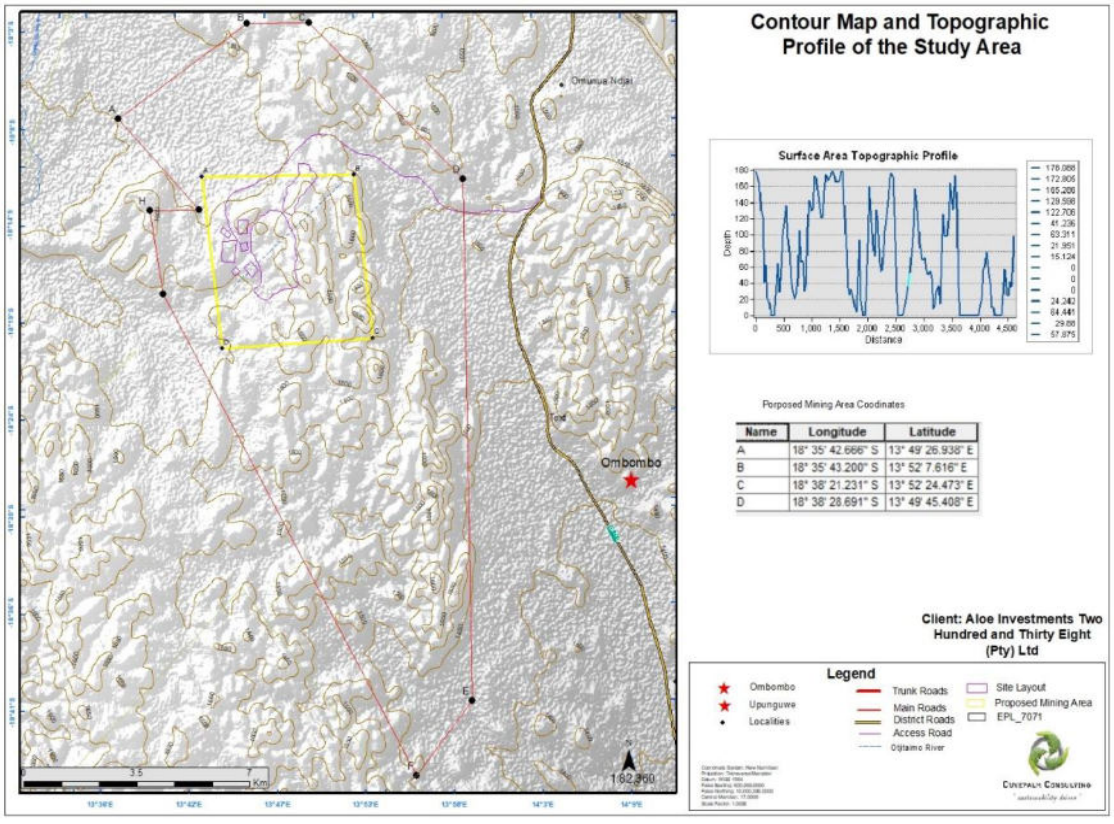


Figure 6 Topography

- **Climate Conditions**

Namibia is one of the largest and driest countries in sub-Saharan Africa and is characterized by high climatic variability due to persistent droughts, unpredictable and variable rainfall patterns, temperature variability, and water scarcity. According to the Africa Peer Review Mechanism (2022), the semi-arid climate over most of the country coupled with high evaporation rates makes the country have a net water deficit. The Namibian climate is characterized by evaporation rates that are much higher than the precipitation rates, resulting in very low humidity.

The Kunene region is a low-lying rainfall area in Namibia. The Kunene region has faced recurrent droughts over the years because of poor rainfall patterns, as shown in Figure 7. To understand the climatic conditions in the study area, monthly meteorological data from the Opuwo AWS station located approximately 80 km north of the proposed mining site, were analysed. Established in 2014, the station has data gaps, which are presented in raw form in Appendix G. For the purposes of this study, only years with complete monthly data sets were considered to ensure consistency. The project is located in a climate-risk hotspot area (Opuwo Rural Constituency).

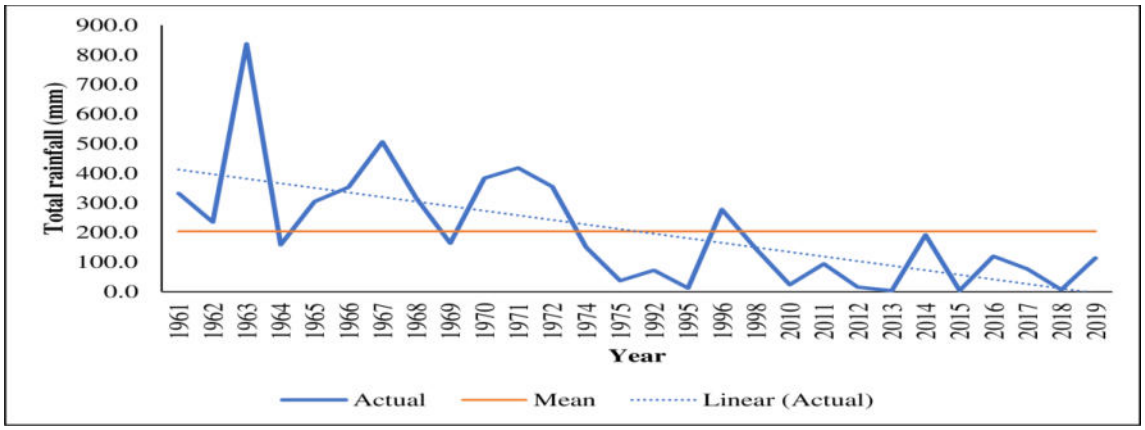
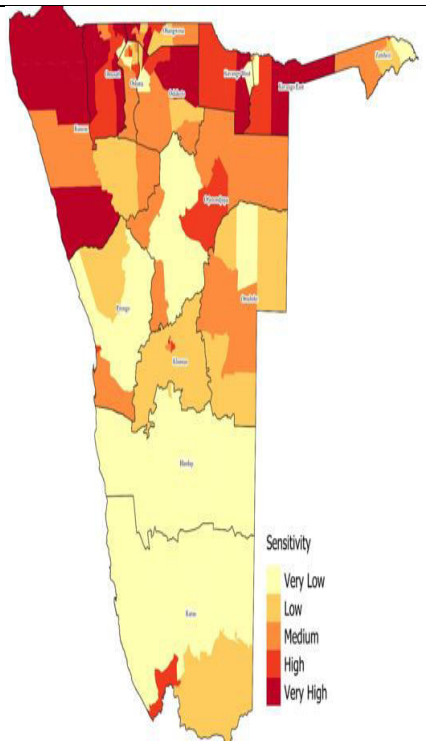
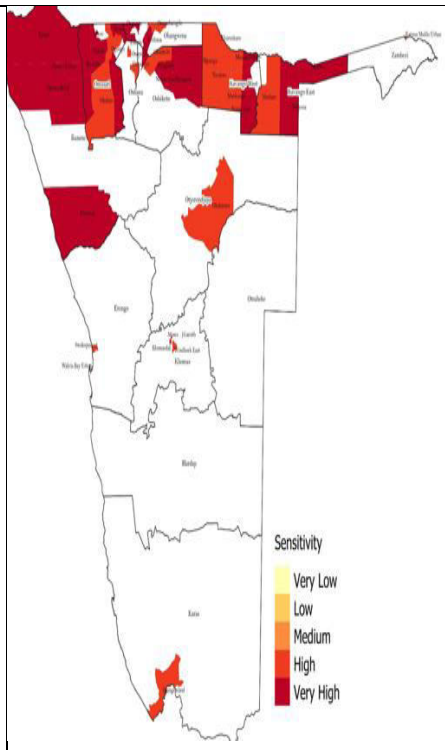


Figure 7 Total annual rainfall (Image source: MET Office- Namibia: In (Inman, 2023)

Table 6 Climate change sensitivity (Namibia)

	
National risk to climate change (i.e. high temperatures and low water availability over time.	Highlights areas and constituencies with the highest risk of climate change.

- **Rainfall**

As indicated earlier, data derived from the Namibia Meteorological Services indicate monthly rainfall data from 2017 to 2023, excluding 2014, 2015, and 2019 due to incomplete data (Appendix G). The average annual rainfall varied significantly across these years, with 2017 recording the highest average annual rainfall of 332.6 mm and 2023 recording the lowest at 127.2 mm. In 2017, high rainfall was experienced in March (117.1 mm), with significant amounts in January (46.3 mm), February (63.5 mm), and April (65.4 mm), along with additional rainfall in November (16.4 mm) and December (23.9 mm). In 2018, March saw the highest rainfall (123.5 mm), with minor amounts in February (5.6 mm), April (20.8 mm), and November (20.3 mm), while no rainfall was recorded in the second half of the year. The year 2020 showed high rainfall in February (110.4 mm), followed by significant rainfall in January (31 mm), March (30.5 mm), and April (28 mm). In 2021, precipitation was primarily recorded in January (20 mm), February (22 mm), March (114.5 mm), November (27.5 mm), and December (54 mm). In 2022, February had the highest rainfall (136 mm) and significant rainfall in March (69.3 mm), with a minor amount in December (13 mm). Finally, in 2023, precipitation was recorded in January (62.2 mm), February (12.5 mm), November (28.5 mm), and December (24 mm).

Table 7 Annual and monthly variations in rainfall

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014			94.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37.80
2015	15.90	0.40	81.10									
2017	46.30	63.50	117.10	65.40	0.00	0.00	0.00	0.00	0.00	0.00	16.40	23.90
2018	0.00	5.60	123.50	20.80	0.00	0.00	0.00	0.00	0.00	0.00	20.30	0.00
2019					0.00	0.00	0.00	0.00	0.00	45.10	19.50	153.40
2020	31.00	110.40	30.50	28.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2021	20.00	22.00	114.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.50	54.00
2022	0.00	136.00	69.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.00
2023	62.20	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.50	24.00

Seasonal variations indicated that summer (December to February) experienced higher rainfall with peaks in specific years, 2017 and 2020. Autumn (March to May) saw significant rainfall, particularly in March across several years, notably in 2017 and 2018. Winter (June to August) typically had low or no rainfall, indicating a dry season. Spring (September to November) saw an increase in precipitation, particularly in 2019 and 2021.The average monthly rainfall data for the years 2017 to 2023, excluding 2019, are shown in Figure 8.

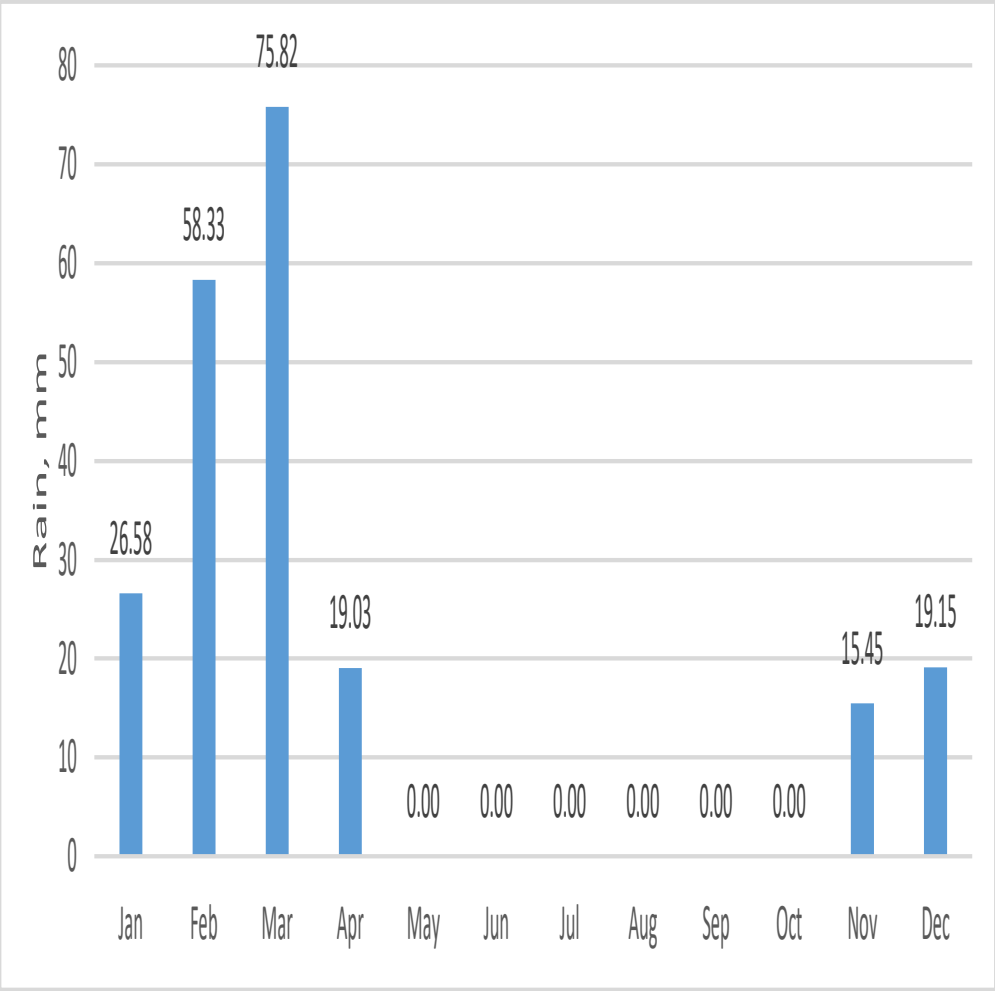


Figure 8 Average monthly rainfall trend

- **Ambient Temperature**

It is important to review this analysis with the understanding that the data are not continuous and contain gaps, specifically for 2017 and 2018. These gaps may affect the interpretation of long-term trends and should be considered when drawing conclusions from the data. Based on temperature data from 2015, 2016, and 2019 (Table 8) there was a noticeable increase in average temperatures. In January (2019), temperatures rose from 25.42°C in 2015 to 27.49°C. February saw a slight increase from 27.02°C in 2015 to 27.86°C in 2019, whereas March temperatures increased significantly from 25.45°C to 27.12°C. April and May remained relatively stable, fluctuating around 24-26°C. June experienced a significant rise from 16.91°C in 2015 to 19.88°C in 2019. The July and August temperatures also showed modest increases. September climbed from 24.34°C in 2015 to 25.01°C in 2019. October temperatures remained high and stable around 26-27°C. November consistently recorded warm temperatures of around 27°C, and December saw minor variations, maintaining around 25-26°C.

Table 8 Monthly variation in ambient temperature

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	25.42	27.02	25.45	24.26	22.62	16.91	18.66	20.66	24.34	27.24		25.98
2016	26.33	26.38	26.34	26.76	22.27	19.95	18.65	22.1	23.83	27.16	27.86	26.89
2019	27.49	27.86	27.12	26.19	24.14	19.88	19.4	21.76	25.01	26.88	27.11	25.71

The year 2015 had its warmest month in February (27.02°C) and its coolest month in June (16.91°C), with an average annual temperature of approximately 23.46°C. In 2016, the warmest month was November (27.86°C) and the coolest was June (19.95°C), with an average annual temperature of 24.42°C. The year 2019 had its warmest month in February (27.86°C) and its coolest month in July (19.40°C), with an average annual temperature of approximately 24.55°C.

- **Relative Humidity**

Relative humidity data from 2015, 2016, and 2019 (Table 9) reveal significant trends and insights. In 2015, the highest humidity was recorded in December at 45.61%, while the lowest was recorded in July at 22.03%. Throughout the year, humidity levels fluctuated, with notable peaks in March (51.77%) and October (24.77%). In 2016, February had the highest humidity, 47.14% and the lowest humidity was 17.03% in August. The data for 2016 showed a general trend of higher humidity levels in the early months, particularly in January (42.35%) and March (41.58%), with a significant decrease during the summer months. In 2019, the highest humidity was again recorded in December at 43.58%, and the lowest was recorded in both July and August at 16.97%. The humidity levels in 2019 were lower than in previous years, with notable values in January (29.03%), March (34.19%), and October (25.65%).The analysis highlights that humidity levels tend to peak during the winter months, particularly in December, and are

lowest during the summer months, particularly in July and August. It is essential to review this analysis with the understanding that the data are not continuous and contain gaps, specifically for 2017 and 2018. These gaps may affect the interpretation of long-term trends and should be considered when drawing conclusions from the data

- **Station Pressure**

Pressure data from 2015, 2016, and 2019 show several notable trends, as shown in (Appendix D). In 2015, pressure levels generally increased from 886.99 hPa in January to a peak of 890.8 hPa in June, before slightly declining towards the end of the year (887.96 hPa) in December. In 2016, the pressure levels also showed an increasing trend from 887.37 hPa in January to a peak of 891.98 hPa in June, followed by a decrease towards the end of the year, ending at 886.34 hPa in December. In 2019, the pressure level began at 886.18 hPa in January, peaked at 891.44 hPa in June, and decreased to 886.32 hPa in December. The data reveal a consistent pattern in which pressure levels peak around mid-year (June) and decrease in the end of the year. It is important to note that the data are not continuous and contain gaps, which may affect the interpretation of long-term trends.

Table 9 Monthly variations in relative humidity

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	887	886	887	889	890	891	890	890	888	888		888
2016	887	887	888	889	891	892	891	890	888	887	887	886
2019	886	886	888	888	889	891	891	891	888	887	886	886

- **Wind**

a) Wind Speed

In 2015, the wind speed ranged from 0.67 m/s in July to 1.98 m/s in January, with an average annual wind speed of approximately 1.35 m/s. The wind speed was generally higher in the summer months (December to February) and lower in the winter months (June to August).In 2016, the wind speeds ranged from 1.32 m/s in March to 2.03 m/s in November, with an average annual wind speed of approximately 1.64 m/s. The wind speeds in 2016 were more stable than those in 2015, with less pronounced seasonal variation. In 2019, the wind speed varied from a low of 1.12 m/s in April to a high of 1.90 m/s in January, with an average annual wind speed of approximately 1.56 m/s. The wind speeds in 2019 were similar to those in previous years, with higher summer values and lower winter values. Overall, the average wind speed at the study site exhibited slight variations over the years, with the highest speeds typically occurring in the summer months and the lowest in the winter months, consistent with the study location in the southern hemisphere. Overall, the average wind speed relating to the study site showed slight variations over time, with the highest speeds occurring in winter and the lowest in summer.

b) Wind Direction

The wind direction data for 2015, 2016, and 2019 reveal significant variations. In 2015, the dominant wind direction was from the northeast (32.47° in May) to the south-southwest (209.12° in January). The average wind direction over the year was approximately east-southeast to south-southwest, indicating a general wind direction from the southeast to the southwest. In 2016, the wind direction varied from east-northeast (54.59° in June) to south-southwest (175.2° in November), with an average annual direction of approximately east-southeast to south-southwest. This indicates a slightly more northern component than in 2015, but it is still predominantly from the southeast to the southwest. In 2019, the wind directions ranged from east-northeast (53.1° in July) to south-southwest (185.72° in January), with an average annual direction of approximately east-southeast to south-southwest. The wind directions in 2019 were similar to those in previous years, predominantly from the southeast to the southwest. Overall, the predominant wind directions at the study site over the three years were from the southeast to the southwest, with some seasonal variations. The variations in wind direction were more pronounced in the winter months, with the direction shifting more towards the east and north. A wind rose plot showing the wind speed and direction for Opuwo based on limited data from 2015, 2016, and 2019 is presented below.

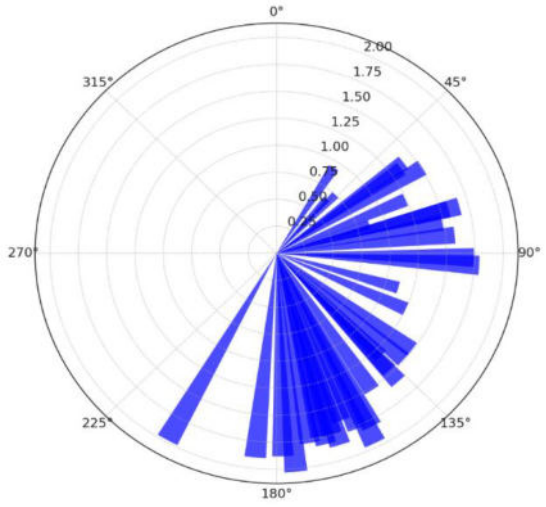


Figure 9 Wind rose for Opuwo (2015, 2016, and 2019)

The wind speed and direction analysis for the region indicated moderate conditions, with average speeds ranging from 1.35 to 1.64 m/s. Wind speeds typically peak during the summer months (December to February) and subside during winter (June to August). The dominant wind direction was southeast–southwest with occasional shifts towards the east and north during winter.

Climate Sensitivity

Table 10 below depicts the project area's climatic conditions such as potential sensitivities and associated features.

Table 10 Climate *Sensitivity Index*

Environmental Features	Description	Sensitivities	Potential impact features on the project
Rainfall	Average rainfall: 200–300 mm per year. The mean annual evaporation averaged 3000–3200 mm annually, exceeding precipitation by approximately 93%. Typically, sporadic, and unpredictable.	Poor rainfall limits ground water recharge. Groundwater is an important source of water for local community and wildlife	Mining activities increases water demand. Run-off from cleared areas causes erosion.
Temperature	In summer, average temperature: 24.42°C	Contributes to high evaporation rate. Semi-arid climate.	Wellness, health, and safety of the workforce.
	Average winter temperature: 18.9°C	Water resources are scarce. High temperatures in summer.	
Wind Direction	The wind blows predominantly from the southeast to the south west	Dust can be a nuisance for sensitive receptors that are approximate to the target area.	Dust particles as a nuisance

- **Soils**

The study area is characterized by two major soil types (leptosols and regosols).

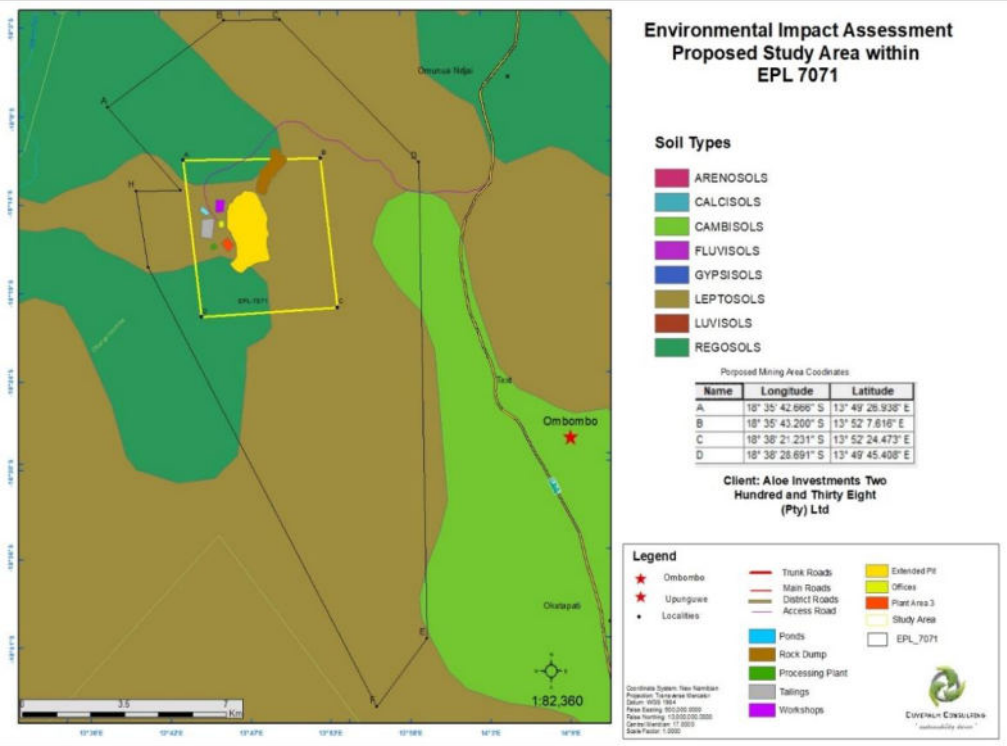


Figure 10 Major soil types

- **Biodiversity**

Habitat: The proposed mining site is located in a mopane biome. Dominant vegetation forms include woody tree species and dense thickets of shrubs that are common to a network of shallow drainage channels. The broader landscape is gently undulating with flat areas. The area has a low to medium average vegetation biomass production that supports wildlife and livestock farming. The project area does not fall within a nationally declared protected area or wildlife sanctuary.

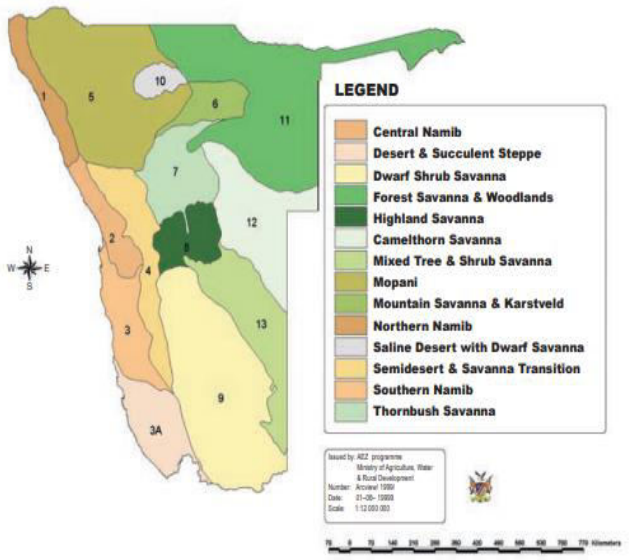


Figure 11 Biomes and broad vegetation types (Adapted from Giess, 1971, MAWLR)

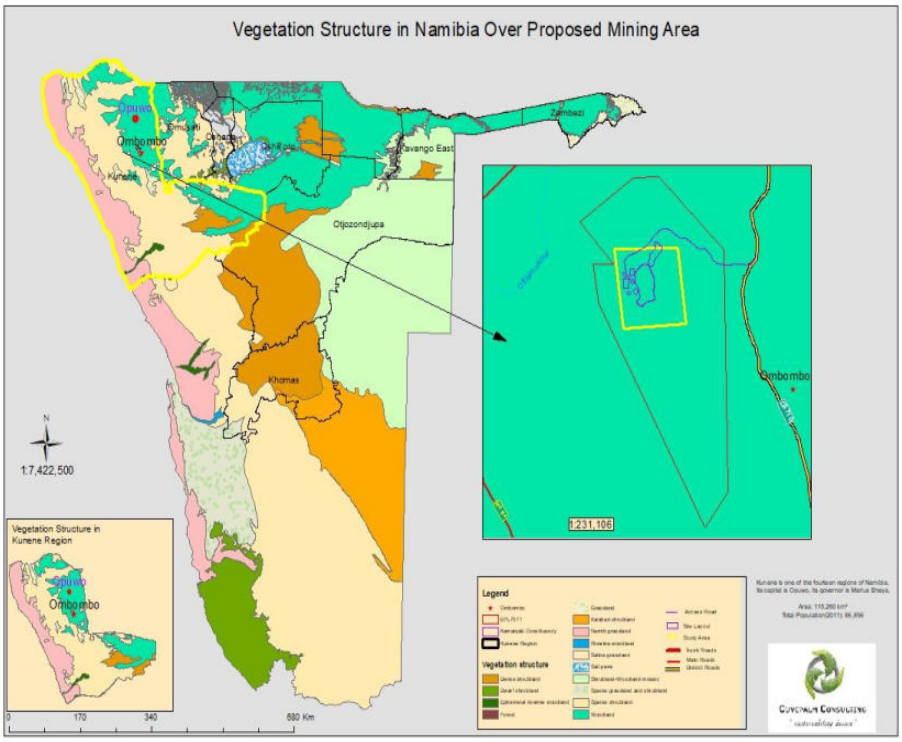


Figure 12 Vegetation structures within and around project surroundings

Fauna

The number of mammalian species likely to occur in the area and surrounding ranges from 76 to 90 (Mendelsohn et al, 2002)), with 51–60 reptile species, 1-3 frog species (Atlas of Namibia, 2003), and 12–13 scorpion species could be expected (Mendelsohn et al, 2002) in the study region. Approximately 710 birds occur in Kunene with about 114 to 160 (Atlas of Namibia) likely to occur in the proposed project area. Six (6) bird species were sighted (Appendix F) during the field excursion months (May to August 2024). Common species include the African quail, Helmeted Guinea fowl, Ring-necked Dove, Namaqua Dove, Grey Go-away-bird, Crowned Lapwing, Pale Chanting-Goshawk, Ostrich, Diederick Cuckoo,Great Rufous Sparrow, Common Scimitarbill, Crimson-breasted Gonolek, Mountain Chat, Blacksmith Lapwing, Crimson-breasted Gonolek, Blacksmith Lapwing, Red-faced Mousebird, Southern Pied- Babbler, Rufous-eared Warbler, Laughing Dove, Red-crested Bustard, Pale Chanting-Goshawk, and Waxbill. Species that carry the IUCN threatened status but that a rare sighting in the study area include Ruppels Korhaan (Eupodotis rueppellii, NT), Ludwig's Bastard (Neotis ludwigii, EN), and Martial Eagle (Polemaetus bellicosus NT).

Human encroachment and exploration activities in and around project area has reduced vegetation patches and have resulted in reduced sightings of mammals overtime. Subject to further research, there are no known rare or endemic species in the study area. Ungulates that occur in a broader area, such as Duiker (Sylvicapra grimmia), Warthog

(Phacochoerus africanus), Mountain Zebra (Equus quagga), and Steenbuck (Raphicerus campestris), Kudu (Tragelaphus strepsiceros), Oryx (Oryx gazella), and Girrafe (Girrafa girrafa), Elephant (Loxodanta africana). Medium-sized predators include cheetahs, spotted hyaenas (Crocruta crocruta, leopards (Panthera pardus), cheetahs (Acinonyx jubatus), and black-backed jackals (Canis mesomelas).

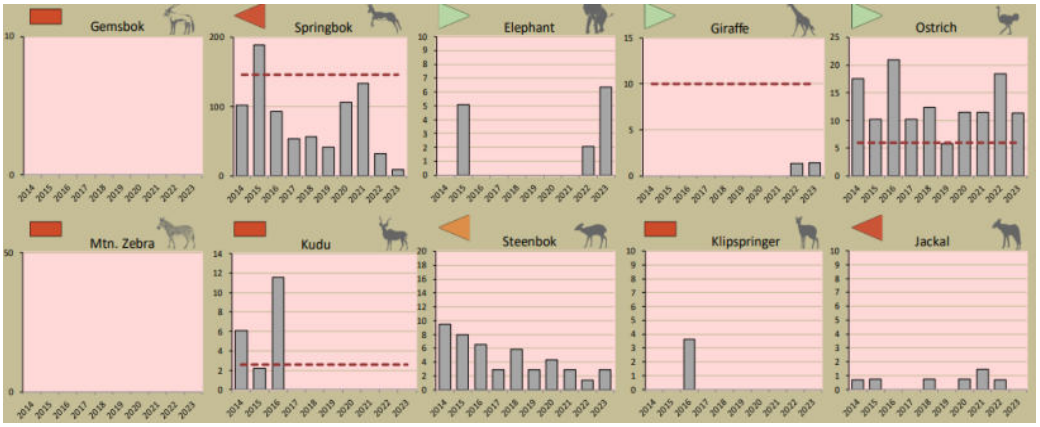


Figure 13 Annual Game Counts Results :(NACSO, 2023)

Flora

The plant diversity in the general area is estimated to be 400-499 species (Mendelsohn et al, 2002). The study area is characterized by a woody vegetation and shrub land vegetation structure. Common woody plants (Table 9) include Collospernum mopane, Ziziphus mucronata, Combretum apiculatum, Terminalia prunoides, Terminalia sericia, Albizia anthelmentica, Catapractes alexandrii, and Commiphora spp. Acacia spp. are common, including the black thorn (Acacia mellifera), Red umbrella thorn (Acacia reficiens), and Umbrela thorn (Acacia tortilis). The latter three (3) are classified as encroacher bushes. Common bushes observed during the study include Grewia flava and Grewia flavensis. Grass species observed include Eragrostis biflora, Mariscus squarrosa, Sporobolus spicatus, with Stipagrostis uniplumis and Eragrostis rigidior being the dominant grass species. A species inventory (checklist) of species observed and likely to occur in the study area and surroundings is attached as (Appendix F to this report).

Table 11. Common *plant species found in the study area*

SPECIES	COMMON/LOCAL NAME	STATUS
Colospernum mopane	Mopane	Protected
Acacia mellifera	Black thorn	Not threatened
Acacia tortilis	Umbrella thorn	Not threatened
Boscia albitrunca	Shepherds tree	Protected
Commiphora africana	Omukange	Not threatened
Terminalia sericea	Silver cluster-leaf	Protected
Sclerocarya birrea	Marula	Protected
Moringa ovalifolia	Omutindi/Marula	Not threatened

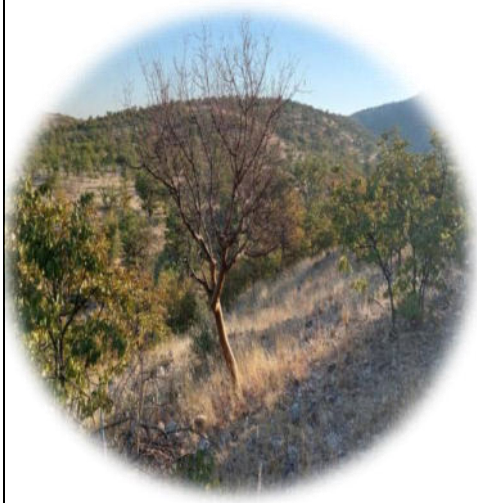
	
Acacia mellifera	*Boscia foetida*
	
Woody vegetation along drainage lines	Commiphora spp. sandwiched by Mopane spp.

Figure 14. Vegetation profile of study area.

Parts of the study area are heavily degraded. The likely well-known cause, is over-overgrazing of the rangeland because of high concentrations of livestock over time, as well as continuous grazing and trampling by livestock.

Community -Based Natural Resource Management

The project is located in the Okangundumba conservancy, with an area size of 1131km^2. The conservancy was gazetted on 24 July 2003 in terms of the Nature Ordinance Act of 1975 as amended. The conservancy grew out of the recognition that wildlife and other natural resources are of value to the traditional community, and that these resources can be unlocked if community is empowered to manage and utilize these resources. Administratively, the conservancy is divided into six (6) blocks comprising several villages and is governed by a functional conservancy management committee (CMC) of seventeen (17) members nominated from each block. Of the 17 CMC members, 15 are men and only two are women. The traditional leaders are represented on the conservancy committee.

Wildlife monitoring is based on annual road-based counts conducted in conjunction with the Event Book system. Problem animal incidences are common in the study area and surroundings. In order to offset losses from crops, livestock losses attributed to elephants and predators, including lions, the conservancy is involved in human wildlife conflict management. The conservancy (members) benefit through tourism and associated income, including crafts, and consumptive tourism. Okangundumba Conservancy has different land uses ranging from wildlife management, livestock husbandry, tourism development, hunting, and gardening. The Okangundumba Conservancy developed a zonation plan (draft) with the primary goal of separating competing land uses and reducing land-use conflicts. The plan can be revised to cater for contemporary issues such as opportunities presented by mineral occurrences.

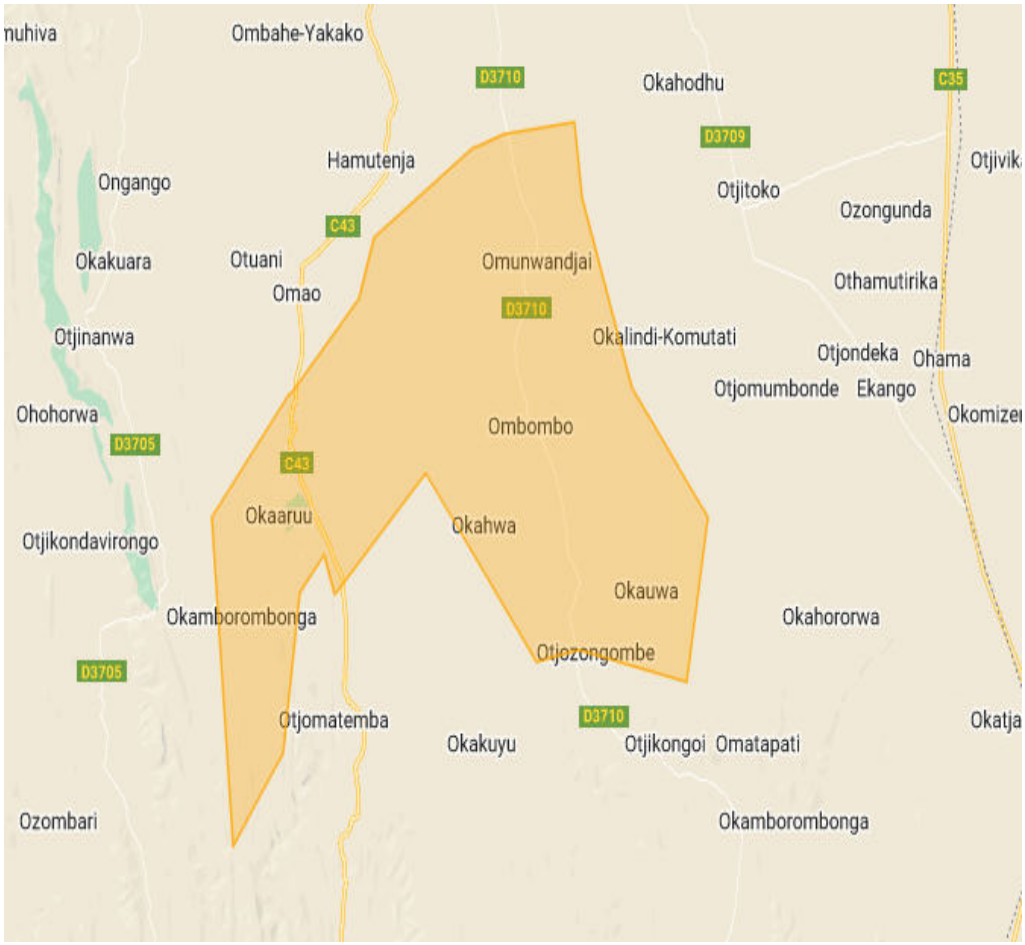


Figure 15 Okangundumba Conservancy Map

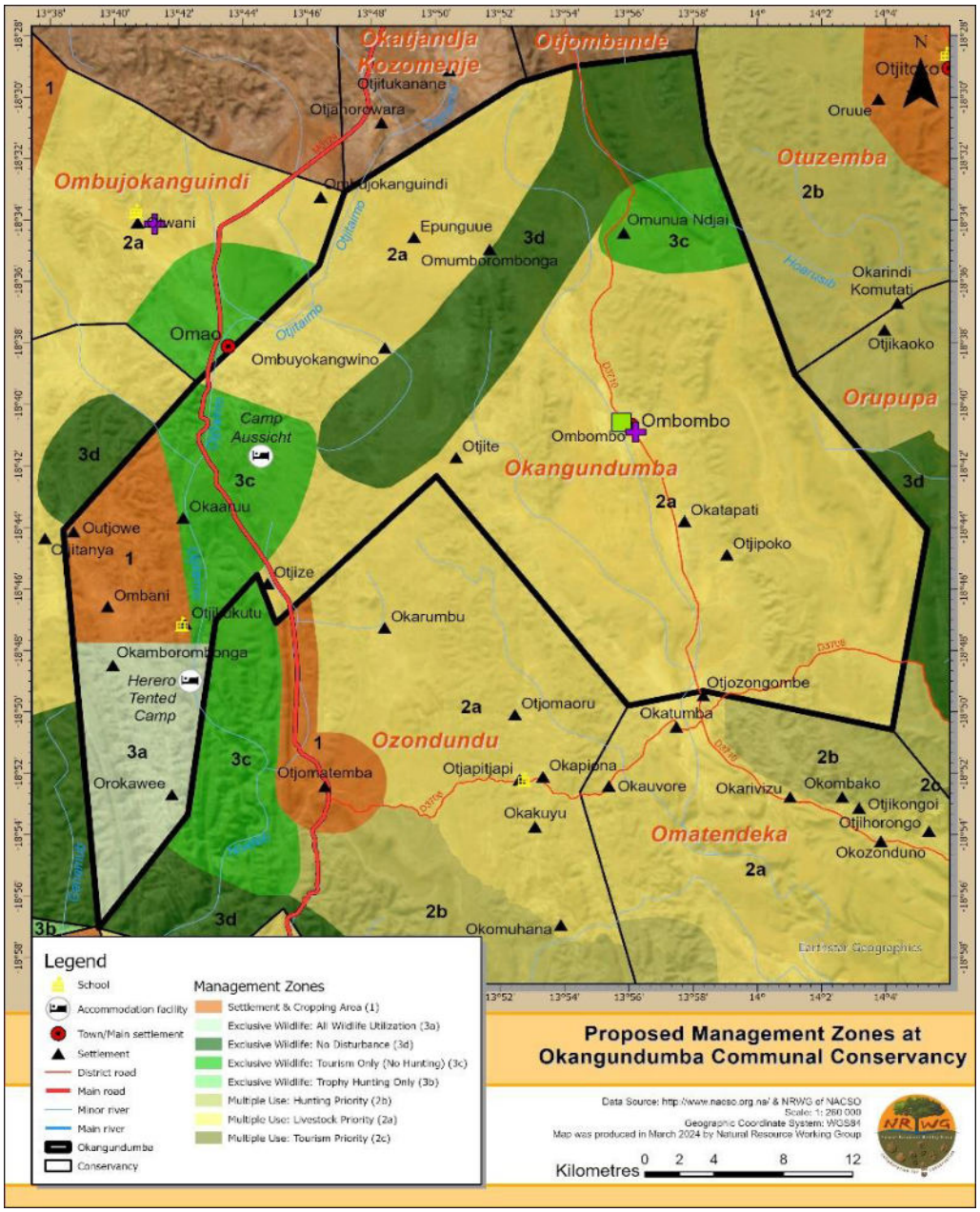


Figure 16 Conservancy Zonation Map(Image Source, NACSO 2024)

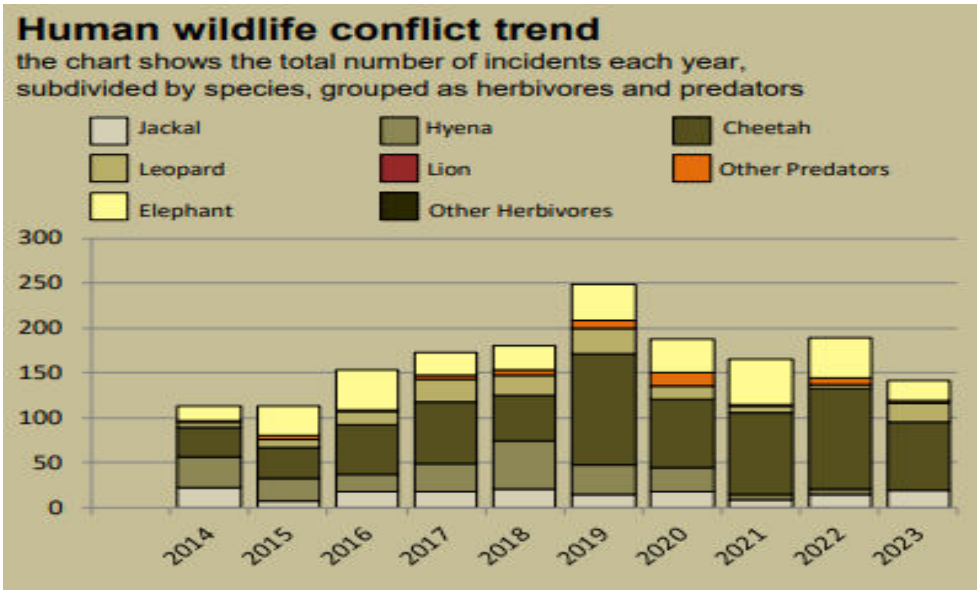


Figure 17 (Human Wildlife Incidence over Time (Image Source: NACSO, 2024)

5.2 Geological Setting

Regional Geology

Namibia lies across the Proterozoic fold belts that separate the ancient Congo and the Kalahari cratons that formed in the southern African Tectonic Province during the Archean and early Proterozoic periods (Tarkhanov, 2005). The study area lies onto the southern peripheral parts the Congo Craton, while the largest part of the craton extends into neighboring Angola. The Kalahari Craton is mainly located in Botswana, with its western and southwest flanks extending and covering the eastern parts of Namibia. One of the main tectonic structures featured in the area is the Damara Orogen, which was formed from sediment deposition into the Khomas Sea and folded during the collision of the two Cratons 920–550 million years ago (mya) as part of the "Pan-African" Orogenesis. During the collision the Kalahari Craton was sub-ducted northwestwards beneath the Congo Craton, which marked the final closure of the Khomas Sea around 542 mya (Miller, 1983).

The Damara Orogen consists of three belts, which are distinguished by their geological structure, grade of metamorphism, intrusive formations and other features (Hoffmann, 1987) i.e:

- The Central intracontinental belt (Damara Belt), extending from WSW to the ENE of the central area on Namibia.

- The Southern margin continental belt (Gariep Belt) oriented in a SSE-NNE direction in the southwestern areas of Namibia.

- The Northern margin continental belt (Kaoko Belt), oriented in an SSE-NNW direction in the northwestern areas of Namibia, divided into three zone; western, central and eastern Kaoko zones.

Remnants of pre-Damara complexes are found as outcrops of the granitic gneisses of the Epupa Metamorphic Complex. In Namibia the Congo and the Kalahari Cratons, and the northeastern parts of the Damara Fold Complex have been deeply eroded into large sedimentary basins where the younger Kalahari and Karoo sediments have been deposited.

Local Geology

The study area is situated onto the carbonate-dominated Otavi Group of the Eastern Kaoko Zone of the Damara fold Complex. The Otavi Group in the EPL 7071 area can be subdivided into the lower Ombombo, middle Abenab and upper Tsumeb Subgroups. The Ombombo Subgroup consists of interbedded sandstones, dark-grey, fine-grained dolomites and phyllitic, tan to dark-grey shales. The sandstones weather to a red-brown color and are fine-grained, well sorted, dark-grey and thickly bedded. Deformation is intense in the EPL 7071 area and the shales have a distinct slaty cleavage. The upper part of the Ombombo Subgroup in this area starts with shale with interbedded pink limestone and dolomite layers. The final section consists of cyclical tan shale units between 30 and 50 m thick capped by 3 m-thick beds of grey, red-brown weathering sandy dolostone (Rabie, 1954).

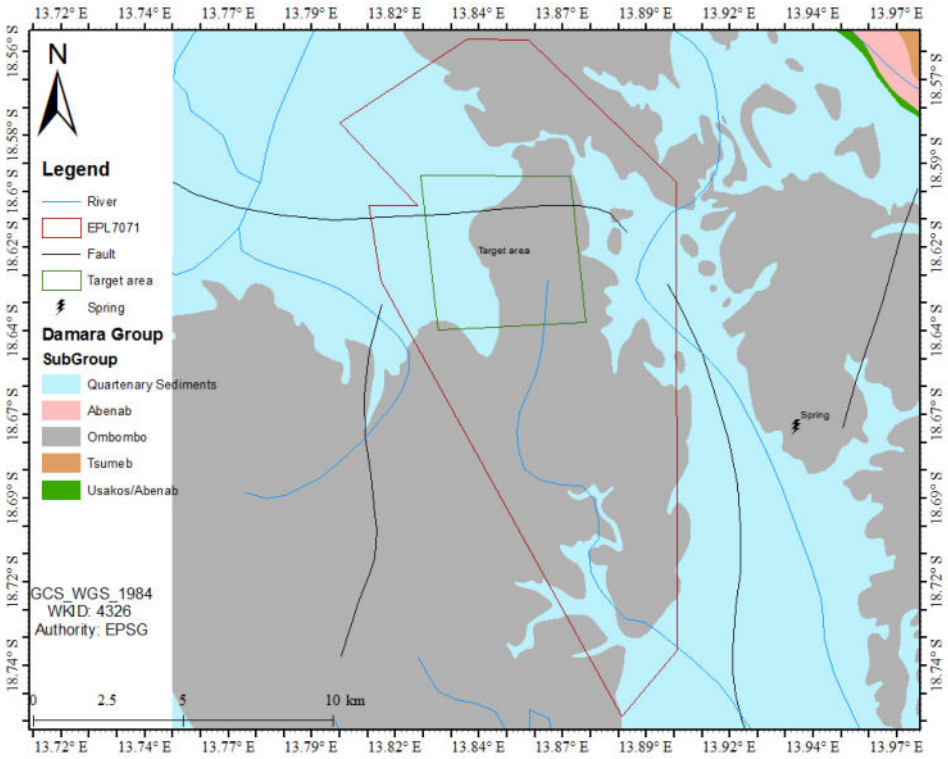


Figure 18 Geological setting of target area

The Abenab succession is made up of Chuos, Gruis, Khowarib Fold Belt, Ombaatjie Formations. The lower half of the Ombaatjie Formations is dominated by black limestone locally forming impassable (high and steep) cliffs, and the upper half characterized by tan-coloured dolomite ribbonites and more gentle slopes. Structurally, the Chuos, lower and middle Gruis, and lower Ombaatjie Formations were relatively incompetent during the short-wavelength deformation that dominates the Khowarib Fold Belt (Hoffman and Halverson, 2008).

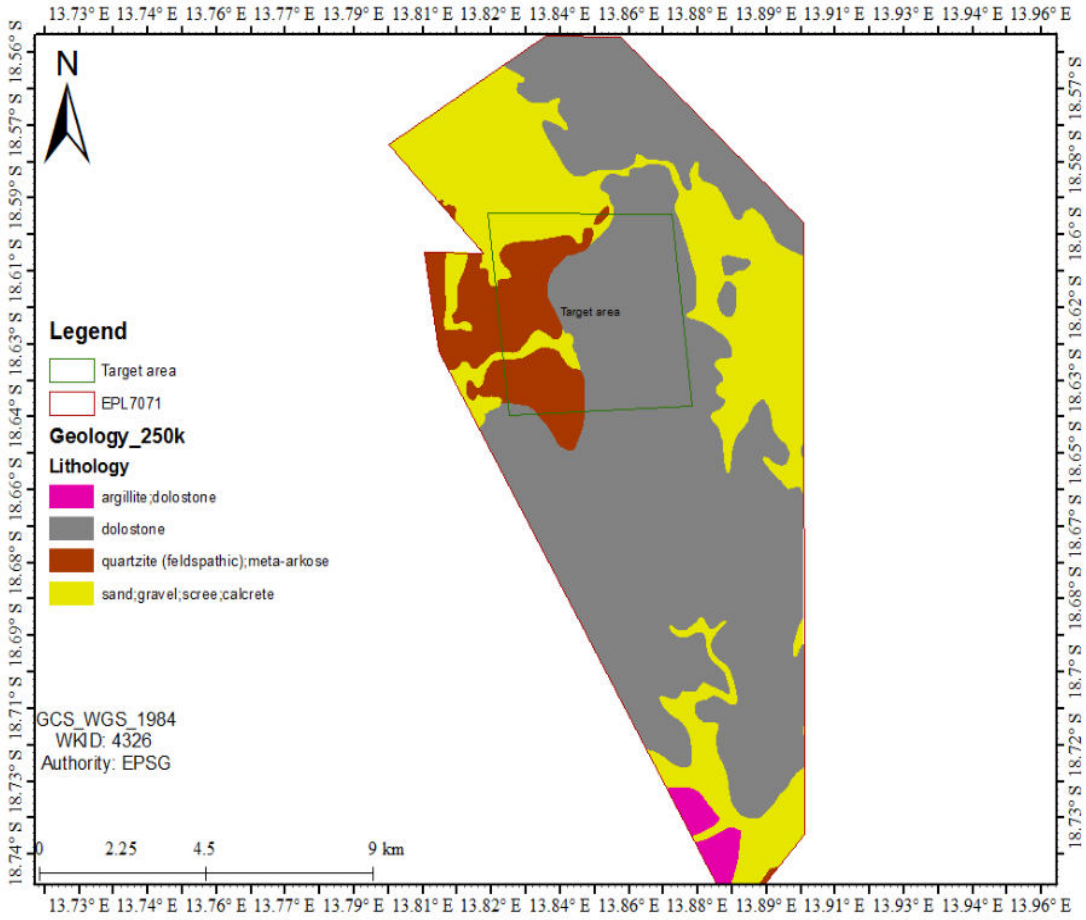


Figure 19 Lithology

The Tsumeb Subgroup, which extends from the glacial surface beneath the Ghaub Formation to the erosion surface beneath the Mulden Group, is around 1400 m thick. The Ghaub Formation is only fragmentarily present on the Northern Platform, to the north and northeast of EPL 7071. The Keilberg cap dolostone of the basal Maieberg Formation lies unconformably on pre-glacial strata where the Ghaub Formation is absent (Hoffmann and Prave, 1996).

Geological Structures

The Damara Orogen began with the initiation of intracontinental rifting in the Kaoko belt, which was succeeded by spreading and continental break-up. After the cessation of spreading at approximately 600 ma, a reversal of movement led to oblique, northwesterly directed subduction of the Congo Craton beneath the South American Craton. This process which was associated with several subsequent phases of deformation and metamorphism, resulting in the closure of the Adamastor Ocean, and hence the continental collision between the Congo and Kalahari Cratons. This, furthermore resulted in the thrusts and faults bounding the Central Kaoko Zone to the west of EPL 7071, as well as faults cutting across the EPL 7071, through the proposed mining area, and possibly causing the spring to the southeast.

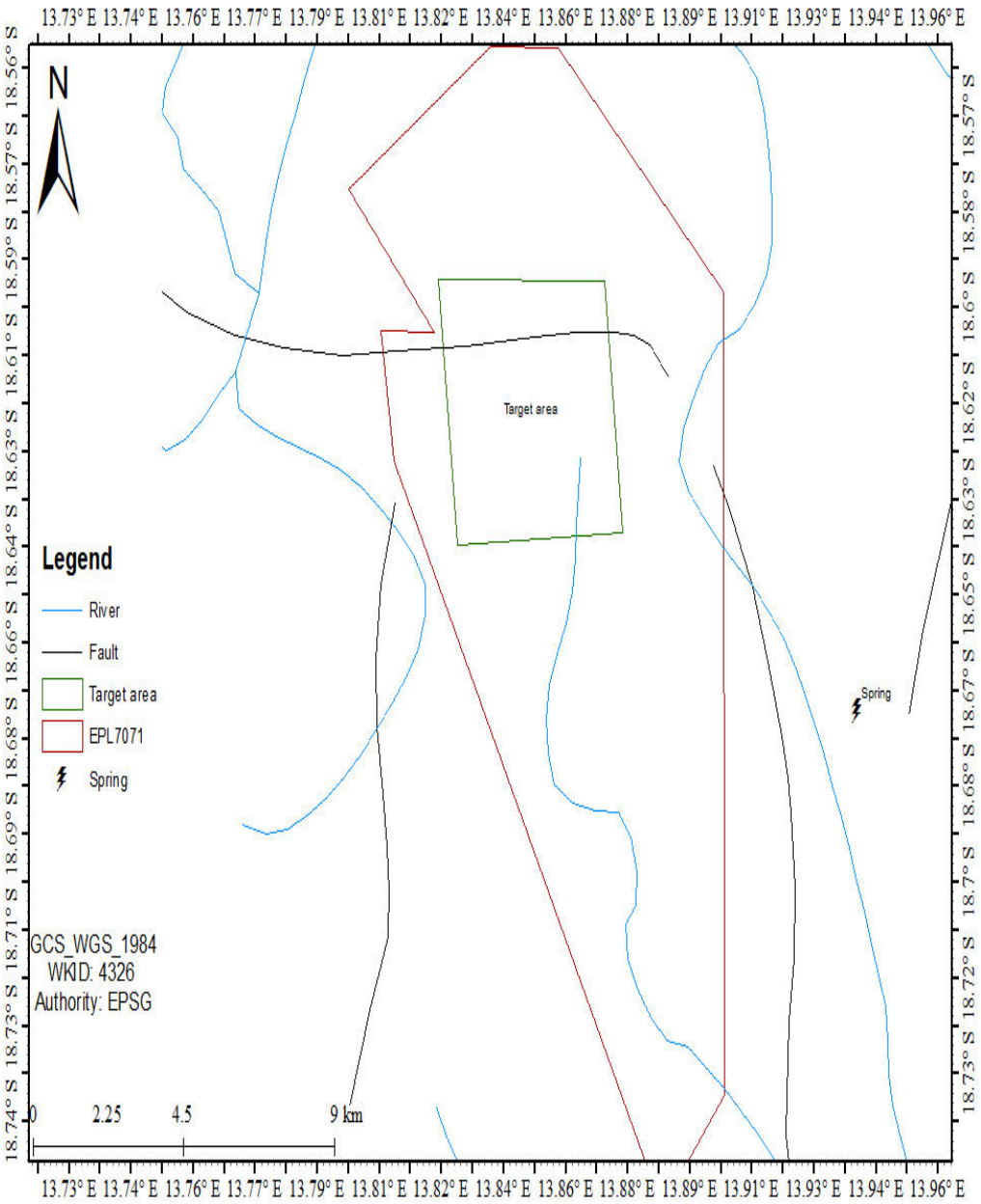


Figure 20 Tectonic footprint of the study area.

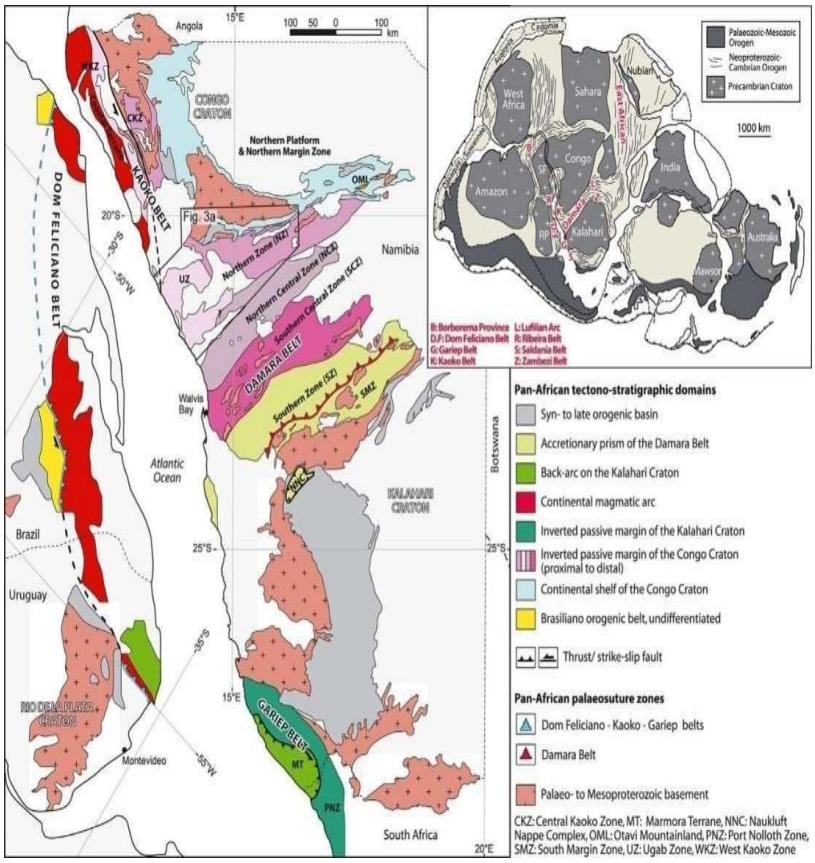


Figure 21 Namibian regional geology and the ancient Cratons

5.3 Mineralization

The potential mineralization model and exploration target were selected based on regional and local geology. The Okohongo Deposit (3D modelled, Figure 22), situated within EPL 7071 in the central Kaoko Basin of northern Namibia, is part of a significantly larger mineralizing system. The defined copper resource within the mining license area (EPL 7071) is on the western limb of a gentle, doubly plunging, N-S trending syncline. The orebody has a shallow eastwards dip (~20°) and is located within the Lower Omao Formation of the Otavi Group, which is comprises mainly of shales and dolostones deposited in a shallow marine environment. Intersections of grade, indicative of the apparent thickness of the orebody, ranges from 1 m to 45 m. (INV Metals Inc, 2012)

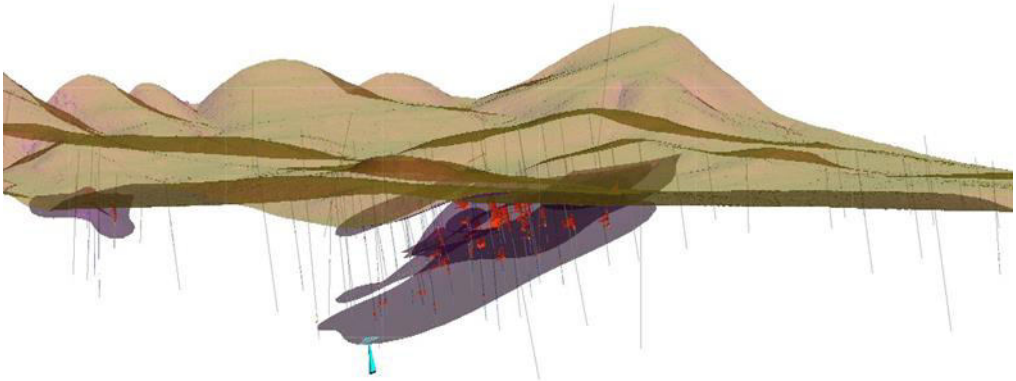


Figure 22 Okohongo Copper-Silver Deposit looking South (Aloe 238, 2025)

Based on available geological datasets of recent exploration activities undertaken under EPL 7071, the proposed MLA has the potential to host exploitable strata bound copper-silver mineralization. Copper mineralization is expected to occur is in the form of primary commodities such as , malachite, azurite, chrysocolla, plancheite, shattuchite, covellite, chalcolite, and bornite in fractures, voids, and along fragmented edges (Schneider et al., 1999). Evidence of past mining related activities is evident within the study area and surroundings. Mining rights (active) surrounding proposed mining license area or study area are depicted in Figure 23.

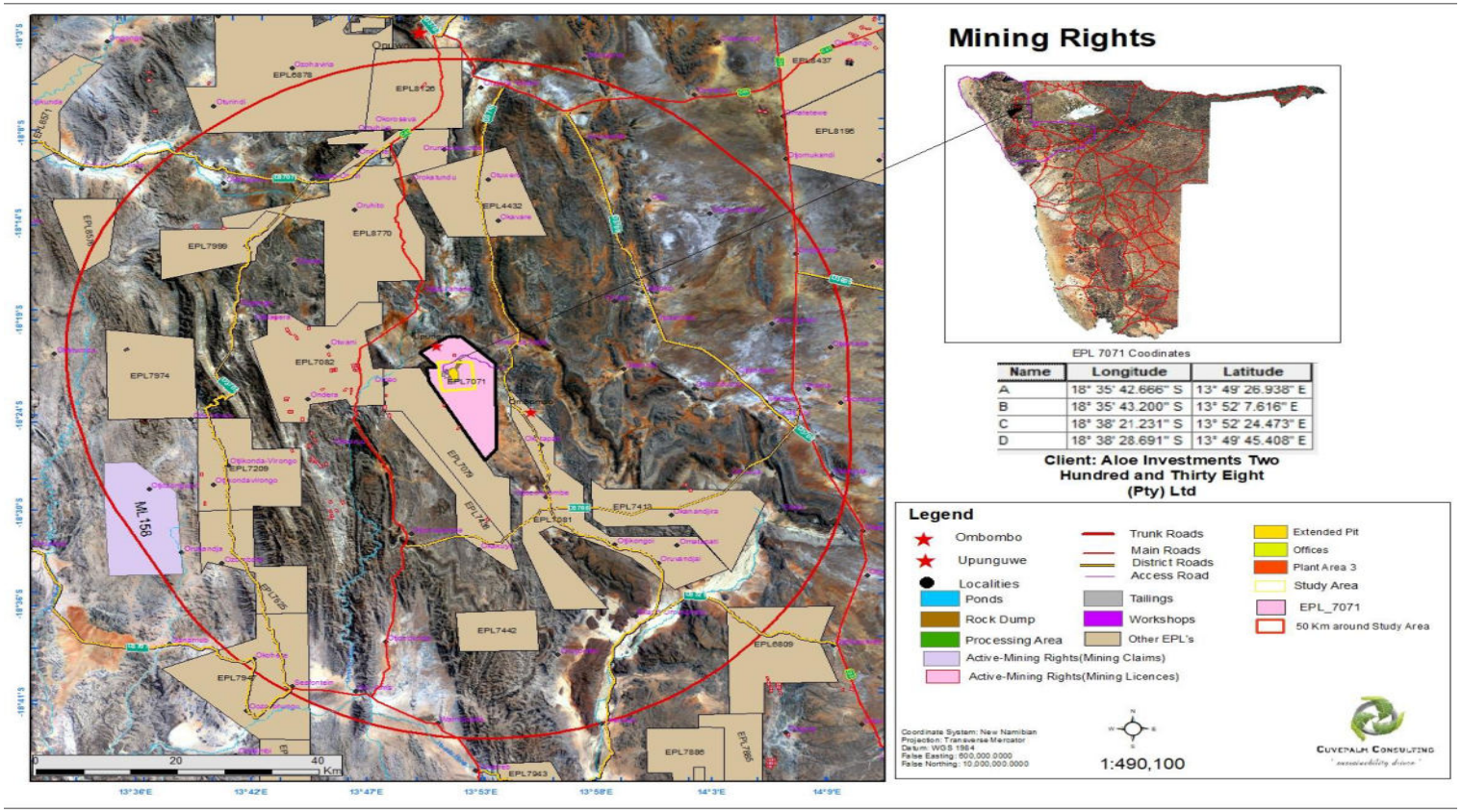


Figure 23 Active mining rights surrounding project site

One major land feature is the open-pit mine at Otuani situated approximately 30 km west of study area. The mine has a workforce of about 58-80 employees. The mining area has structures such as leaching ponds on the site including office buildings and workshops. Copper goes through electro-winning, whereby the solution from the leaching ponds is mixed with a chemical that selectively removes the copper from the original acidic solution, leaving behind most of the impurities

5.4 Geohydrology

As detailed above, the study area falls into the Otavi Subgroup of the Darama rock group. The metasedimentary, carbonate-dominated rocks of the Otavi Subgroup lack primary porosity because of various phases of tectonic deformation and metamorphism. Alluvial aquifers are absent locally in the area because the alluvial deposits of EPL 7071 and its surroundings are unsaturated. Therefore, the only type of aquifer in the area that fractured and surrounded by aquitards to the east and northwest of the proposed mining area.

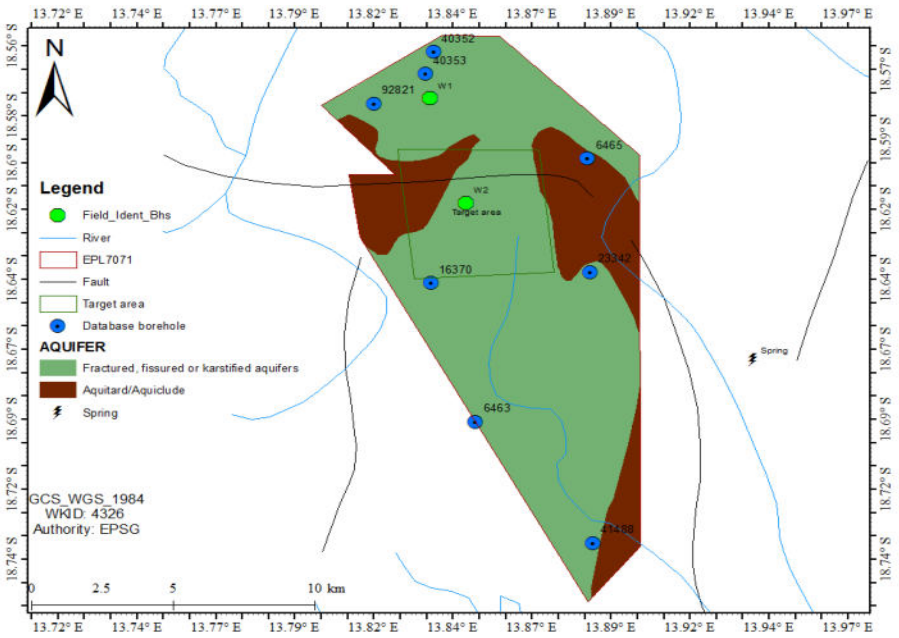


Figure 24 Aquifer types associated with the proposed mining license area

To the northeast around Opuwo, groundwater occurs in calcrete apron of the Etosha Calcrete Formation, which extends up to 80 km from the Otavi Group carbonate ridges. The groundwater calcrete of this apron was generated by innumerable springs located at the base of the carbonate ridges, and at the contact between the Otavi carbonate rocks and impervious phyllites or schists, during the earliest stages of Kalahari siliciclastic deposition during the late Cretaceous.

Eight (8) boreholes exist in and around the proposed mining area. Borehole records (MAWLR, Department of Water Affairs,2024) indicate karst features intersected when drilling in the dolomites of the Otavi carbonate rocks. All the boreholes that have been drilled into the Karst structures are distant from the target area. Also based on the borehole data provided by the Department of Water Affairs(Namibia) , the yield of the borehole closest to the proposed mining area (to the southwest) is not known, but the rest water level has been recorded at 6mbgl (MAWLR, 2024).

When borehole data was overlain with the lithology data, it was established that the groundwater potential of the area within the boundaries of the EPL 7071 is ranging from high to very low. This is due to the high variability in the storage and hydraulic characteristics of the local geology. Groundwater in the general study area (EPL 7071) is classified as fresh belonging to Class A to the northeast of the EPL and to Class B to the southwest. However, within the central areas of the EPL, the groundwater is of poor quality, belonging to Class D due to elevated TDS concentration. The class D water is the closest, to the southeast of the proposed mining area.

Table 12 Borehole information in EPL 7071(Source: MAWLR)

Bh No.	WW No.	Lat	Long	Drill date	Yield (m3/h)	RWL (m)	Depth (m)	Diameter (mm)
23342	WW23342	-18.639	13.8852	1978	72	64	103	150
16370	WW16370	-18.6429	13.8348	-	-	6	120	150
6463	WW6463	-18.6925	13.8489	1962	60	5.1	305	150
92821		-18.5788	13.8168	-	-	-	-	-
6465	WW6465	-18.5984	13.8843	1905	-	-	140	150
40353	WW40353	-18.5682	13.83313	2002	10	46.65	132	204
40352	WW40352	-18.5603	13.83577	2002			150	204
41488	-	-18.7358	13.8861	-	-	-	-	-
W1	-	-18.577	13.83447					
W1	-	-18.6143	13.84575					
Average					28.4	30.5	158	

Due to the carbonate composition of the Otavi Subgroup, the Karst aquifers were formed in the area by local rainfall recharge water that contains carbon dioxide (CO_2). The CO_2 dissolves carbonate rocks, enlarging the fractures and creating cave structures and enhancing groundwater flow. The groundwater potential of the within and around the study area is therefore high in Karst aquifers and moderate in fractured aquifers. Although proposed mining license area is almost sandwiched between rocks of very low groundwater potential, it is covered by converging stretches of high groundwater potential from east and west to the northern boundary of study area.

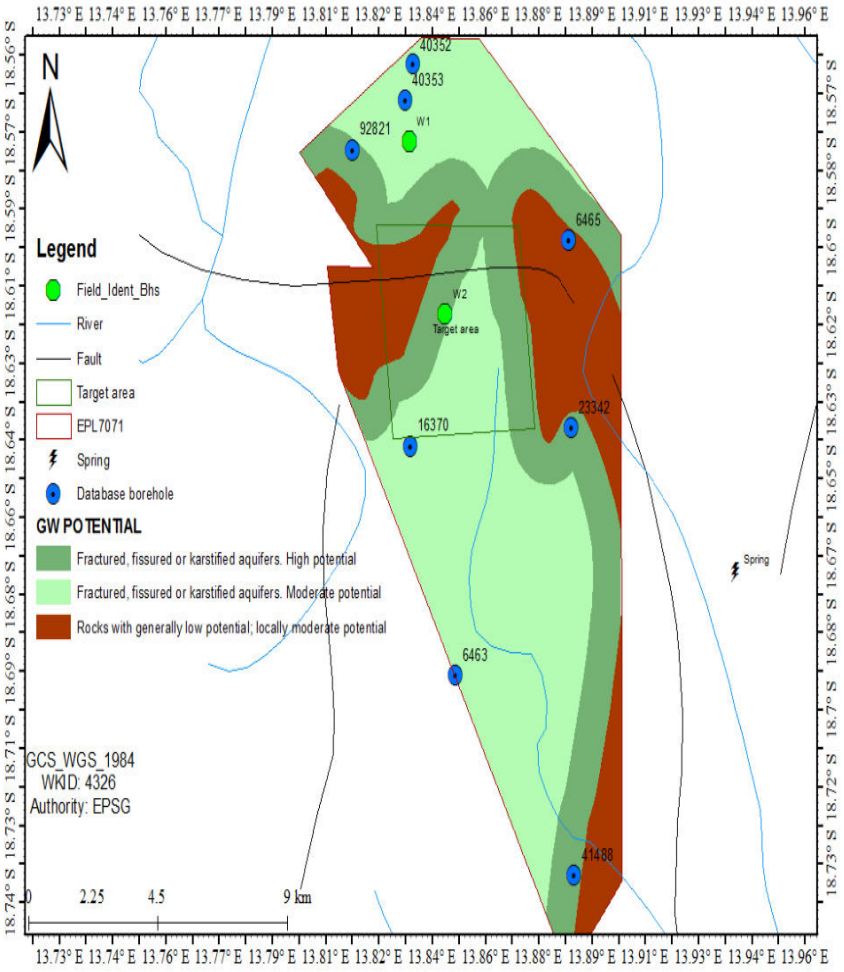


Figure 25 Groundwater potential: Proposed mining license area

Figure 26 Water infrastructure found within study area

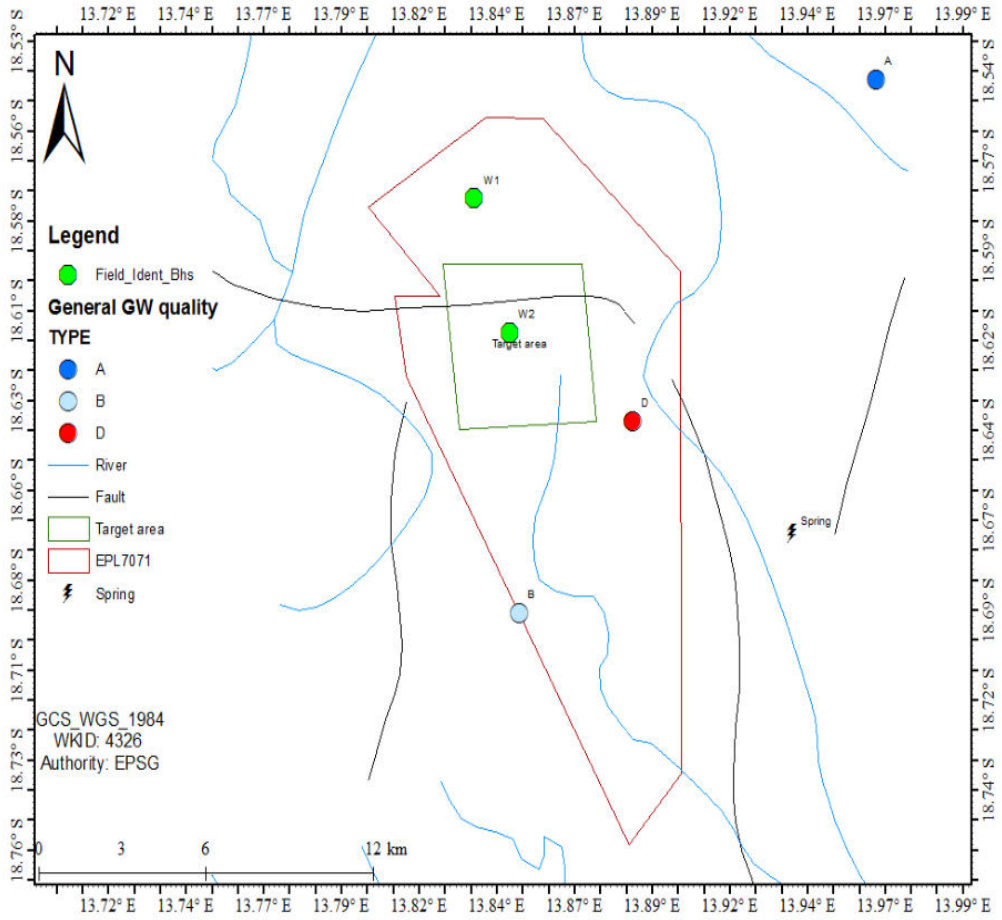


Figure 27 Groundwater quality

There are no major groundwater abstraction activities such as large-scale irrigated agriculture in the study area. No surface or open water bodies' area found or occur within 5 km radius of study area. Groundwater is abstracted for domestic water supply, livestock watering and small-scale gardening activities. The risk of groundwater contamination from potential sources of pollution depends on the protective soil cover, depth to groundwater, geological structures, predominant flow and recharge. Considering these variables, it was conservatively determined that possible contamination pathways in the study area are drainage lines in faults line(s) undelaying bedrock.

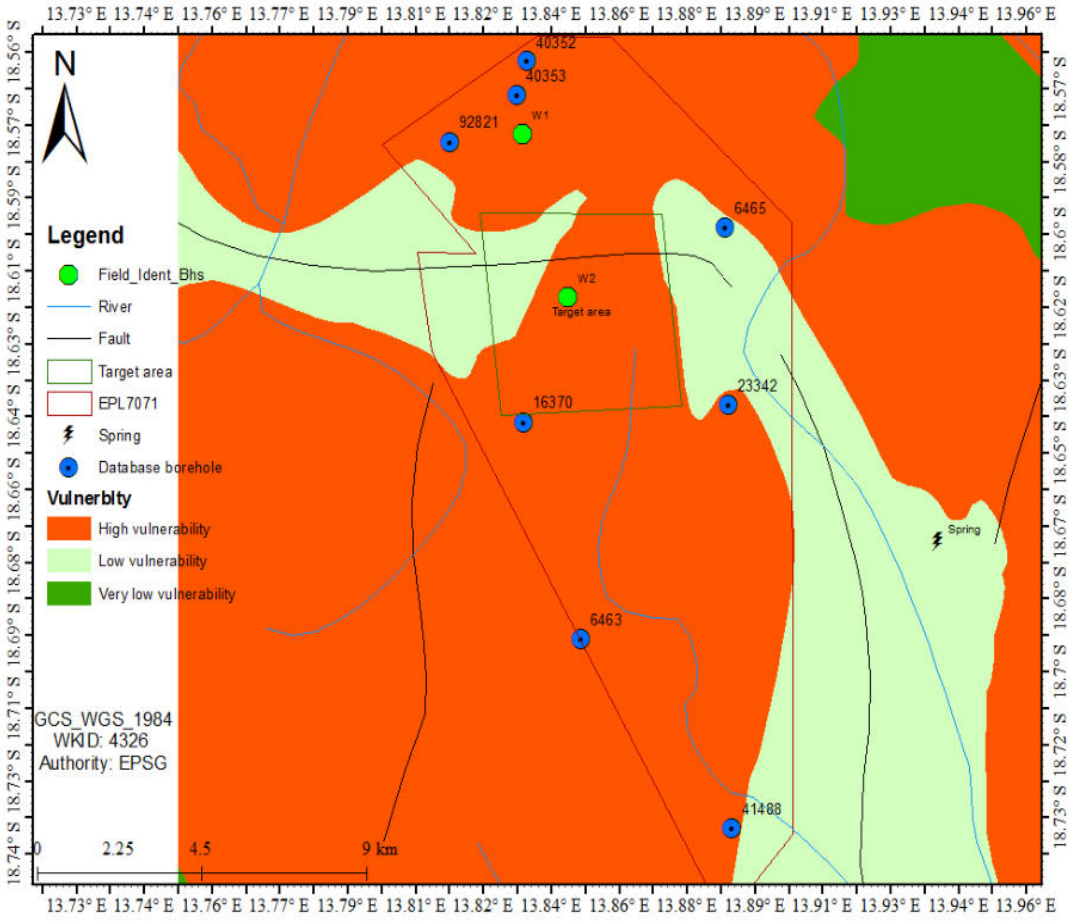


Figure 28 Groundwater vulnerability in the study area

During the recent exploration-drilling phase, groundwater were intersected at some of the drill sites. These intersections were however limited and not significant from a yield perspective. Water samples were not taken during the exploration phase so no additional information regarding water quality were recorded. There is one site within the target area that have strong yielding groundwater which might be a possible source of groundwater for use during the project life. This can however only be confirmed with additional investigations on the actual yield of the borehole as well as the water quality. The project team are currently investigating the use of a combination of water sources i.e groundwater extraction as well as water supplies from the Namibia Water Corporation Ltd. (NamWater). The latter is a water utility company that facilitate the bulk supply of water for various projects nation wide. The recycling of water from the process and tailings will be a key aspect in the overall water balance. Based on the current feasibility studies for the mine and processing options the indication is that maximum water demand will be about 2 Megalitres/day.

5.5 Socio-Economic Context

Land-Use

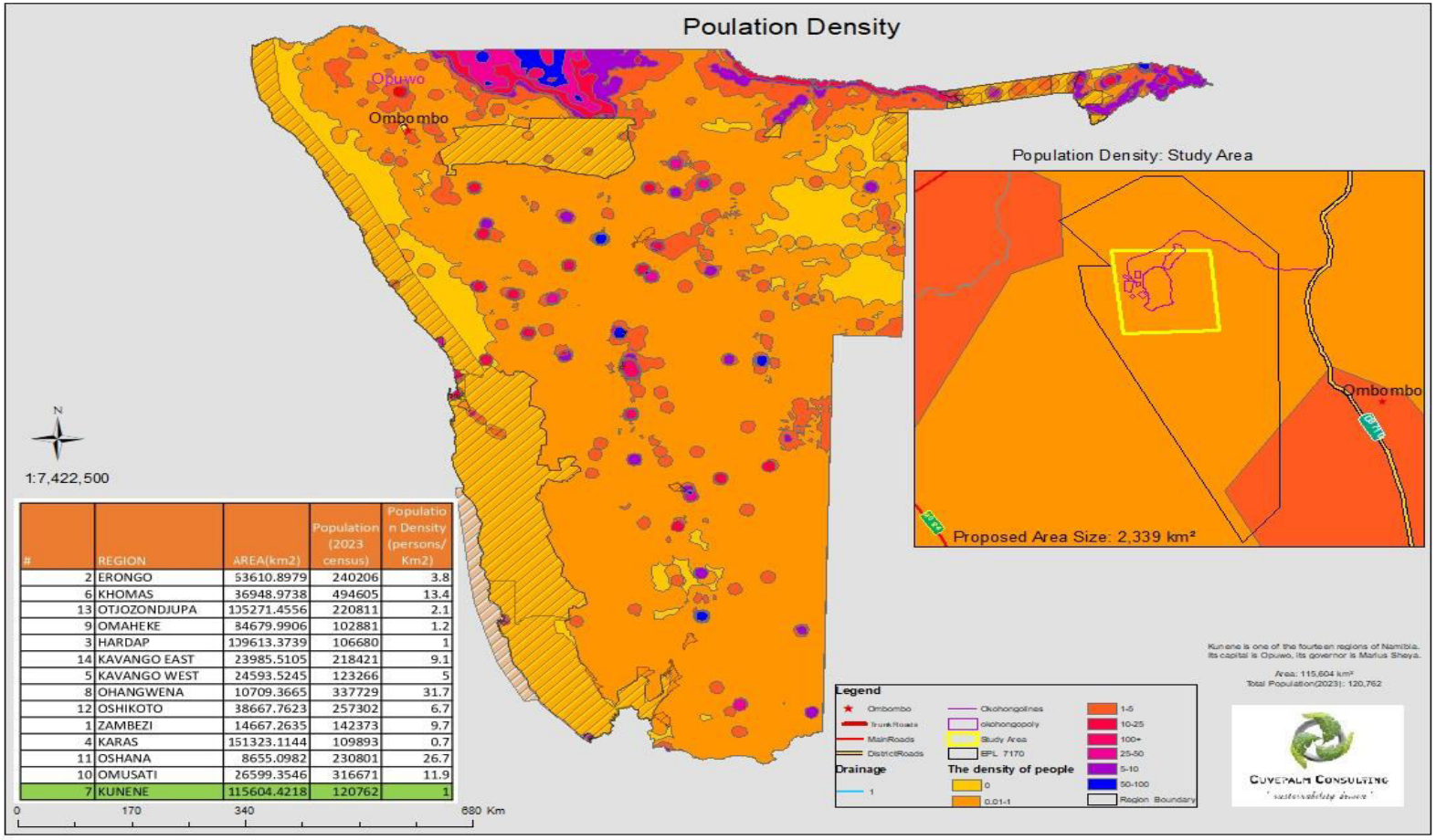
The proposed mine site is located in a communal area. As indicated in the earlier, Communal land vests in the state and belong to the Government of the Republic of Namibia. The Kunene Communal Land Board coordinates the allocation of land and land use rights on behalf of the Government in conjunction with the traditional authority. Common land uses in and surrounding the property (EPL 7071) are residential, crop production, consumptive (trophy hunting), non-consumptive tourism (eco-tourism) grazing, largescale mining, artisanal mining, and conservancy. There are no leaseholds, customary land-use rights, or occupational land-use rights registered over the study area. The traditional authority has authorized the proponent access to the proposed MLA.

Governance

Namibia is divided into 14 regions, each subdivided into 121 constituencies. Each region has a regional council, elected during regional elections, for each constituency. The Kunene Region is divided into six electoral constituencies. Local authority councils govern towns and village settlements. Opuwo town serves as the administrative capital of the region and is the largest local authority in the region. Opuwo Town is relevant because it is the closest local authority to the project site. As stated earlier, the constituency associated with the proposed mine site is Opuwo Rural Constituency and the constituent councilor is Cllr Western Muharukua.

Demographics, History & Culture Context

The Kunene population has been estimated at 120,762 (NSA, 2023; Figure 29) and 102 485 (NSA, 2018). Population growth throughout the Kunene region is expected to gradually decrease. To illustrate this, a reduction from 3.21% in 2001 to 1.37% in 2021 was observed. Opuwo is the major urban centre in the region, with 27 272 residents in 2011 growing at an average of 2.7 % per annum. Opuwo town is the most densely populated settlement area in the region. The population growth in rural areas is however, negative because most of the productive age groups have moved to urban areas, leaving behind the elderly and very young people.



#	REGION	AREA(km2)	Population (2023 census)	Population Density (persons/ Km2)
2	ERONGO	53610.8979	240206	3.8
6	KHOMAS	36948.9738	494605	13.4
13	OTJOZONDJUPA	105271.4556	220811	2.1
9	OMAHEKE	84679.9906	102881	1.2
3	HARDAP	109613.3739	106680	1
14	KAVANGO EAST	23985.5105	218421	9.1
5	KAVANGO WEST	24593.5245	123266	5
8	OHANGWENA	10709.3665	337729	31.7
12	OSHIKOTO	38667.7623	257302	6.7
1	ZAMBEZI	14667.2635	142373	9.7
4	KARAS	151323.1144	109893	0.7
11	OSHANA	8655.0982	230801	26.7
10	OMUSATI	26599.3546	316671	11.9
7	KUNENE	115604.4218	120762	1

Figure 29 Kunene Population

By comparison, the region has more males (50.1%) than females (49.8%), as well as a low population density (about 1.0 persons per km2). Given the growing household population, it is projected that there are approximately 28890 households in the Kunene region, equating to a household size of four (3.8) people (NSA, 2023). Child marriage and teenage pregnancy result in high rates of school dropouts, especially in rural areas of Kunene (APRF, 2020).The Opuwo Rural Constituency, i.e. the administrative and electoral boundary within which the project will take place, has a population of approximately 14,894 inhabitants. The literacy rate for the age group between 15 and above was estimated to be 63.8%. Most of the inhabitants are of Herero descent, but Otjiherero is the primary language spoken in the proposed mining license area of the proposed mining operation. The population around project site is estimated at 2000 (NACSO, 2024). An overview of education facilities is provided below.

Table 13 Education Facilities Education Facilities in Kunene (Source: NSA,2022)

Constituency	Education Facilities (2016)	Education Facilities (2022)	Combined	Pre-Primary	Primary	Technical		Tertiary	Vocational
Epupa	40	19	5	0	0	0	0	0	0
Kamanjab	5	4	1	0	3	0	0	0	0
Khorixas	10	10	2	0	5	1	0	0	0
Opuwo Rural (study area)	17	12	4	0	8	0	0	0	0
Opuwo Urban	11	16	5	0	8	2	0	0	1
Outjo	7	9	1	0	6	2	0	0	0
Sesfonterin	10	5	1	0	3	0	0	0	0

Economic activities

The regional economy continues to be dominated by two (2) economic drivers, i.e. livestock production and tourism. Aimed at communities to have rights over the protection and utilization of wildlife, Community Bases Natural resource Management is implemented through 38 Communal Conservancies in Kunene. In recent times, mining activities have been on the increase due or emergence of new exploration licenses and small-scale mining. Extensive subsistence livestock farming is an important livelihood for many rural communities in Kunene and is one of the reasons for low-intensity land use over much of the region. The Opuwo Rural constituency is predominantly agricultural-based (small stock and large livestock). Stocking density ranges on average between 20 and 29 per km². Bush encroachment is an imminent land feature attributed to overgrazing. The latter has caused a decline in the range of land-carrying capacity and barren land portions. The main sources of income for households is depicted in Figure 30.

Area	Salaries and/or wages	Subsistence farming	Business activities, non-farming	State old age pension	Cash remitances (not incl. alimony/ child support)	Others	In kind receipts	State child maintenance grants	Pensions from employment and/or annuity funds	Disability grants for adults (over 16 years)	Drought relief assistance	Commercial farming
Namibia	**47.4**	**19.8**	**9.5**	**8.3**	**5.0**	**3.1**	**2.5**	**1.2**	**1.1**	**1.1**	**0.5**	**0.5**
Urban	63.3	2.0	14.1	5.8	5.9	3.5	2.0	1.0	1.0	0.9	0.3	0.2
Rural	27.8	41.6	3.9	11.3	4.0	2.5	3.1	1.5	1.3	1.2	0.8	0.9
!Karas	73.1	0.5	5.5	9.4	1.9	2.3	2.2	1.1	1.7	0.7	0.4	1.0
Erongo	67.5	0.3	12.6	5.2	3.7	5.0	1.7	0.3	2.4	0.9	0.1	0.3
Hardap	60.0	2.4	8.2	12.0	3.5	1.7	2.9	1.7	1.7	2.0	2.3	1.6
Kavango East	33.5	21.5	9.5	10.8	5.7	3.9	9.4	1.0	1.7	2.5	0.2	0.2
Kavango West	15.9	57.1	2.9	9.6	2.5	1.1	6.7	0.6	1.0	1.7	0.6	0.2
Khomas	68.3	0.3	14.4	4.2	5.3	3.5	1.4	0.9	0.6	0.7	0.3	0.4
Kunene	42.3	13.1	10.5	11.5	4.4	1.3	10.2	2.5	1.6	1.8	0.2	0.5
Ohangwena	15.3	60.6	5.2	8.9	5.9	1.1	0.7	0.3	0.5	1.1	0.1	0.2
Omaheke	52.1	7.2	7.7	14.6	4.2	2.0	3.5	3.5	1.4	1.4	0.1	2.2
Omusati	21.9	58.8	3.6	7.7	2.8	1.1	1.9	0.8	0.7	0.4	0.0	0.1
Oshana	36.6	18.9	14.8	10.1	11.5	3.2	0.1	1.4	0.8	0.8	1.5	0.3
Oshikoto	32.7	42.1	3.4	9.7	4.1	1.9	1.1	1.3	1.2	1.4	0.6	0.5
Otjozondjupa	61.7	2.6	9.9	9.1	3.5	4.3	2.2	3.0	1.2	0.9	0.8	0.9
Zambezi	39.9	9.7	11.0	11.3	8.4	9.2	3.2	2.0	0.9	1.7	2.2	0.5

Figure 30 Percentage of households by main source of income per region

Table 14 Sources of Household Income in project surroundings – Source: (DRFN,2024)

Source of Household Income	percentage%
Building Houses	1
Business	1
Casual Jobs	0
Farming	54
Disability Grant	1
Government Relief	3
Pension	31
Trade	5
Other	3

Table 15 Business Establishments Kunene (NSA,2022)

Constituency	Sex				Total number
	Female		Male		
	Number	%	Number	%	
Epupa	53	53.5	46	46.5	99
Kamanjab	26	49.1	27	50.9	53
Khorixas	33	32.7	68	67.3	101
Opuwo Rural	20	64.5	11	35.5	31
Opuwo Urban	61	34.3	117	65.7	178
Outjo	66	44.9	81	55.1	147
Sesfontein	29	56.9	22	43.1	51
Kunene region	**288**	**43.6**	**372**	**56.4**	**660**

Table 16 Business Establishments Over time (NSA, 2022)

Constituency	Year interval					Total number of establishments
	2013 and before	2014 - 2015	2016 - 2017	2018 - 2019	2020 - 2021	
Epupa	104	23	21	42	10	200
Kamanjab	56	10	16	26	11	119
Khorixas	113	18	23	63	9	226
Opuwo Rural	39	9	7	11	5	71
Opuwo Urban	147	37	45	90	51	370
Outjo	120	30	32	60	34	276
Sesfontein	73	15	11	29	17	145
Kunene region	**652**	**142**	**155**	**321**	**137**	**1,407**

Figure 31 Large stock farming - (Source: CPC-2024)

Figure 32 Livestock in study area

Agriculture and tourism are major economic activities. Animal husbandry is the largest type of agricultural activity. The animals sold informally or at auctions are mostly live cattle, goats, and sheep. Due to water scarcity, rain-fed agriculture (crop production) is not viable in areas surround the project site. In addition, crop production is not a common land use practice due to the prevalence of elephants, which present a significant risk to crop production. In recent years, consumptive tourism (trophy hunting) has contributed to the Okangundumba conservancy income. Income from community enterprises and returns from the private sector generate direct cash income for households through sales and wages, including fringe benefits (e.g. staff housing) and donations to the community. Conservancy income is used to fund social benefits (e.g. education, health), make cash payments to members, and pay conservancy staff wages. Conservancy also distribute meat of considerable value to households. Circumstantial evidence shows that monetary resources (wages) are relatively small, with little or nothing left for investment. The annual consumption per capita in the study area can be equated to a regional average of approximately N$ 60,000.

At regional level, in terms of economic activity (in terms of business registered), the project area (Opuwo Rural Constituency) relatively ranks low when compared to other constituencies.

Table 17 Business Ownership.

Constituency	Ownership status						
	Close cooperation	Government	Limited liability companies (private)	Limited liability companies (public)	Non-government organizations	Partnerships	Sole proprietorship
Epupa	26	64	2	-	9	-	99
Kamanjab	30	17	9	1	9		53
Khorixas	49	52	11	2	10	1	101
Opuwo Rural	10	27	2	-	1	-	31
Opuwo Urban	102	52	14	4	20	-	178
Outjo	53	33	33	1	9	-	147
Sesfontein	39	45	3	-	7	-	51
Kunene region	**309**	**290**	**74**	**8**	**65**	**1**	**660**

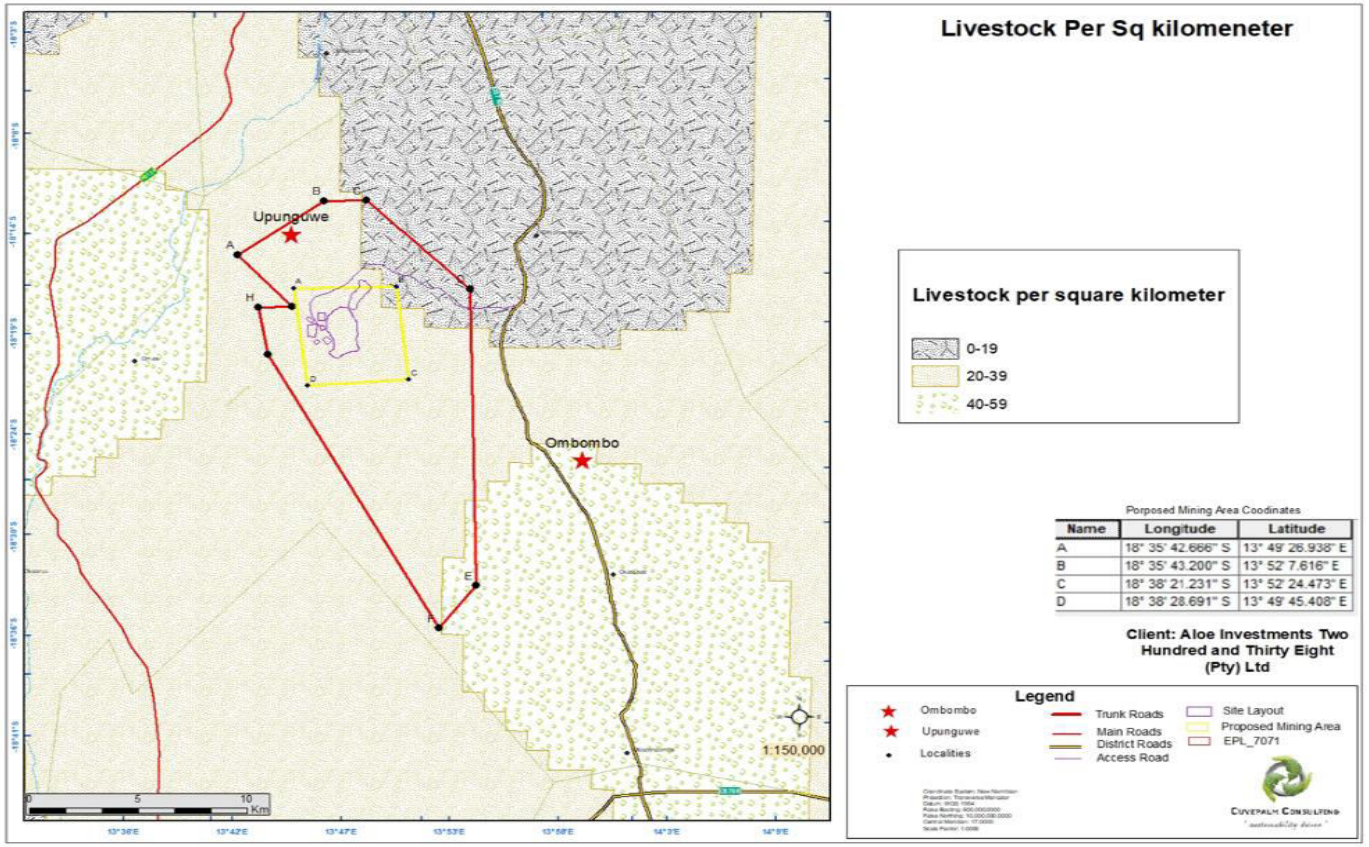


Figure 33 Livestock density

Employment

The economically active Kunene population is estimated at 65 %, of which 41.6 % are unemployed (NSA, 2019). Approximately 45% of the employed population belongs to the agriculture sector (NSA, 2011). Tourism accounts for 5 % of the employed population in the region, and agriculture accounts for 2%. The National Labor Survey (2018) revealed a 53.8% unemployment rate amongst the youthful age group (15 to 24 years).

Poverty levels

Kunene have a high poverty prevalence rate. The severe poverty rate is above the national average of 10.7%.The Kunene is ranked third after the

Kavango East and West regions in terms of the multi-poverty index(Figure 34).

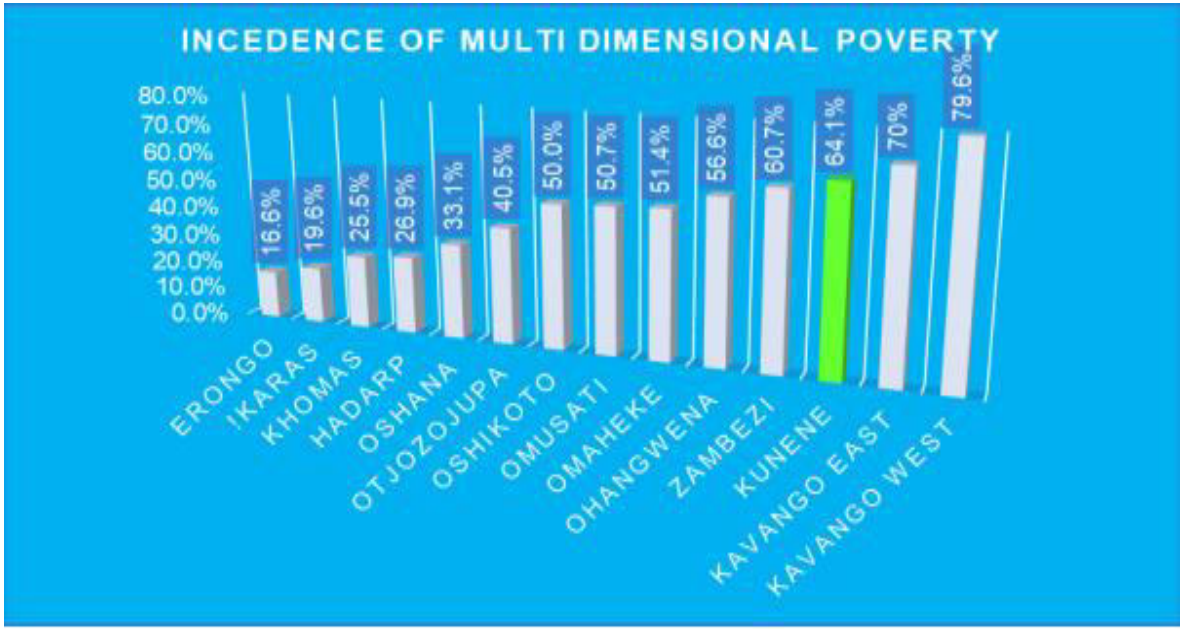


Figure 34 Multi-level poverty dimension (Source: First Capital-Namibia)

5.6 Archaeological and Heritage Context

Early investigations by MacCalman (1972), MacCalman and Grobbelaar (1965) have highlighted presence of late Pleistocene evidence from the area and, more spectacularly, observations of stone tool use by contemporary hunter-gatherer groups. Viewed as a simplified land system, the northern Kunene Region includes five-component landscape units (CF. Johansson and Stromquist 1978; Stromquist *et al.* 1999). Investigations that are more recent have documented a late Holocene occupation sequence (Albrecht et al., 2001) and some of the detailed archaeological characteristics of the nomadic pastoral settlement patterns in the area (Kinahan 2001). These investigations can only be described as preliminary, but they have indicated some of the area's archaeological potential, particularly with respect to the history of the OvaHimba, the last remaining traditional pastoralist society in southern Africa. The archaeological evidence available thus far indicates that the Kunene Region will have abundant traces of Pleistocene occupation, but that much of this evidence will have been displaced by sheet erosion on high-angle slopes. Holocene-age material is also present, including some examples of rock art in the form of engravings on outcrops near Epupa Falls (Sherz 1975) and adjacent parts of Southern Angola (Kinahan 1997). Evidence of the recent pastoralist settlements is particularly abundant and includes several gravesites.

Based on the National Monuments Register, there are (seven) 7 national monuments occurring within Kunene Region i.e in the same region as the project. Given the general correlation between human settlement and landscape, setting it is possible to predict that within EPL 7071, there will be areas that would have some archaeological sites attributable to OvaHimba settlements. These will include remains of homestead sites 'ozonganda' as well as gravesites.The most detailed site investigation that has been carried out in the vicinity of the area of interest thus far is that of EPL 8474 (2023) close to Otuani. The former has yielded five (5) archaeological/heritage sites ranging from pastoralist graves, sacred sites, and an outcrop with a cave where the locals still collect 'Otjizee' red ochre that is used for traditional purposes.

A reconnaissance field survey was carried out on 22 August 2024. The survey served to identify, record, and assess cultural heritage resources, including archaeological sites, rock art, and historical structures within the footprints of the proposed mining area (200 hectares) within EPL 7071 (Efraim and Nakale, 2024)

The field survey located and recorded a couple of lowly significant archaeological aspects within the boundaries of the proposed mining license area, ranging from old pastoralism sites (cattle posts), mining camp remnants, and a grinding stone. These sources were used to conclude that there are possibilities of unearthing materials of heritage significance under the National Heritage Act (27 of 2004) during mining activities. The Archaeological and Heritage Impact Assessment (AHIA) Report (attached) has outlined the potential risks and impacts of activities within the mining target area on heritage resources. Field survey findings suggest a low-risk environment, provided that all mining activities strictly adhere to guidelines established by the National Heritage Council of Namibia. Hence, a zero-damage approach towards any archaeological and heritage resources within and around the boundaries of the mining area shall be adopted.

5.7 Infrastructure and Services

a. Roads and Transportation: An open road network exists in close proximity to the proposed project area. Primary access to the proposed mine site can be gained via the existing D2671. The road width is adequate for transportation and two-way vehicular traffic. A reliable public transportation system is non-existent. Taxi operations are conducted by operators on ad-hoc basis.

b. Water supply: Safe drinking water is available and accessible to most households. Water for domestic use and livestock is obtained from boreholes. On average, households consume between 10 and 20 m3 liters of water monthly. The water requirements and management plans for the project are currently under review, as it will depend on the finalization of the design and processing options. The water balance will detail the maximum demand as well as average daily water needs. Based on this together with the water quality requirements the best options for water sources will be selected that will either be or a combination of groundwater, water from Namibia Water Corporation LTD (NamWater), recycled water and any other identified

sources. This will also form part of the hydrogeological study that will inform the best options and guide or inform the application for Water Use License.

Figure 35 Water Supply Point (Diesel Powered)

c. Sanitation: There are no conventional or centralized wastewater treatment plants in the area linked to project site and surroundings. Most households in the local community do not have access to decent sanitation. A limited number of homesteads have dry toilet facilities. The proponent plans to introduce mobile chemical toilets during the initial phase (Construction). The planning decision on the design and construction of Bio-digester units to handle sewage will only be elaborated during the operational phase of the project.

d. Energy Sources: According to the National Census Report (2011), approximately 83% of Kunene communities use firewood for cooking and heating, whereas only 33% use electricity. No power line network transverses the proposed project site. Firewood is a major source of energy for cooking for surrounding community. Solar installations are common at few boreholes. The project team will mainly use diesel fuel to power equipment. Diesel and solar power will be used to light accommodation camps, offices, vehicle mobility, and other operational needs.

e. Telecommunication Services: The areas surrounding the project site are connected to the rest of the country and world via local network service providers. However, full network coverage in the proposed MLA is not available. The main providers of this service in the area are Telecom Namibia and the Mobile Telecommunications Company (MTC Namibia). A communication network with VSAT technology that operates via a two-way satellite ground station with a small dish antenna to be installed on site. Communication between onsite and offsite personnel will be achieved using a communications network with VSAT technology that works via a two-way satellite ground station with a small dish antenna.

f. *Housing:* Most dwellings surrounding or adjacent to the proposed MLA area are made of kraal manure and locally available wood. Some non-permanent structures made of corrugated iron are highly prevalent in the areas adjacent to the project site.

Figure 36 Traditional dwellings.

g. Safety and Security: Kunene is one of the safest regions in Namibia with the lowest crime statistics. However, the region ranks high in terms of wildlife crime incidents (NamPol, 2022)

h. Health Services: The Kunene region has major healthcare facilities in Opuwo Town. The latter has (one) 1 district hospital and 20 clinics surrounding the town. In addition, there is also a private hospital, a private dental clinic, and a pharmacy in the town. The state hospital has a bedding capacity of 100 beds, 20 maternity wards, 26 male wards, and 28 female wards. Most importantly, it has nine doctors, 33 registered nurses, and 21 enrolled nurses. At Opuwo, the ratio of physicians to patients is 1:3656 which is higher than the 1:1000

ratio recommended by the World Health Organization (First Capital Namibia, 2022). No health facility occur within or adjacent to the project site. Two (2) primary health care facilities (Clinic at Otuani and Ombombo Settlements) are located within a 10 km radius of the project site.

6. CHAPTER SIX: PROJECT ALTERNATIVES

6.1 High level consideration of alternatives

During the project pre-feasibility and feasibility phases, a number of alternatives were listed and investigated. The most significant alternatives related to processing alternatives, Tailings Management and Storage due to the potential impact on the environment. Alternatives for water and energy supply to the project is currently under investigation to ensure the best option in terms of capital requirements and the impact on the environment and surrounding communities. The table below is a list of considered alternatives:

Table 18 Analysis of alternatives

PROJECT COMPONENT		SCREENING CRITERIA						Preferred	Rational for preferring proposed
		Regulatory or permitting acceptability	Community Acceptability	Resource Efficient(Water, Energy)	Reliability and Maintainability?	Capital or O& M intensive?	Ecological Footprint (grazing area, wildlife area)		
Routing of Access Road	Road north of proposed mining area	Yes	Yes	Neither	Neither	Better	Better	Yes	• Less disruption to wildlife movement patterns anticipated
	Road south of proposed mining area	Yes	No	Neither	Neither	Worse	Worse	No	
•									
Ore Processing Technology	Hydrometallurgy through the use of ammonia	Yes	Better	Better	Better	Better	Better	Yes	• Process capable of yielding solutions of relatively pure metal ions, which usually can be recovered directly. • Smelter is associated with flue dust which can have extremely high concentrations of heavy metals like metalloids((arsenic)
	Pyro-metallurgy	Yes	Average	Worse	Average	Worse	Worse	No	

									which that impact air quality, adversely posing health hazard to communities adjacent to mining area
Mining Method	Open Pit	Yes	Yes	Average	Better	Better	Neither	Yes	• Open pit method is preferred as the ore body is close to surface. • Economically efficient mining method
	Underground	Yes	No	Worse	Average	Worse	Neither	No	
Sanitation	Bio-digester unit	Yes	Neither		Better	Better	Better	Yes	• Conventional wastewater treatment plant not ideal given resource limitations (water and power supply). • Bio digester are easy to manage and resource requirements(Water and Energy) are minimal including land area requirements , potential for production of energy in the form of methane gas
	Electro-mechanical sewage Treatment Plant	Yes	Neither		Worse	Worse	Average	No	
Tailing Disposal	TSF: Paddock system next to mine	Yes	Yes	Yes	Yes	Better	Better	Yes	• Moderate ecological footprint and visual impact on the landscape. • Relatively less capital intensive when compared to Dry Stack TSF. • The base case will be a two-cell, paddock-type facility located west of the plant site
	TSF: Paddock system distant to mine	YES	No	No	No	Average	Worse	No	
Energy Source	Conventional power sourced from bulk suppliers	Yes	Yes	Yes	Yes	Worse	Better	No	• Minimal Visual Impact, less capital Intensive, environmental considerations with respect to mitigating air pollution. Lower disturbance footprint. • The nearest link to the grid for industrial supply is 80km to the east of project site. Forcing the operation to link to the grid will cause the project to be uneconomic as the capital cost will be detrimentally harm the incentive to develop the project • PV will offer significant benefits and
	PV Solar	YES	Yes	Yes	Yes	Average	Better	Yes	

6.2 Processing alternatives

- **Okohongo Copper Metallurgical Test work**

The metallurgical extraction process development is led by the way that copper occurs in the mineral assemblage. By this it is meant that the mineralogy of the copper species, in terms of mineral identification, association and grain size (important in determining the liberation), as well as the host rock species dictate likely processing avenues and unit operations. A detailed mineralogy study was completed by SJTMetmin on four composite samples that were selected based on mining criteria, and group in terms of copper and dolomite concentrations.

The ore can be described as having copper occurring largely in oxides (80%) abd also sulphides (20%) in a suite of minerals namely: Chrysocolla, Plancheite, Shuttakit, Malachite, Chalcocite, and Bornite. Additionally the mineral suite is with Micas (Muscovite and Biotite) making the metallurgy a complex. To a lesser extent, copper also occurs in the sulphide Chalcocite. The host rock comprises largely silicates (dominated by Quartz, Muscovite and Biotite), followed by carbonates (Calcite and Dolomite).

Three (3) primary processing (Figure 37) routes were assessed. These include:

- Direct whole ore acid leaching (using sulphuric acid), followed by solvent extraction and electrowinning.
- Flotation, both as a means of copper recovery to sulphide and oxide concentrates, as well as for the rejection of acid consuming species.
- Direct whole ore leaching using an alkaline chemistry, based on ammonia and ammonia carbonate, which will also be followed by solvent extraction and electro winning.

The assessment criteria by which these processes are compared include efficacy of extraction and recovery, resource requirements.

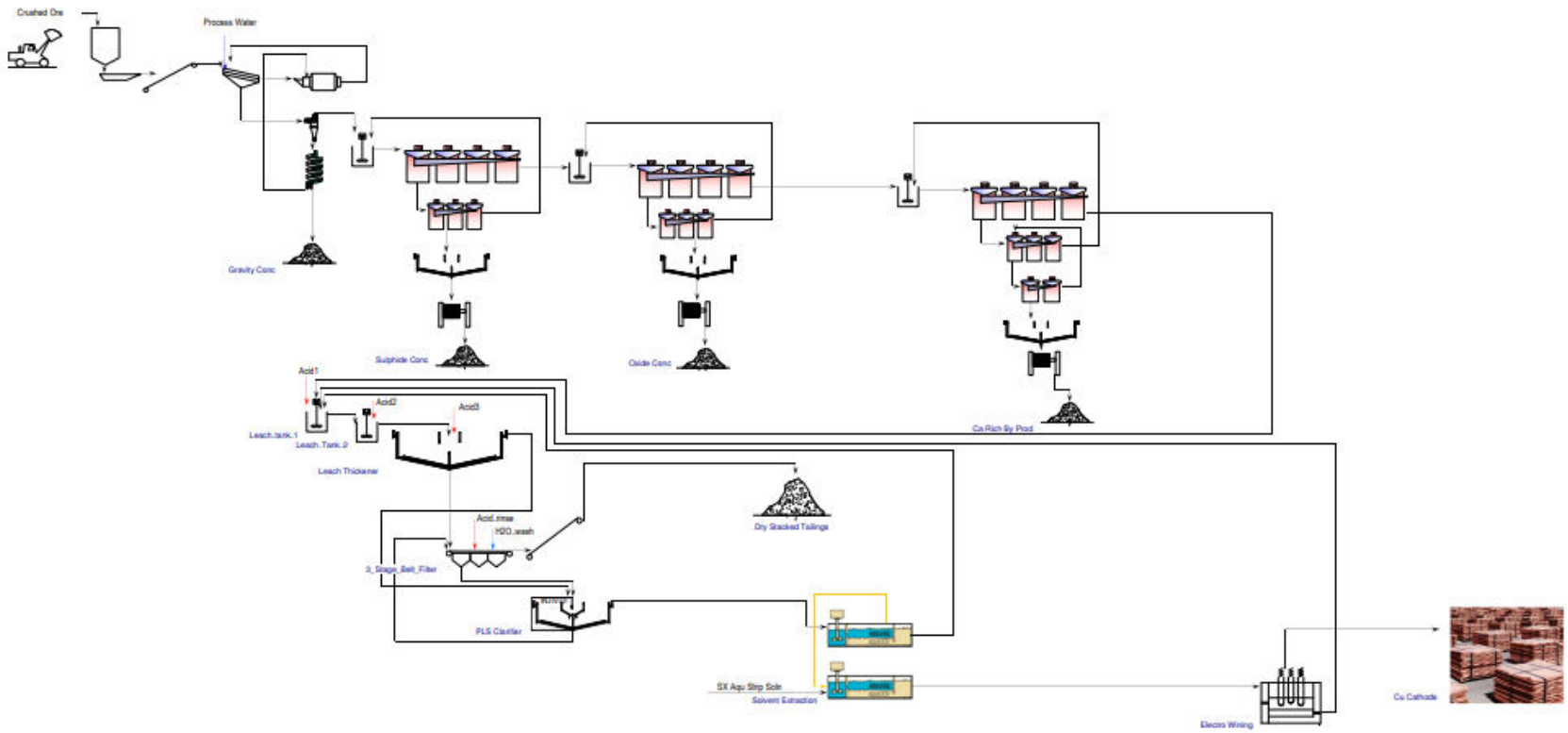


Figure 37 Ore Processing Flow Diagram (Simplified)

- **Whole ore acid leach with sulphuric acid**

Globally, ore dominated by copper oxide and secondary sulphide species are largely beneficiated through sulphide acid leaching processes. The Okohongo ore showed very high levels of copper, approximately 80% of the total copper, could be leached from the ore using this approach. The host rock components of calcite and dolomite are known to be acid consumptive. These minerals result in large acid consumptions, in excess of 200kg/t. This, along with the nature of the process tailings that would remain from this process and the requirements for safe storage of these tailings make this process route unattractive. This test work was done at CM Solutions and at Axis House, with very similar results confirming the test work.

- **Flotation as a means of direct recovery of Copper**

Test work at both BetaChem and Axis House (both specialist flotation reagent suppliers) showed that between 13% and 15% of the total copper could be recovered through direct flotation using standard thiol collector-based reagent suites. Both stated that concentrate grades higher than 15%Cu are potentially achievable. Further work (bench test-work and mini pilot plant runs) conducted at CM Solution has shown oxide recoveries between 75% and 85% are achievable and that the total copper in the order of 80% to 90% could be potentially recovered. Direct whole ore leaching using an ammonia based chemistry

Test work at CM Solutions showed that this chemistry holds the greatest promise for an efficient, industrially robust, environmentally friendly and cost-effective processing route for copper recovery. Solubilities greater than 80% were achieved at acceptable reagent consumptions. Further to this, it is understood that the tailings from this process would be less environmentally hazardous than those that result from acid leaching, and a large proportion of the reagents can be recovered and recycled within the process.

Other processes considered

Further processes tested included gravity concentration by heavy liquid separation gave attractive concentrate grades, but at low recoveries. This was tested at CM Solutions. It is unlikely that this processing route would stand alone as a sole means of copper recovery. It could however hold promise in conjunction with ammonia-based leaching, if it is found that the two processes are effective on different copper species. A further alternative, a leaching chemistry that employs glycine in conjunction with ammonia was also tested at Axis House and gave encouraging results. This may be revisited in the future.

6.3 Tailing Management

A number of technologies are available to facilitate the management of tailings. Some technologies have limited application and might not suit site-specific facts due to economic and environmental considerations. The alternatives considered by proponent for tailings management are:

- Deposition of tailings material into mined opencast areas
- Storing in a designed Tailings Storage Facility (TSF) with 2 or 3 compartments

Deposition into Open-Casts

The adoption of roll-back mining is being investigated in conjunction with dry stacking. This will enable the environmental footprint during and after mining operation cease to have a limited visual impact. This effort to demonstrate whether this is achievable and feasible demonstrates the proponents commitment to safeguard environment.

Tailings Storage Facility (TSF)

This alternative is also being considered because it is an industry standard and well understood. The significance of this method is that locals can be offered the opportunity to purchase material because it will be an ammonia rich benign product useful for fertilizing crop fields.

6.4 'No Go' Alternative

The 'No-Go' alternative may negatively affect regional economic development, potentially stagnating the local economy that is hugely reliant on agriculture (livestock production). **The 'No Go' alternative might not be a favorable proposition, as it would signify a lost economic opportunity for local communities and the broader Kunene region**. With multi-dimensional poverty of local community considered very high as compounded by the effects of climate related risks (recurring droughts), it is prudent that communities take advantage of the economic opportunities presented by the project. Should the project stall, reducing the high unemployment rate, ensuring greater social cohesion, and reducing poverty will remain protracted challenges.

7. CHAPTER SEVEN: PUBLIC CONSULTATION

7.1 Public Consultation

The public consultation process set out in Section 21 of Regulation No. 30 of EMA (Act no 7 of 2007) was followed during this assessment. Figure 38 illustrates the EIA stage at which the public was involved.

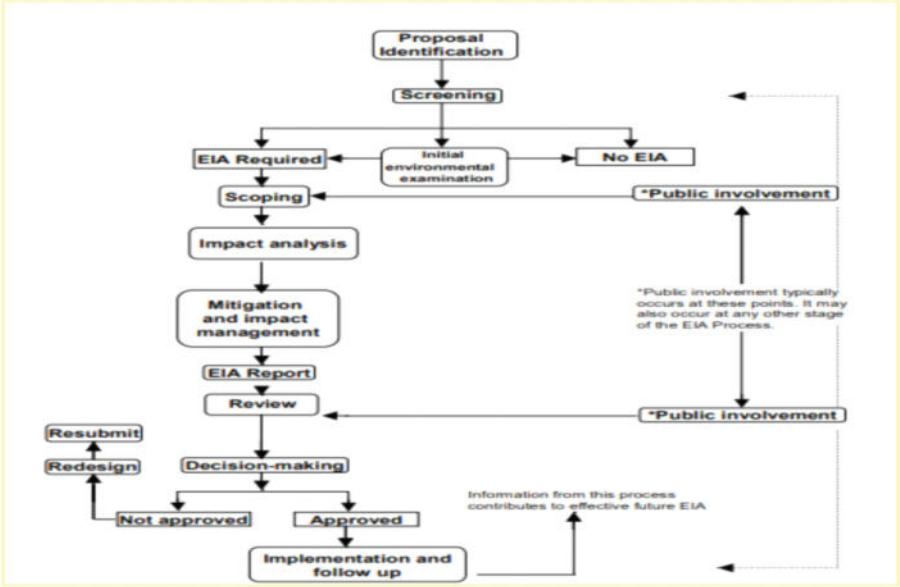


Figure 38 Public involvement (Source: UNEP)

7.2 Background Information Document (BID)

The BID provides an overview of the project; a description of how the EIA is and undertaken and indicates how Interested and Affected Parties (I&APs) are to participate in the EIA process. This document was advertised for availability through various means (newspaper articles, public meeting, and electronic mail).

7.3 Newspaper Advertisements

Newspaper notices were circulated in two daily newspapers ('the Namibian' and 'New Era') over a two-week period during the month of June 2024. Notices were also placed at key venues, i.e. Opuwo Rural Constituency Office at Otuani, Shopping Malls in Opuwo, Kunene Regional Council Head Office and MEFT Offices at Opuwo. Notices appeared in the "Namibian" and "New Era" newspapers as follows.

Table 19 Newspaper and Site Notices

Newspaper	Area of Distribution	Language	Placement date/month
The Namibian	Country Wide	English	17 June 2024 24 June2024
New Era	Country Wide	English	17 June 2024 24 June2024
Site notice	Okohongo project site	English	30 June 2024
Notices	Opuwo Rural Constituency Office - Otuani	English	30 June 2024
	Kunene Regional Council- Head Quarters	English	20 June 2024
	Spar Retail Shop- Opuwo	English	27 June 2024

Figure 39 Notice: Opuwo Rural Constituency (Otuani Settlement)

A standalone Stakeholder Engagement Report(Appendix D) was prepared as part of EIA.

7.4 Building a Stakeholder Database

A stakeholder list was developed. The list was continually updated as Interested & Affected Parties registered to participate in the EIA process. The contact details of key stakeholders were also updated.

7.5 Consultations (Interested and Affected Stakeholders)

The BID formed the basis for initial consultations with local communities. This also provided an opportunity for various stakeholders to, participate in the EIA process and express their concerns regarding the project. Informal consultations were held with community members adjoining the project site. The Kunene Regional Council and Constituency representatives were consulted both telephonically and physically.

Meetings occurred as follows:

Meeting Details	Date	Venue
• Preliminary consultations with community leaders and Okangundumba Conservancy representatives • Short briefs: Government staff working in Kunene	31 May ,2024	Opuwo Town, Otjokavare
• Traditional Leaders and Community Leaders • Conservancy Members	01 July ,2024	01 July ,2024 ,Chief Kuzaatu Mbeja Residence, Epunguee Village, 10H00 to 13h00
• Community Consultation	01 July ,2024	Kuzaatu Mbeja Residence, Epunguee Village, 14H00 to 16h00
• Focal groups Local & regional leaders, representatives of sectoral government agencies, competent authorities)	03 July 2024	Kunene Regional Council (Head Quarters) Opuwo 10h00-13h00
• Public Meeting	04 July ,2024	Roman Catholic Church Hall, Opuwo Town 09h00–11h00

Upon the release of the first public notice, stakeholders were informed that they would be required to register as interested and affected parties and provide comments on the project. The initial public commentary (scoping phase) period ended on July 30, 2024.

Comments and issues raised by community members and other stakeholders are detailed in the Stakeholder Commentary Report (**Appendix D**). A summary of the key issues raised is provided below:

Table 20 Issues and concerns raised

ESG CRITERIA	ISSUE (EMPHASIS)
Governance	• Land Use Rights: Concerns were raised regarding potential loss of grazing land due to mining. • Responsible supply chain: Robust suggestions were made regarding local content i.e. the participation of indigenous enterprises. • Community Involvement: Aloe 238 acclaimed for promoting transparency and inclusiveness.
Socio/Economic	• Improving Employment Opportunities: The employment of locals strongly advocated. • Employee Wellness & Rights: Enforcement of employment contracts • Occupational Health and Safety: Submissions were made on the adoption of insurance schemes/compensation for workers injured on duty. • Social-up-liftment: Suggestions were made that local artisanal miners be supported, and that support be directed towards community projects, school and conservancy programs. • Capacity Building/Skill Transfer: Emphasis made on empowering locals with the necessary skills. • Social pathologies: Concerns were raised over an increase in crime(livestock theft) ,cultural erosion, and prostitution • Development of artisanal mining : Project to facilitate offtake agreement with small scale miners
Environment	• Water Footprint : • Concern raised over competing water uses (domestic v/s mining). • Concerns raised regarding potential water pollution due to mine operations. • Waste Management: Adoption of effective tailing management methods. • Biodiversity: Concerns over the impact of project footprint on wildlife movement • Human-Wildlife Conflict: The Okandungumba Conservancy with an area size of 1131 km ^{2} accommodate free roaming 'highland savannah adapted' elephants (NNF: Haupchleight, 2024). Project may trigger a rise in elephant-human encounters.

8. CHAPTER EIGHT: ASSESSMENT OF POTENTIAL IMPACTS

8.1 Overview

The potential positive and negative impacts of the proposed activities are provided below.

8.2 Impact Identification (Positive and Negative) and Description

The potential beneficial and adverse impacts stemming from the proposed development on the biophysical and socio-economic environment during various phases of the project are listed under this section and assessed.

- **Positive impacts**

- The project can yield favorable economic benefits at the regional level, enabling the participation of local enterprises to initially support the mine but then grow and expand.
- Advance country GDP and revenue in the form of collected royalty taxes.
- Catalyst for socioeconomic transformation at the local level.
- Mine development promotes the transfer of skills and knowledge among small scale miners
- Project has great potential to redress infrastructure deficiencies (roads, sanitation water reticulation, and green energy infrastructure).
- Upscale service infrastructure (mine infrastructure) can provide an opportunity for developing proximate environs for the benefit of the local community.
- Corporate social investments empower women, youth, and vulnerable groups
- The exploitation of mineral resources has a trickle-down effect on the local economy through job creation opportunities for individuals and their families.
- Development of a regional market for copper and silver

- **Negative impacts**

- Aesthetics/visual degradation (operational and decommissioning phases)
- Habitat fragmentation/biodiversity loss/wildlife disturbance(all phases)
- Decrease in ambient air quality (operation and decommissioning phases)
- Reduction in subterranean water source levels(aquifer) and contamination (operation phase)
- Loss of control over valuable grazing area (all phases)
- Noise nuisance caused by drilling and vehicular activities (all phases)
- Physical hazards posed by abandoned drill holes. These should be removed with mining(all phases)
- Public and environmental health impacts (operation and decommissioning phases)
- Social pathology: people's influx into the area, moral decay, alcohol abuse, cultural erosion(all phases)
- Economic losses due to poaching (construction and operational phases)
- Waste generation (all phases)

Some potential negative impacts are anticipated to occur in only one phase, while others are to occur in various phases. To avoid repetition, impacts occurring in more than one phase will be described and assessed once. In other words, health and safety impacts occur during mining operations.

8.3 Impacts Analysis

Impacts are discussed in detail in the following sections. The analysis of impacts took account of views expressed by local community, in person meetings with experts and government authorities.

Socio-economic Advancement

The proposed development presents an interesting prospect for expanding and diversifying the regional economy. Living conditions are expected to improve through economic spinoffs and investments. Equally, the proposed development can influence direct and induced employment through the supply chain. Indirect jobs will emanate from short-term services such as maintenance and transportation. Local businesses can supply goods and services to mines. Highly skilled workers will be sourced from areas outside Kunene. Based on the assumption that operations occur over a period of twenty (20) years with the possibility of extension, this approach can create additional income for local and distant communities. However, for the local community, the impact of the project is expected to be felt at household level i.e. those households with family members in full-time employment at the mine. The positive impact of job creation is significant due to the high unemployment prevalence rate among the unskilled or semi-skilled population groups of the region. The local community can benefit significantly through corporate social responsibility program. Social Impact Management Plan (SIMP) can be put into operation the benefits, mitigation measures, monitoring arrangements and governance arrangements agreed with local community(IAIA,2015), as well as plans for dealing with any ongoing unanticipated issues as they may arise.

Biodiversity loss /habit fragmentation

Vegetation clearing may result in biodiversity loss. Clearing may also lead to the proliferation of alien invasive species on barren patches. Wild animals to be significantly affected include burrowing mammals and reptiles. Burrowing animals rely on bush cover for protection (predation aversion) and food. Shrubs prevent burrows from being trampled by livestock and large game. Reptiles' dependence on microclimatic conditions and litter beneath trees and shrubs can be negatively affected by bush clearing activities. Vehicles can trample reptiles and animals traversing vehicle routes. The abrasiveness caused by heavy contact onto the ground (rock), drilling and dumping of waste rock can produce sparks causing wildfire and leading to vegetation loss. The presence of construction workers may increase fuel wood consumption, potentially enhancing deforestation.

Habitat fragmentation occurs when areas of land are broken up into smaller patches, making dispersal by native species from one patch to another difficult or impossible, and cutting off migratory routes. Isolation(patches) may lead to the local decline of species or genetic effects such as inbreeding.

Wildlife species that require large patches of foraging land might simply disappear. Natural migratory routes and passages can be disrupted by mining activity as wildlife movement patterns can be altered. The project site is located in an area utilized as fallback area for livestock grazing during severe drought periods. Valuable pasture may be lost to mining. The potential loss is however deemed minimal given the project footprint and when compared to other surrounding land uses.

Degradation of Air Quality

The Okohongo Copper-Silver Mine Project can be a major source of air pollution, emitting a variety of pollutants that have significant impacts on human health and the environment. The impact on air quality might not be limited to the proposed MLA. Primary emission sources include drilling, blasting, and the transportation of materials and personnel. The operation of diesel-powered equipment and the crushing and processing of ore will significantly contribute to particulate matter emissions. Additionally, the handling of waste and topsoil, combined with the fugitive dust generated by wind erosion, is a potential source of air pollution. Assessing potential impacts requires examining a larger region, including adjacent lands. The operation and associated activities are potentially air pollutants, and the major air pollutant is the suspended particulate matter analysis of Opuwo wind rose indicates a southeast–northwest wind pattern. Consequently, areas southeast of the mine should be designated as upwind, while northwest areas should be considered downwind. Downwind receptors are anticipated to experience greater impacts on air quality during my operations. The detailed meteorological data, including wind speed and direction, should be correlated with the monitoring data to facilitate an accurate interpretation of the results.

The following lists common potential emission sources:

- Gas exhaust from equipment used for perforation, loading, and transportation of materials
- Dust from excavation and hauling excavated material
- Dust from grinding and material segregation

The U.S. The Environmental Protection Agency defines 'fugitive emissions' as "those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening." Common sources of fugitive emissions include storage and handling of materials; ore processing; fugitive dust, construction activities, roadway-associated tailing piles and ponds; and waste rock piles. The sources and characteristics of fugitive dust vary in each case, as do their impacts. Impacts are difficult to predict and calculate, but they should be considered as they represent a significant source of hazardous air pollutants. Specific activities and sources that could affect ambient air quality includes:

Blasting: Blasting generates particulate and gaseous emissions in mining environments. It has been shown that blasting releases NOx rapidly, which may pose a health risk in mining areas. In terms of particulate pollutants, blasting mostly produces dust. The recommended techniques for controlling the emissions due to blasting are as follows:

- Improvising blasting techniques and adopting controlled blasting methods
- Using water spray before blasting.

- Ore crushing: Crushing produces mainly coarse (TSP and PM10) dust particles that settle near the dust source. The recommended methods for limiting the impact of dust emissions from crushing plants include:
- Automatic water spraying in the crusher hopper and unloading point using a suitable enclosure

for the conveyor system.

- Bag filter installation in the crusher unit.
- Establish a greenbelt barrier around the vicinity of the crusher to trap fugitive dust.

Unpaved Surfaces: Dust emissions from unpaved surfaces are usually much greater than emissions from paved surfaces. Chemical stabilization can also be used in conjunction with wet suppression. This involves the use of chemical additives in water, which help to form a crust on the surface and bind dust particles together. Remedies that can be considered in relation to suppression include the following:

Wet suppression of unpaved areas can achieve dust emission reductions of about 70% or more, which can sometimes be increased by up to 95% using chemical stabilization.

Revegetation of exposed surfaces. This should be done wherever practicable. Surface improvements can be made using concrete or asphalt, or the addition of gravel or chemical dust suppression to the surface for stabilization.

Automobiles: Vehicles traveling over paved or unpaved surfaces tend to crush surface particles and other debris. Particles are lifted and dropped from the rolling wheels, and the road surface is exposed to strong air currents due to the turbulent shear between the wheels and the surface. Dust particles are also sucked into the turbulent wave created behind the moving vehicles. Loads carried by trucks are also potential sources of dust due to either wind entrainment or spillages. Mud and dust on unpaved surfaces represent another potential problem. Dust emissions from vehicles can be minimized through the following:

- Avoid spillage from loaded trucks.
- Minimizing vehicular emissions of particulate matter, SO2, NOx, and hydrocarbons through proper training and maintenance of vehicles and other oil-operated equipment.
- The vehicle speed controls have an approximately linear effect on dust emissions. A speed reduction from 30 km/h to 15 km/h will achieve an approximate 50% reduction in dust emissions.
- Optimizing travel distances by selecting an appropriate site layout and design.
- Using wheel and truck wash facilities at site exits.

Material stockpiles: Topsoil or overburden is susceptible to wind erosion speeds greater than 5 m/s. Dust emissions can also occur as material is dropped on the stockpile from a conveyor or during loading or unloading by track/shovel / front-end loading by track/shovel / front-end loaded. There are several methods by which dust can be reduced from stockpiles:

- Coverage storage of mined out-out overburden or top soil. This is an expensive option but can be considered.
- Limiting the height and slope of the stockpiles can also reduce wind speed.
- Limiting drop heights from conveyors.
- A flat shallow stockpile is subjected to less wind turbulence than a tall conical stockpile.
- When designing the stockpile, due consideration should be given to the effects of other site features, such as the most prominent wind direction.

Open-pit mining operations can be significant sources of air pollution, with particulate matter (PM) being a primary concern, especially in open-pit mines, because of fugitive dust emissions. No ambient air quality

or emission standards exist for Namibia. Moreover, no occupational exposure limit exists for dust emissions under Namibian environmental legislation. Dust mitigation measures should be adopted, and dust emissions proximate to sensitive receptors should be strictly monitored. The proposed project area is surrounded by elevated terrain from three sides; therefore, impacts are likely to be limited to the project area. All dust monitoring stations can be selected based on the wind direction.The proposed mining project may affect sensitive receptors variously. (Figure 40). The receptors were preliminarily identified for possible integration into air quality management and environmental monitoring programs.

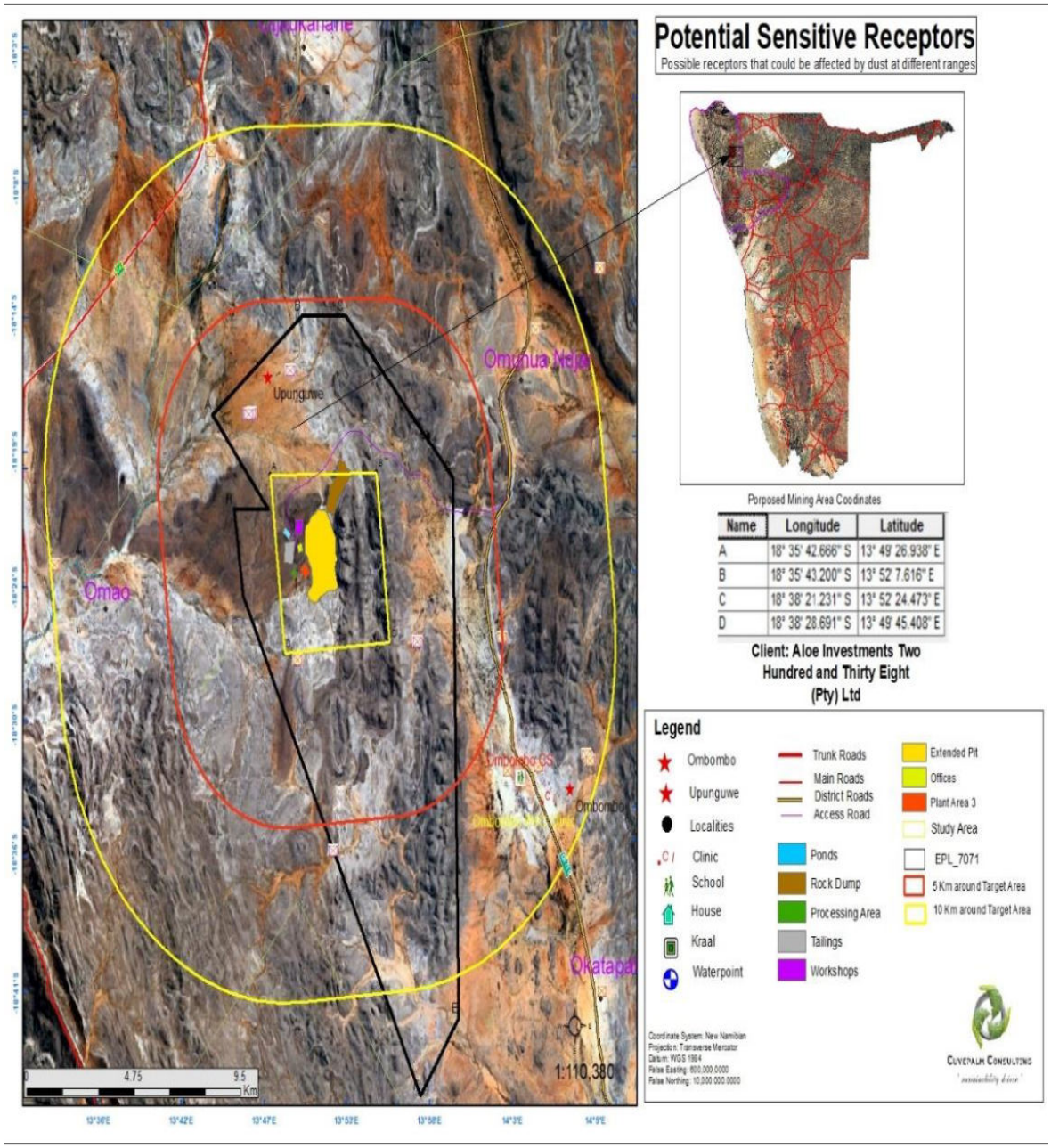


Figure 40. Potential sensitive receptors within 5 m and 10 km range of project area

To effectively manage the anticipated air quality impacts associated with the proposed Okohongo Copper-Silver Mine project, the following recommendations are provided:

- Establish a Comprehensive Baseline: Conduct a thorough baseline assessment of ambient air quality to establish pre-project conditions and identify potential receptors within 350-500m of mine boundary.
- Implement robust monitoring: A combination of active and passive monitoring techniques is applied to track air quality parameters, including pollutant criteria, heavy metals, and greenhouse gases.
- Prioritize monitoring stations in areas likely to be impacted by emissions considering factors such as population density, sensitive receptors, and prevailing wind patterns.
- Detailed air-dispersion modeling: Advanced dispersion-modeling techniques are used to assess the potential air-quality impacts of the entire project. Model various operational scenarios and meteorological conditions to identify areas at risk of exceeding air quality standards.
- Optimize site layout: The mine layout should be carefully planned to minimize the potential for air pollution impacts. Avoid locating sensitive receptors, such as communities, downwind of the project.
- Implement Rigorous Emission Controls: State-of-the-art air pollution control technologies should be employed in confined working areas to reduce emissions to the lowest achievable levels.
- Strengthen Dust Suppression Measures: Given an arid climate, implement comprehensive dust suppression measures throughout the project site, including paved surfaces, water sprinkling, and chemical stabilization.

Air quality can be achieved from approximately 350 m for coarse particles. An increase in particulate matter (dust) due to excavations and the operation of diesel power equipment (volatile organic carbons) is expected. Additional fugitive particulate emissions occur from materials handling (crushing of mined out ores), including the dumping or stockpiling of waste rock.

Table 21 Potential sources of air pollution

Activity	**Air Pollutants**
Drilling	PM10, PM2.5
Blasting	PM10, PM2.5, SO_2, NOx
Loading/Unloading	PM10, PM2.5
Haul Road	PM10, PM2.5
Transportation	PM10, PM2.5, SO_2, NOx, and GHGs
Crushing of ore	PM10, PM2.5
Waste/Topsoil handling	PM10, PM2.5, Fugitive Dust
DG Set	SO_2, NOx, PM10, PM2.5, GHGs
Fugitive Dust	PM10, PM2.5

SPM–Suspended Particulate Matter, SO_2 – Sulphur dioxide, NOx: Nitrogen oxide

Health & Safety

Employees can be severely exposed to health and safety risks if they are not properly inducted or trained on the use of certain machinery or equipment. Unstable waste rock dumps pose safety risks to workers. Open-pit operations during the rainy season can create a ponding effect as rainwater percolates into dugout areas. Dugout areas can provide breeding grounds for mosquitoes, potentially causing the spread of Malaria. Working faces can cause occupational injuries and fatalities due to the collapse of unstable walls. The presence of venomous snakes (e.g. cobras, puff adders) in the study area may pose a considerable threat to worker safety. The influx and settlement of people from other areas in search of job opportunities into the immediate (proximate to project site) can potentially lead to increased risk in the transmission of communicable diseases (hepatitis, and measles. Namibia has a high-generalized mature HIV epidemic with a HIV prevalence of 14%, high antiretroviral coverage of 90% and teenage pregnancies (18%). To ensure ethical behavior and comply with legislation, an occupational health and safety plan (OHSP) that embraces employee wellness and emergency preparedness plans should be prepared and implemented with the participation of mine employees/contractors.

Water Security

Concerns over unsustainable water abstraction and a deteriorating water quality due to potential pollution sources associated with mining projects in general was cited during the PPP of EIA . In particular, the intensification of mining operations could trigger a steep demand for water. Thus, ground water use may increase gradually as project advances. A significant drop in ground water levels due to over-abstraction may affect the ability of a mine to meet its water requirements. The climate of southern Africa is already inherently variable over time (Meadows, 2001) and changes seasonally, annually, and for decades. It is predicted that precipitation in semi-arid and arid regions like Kunene will decrease. Recharge occurrence will also exhibit this variability (Adams, Titus & Xu, 2004) and probably due to climatic change. One mitigation is to limit production at a maximum rate of production of 1 million tonne per annum. This will ensure that the size of the operation does not disproportionally consume water resources.

Both communities (local population, wildlife) dependent on the subterranean water sources. Unsustainable abstraction can also affect water quality by increasing the ambient concentration of harmful substances. Aquifer vulnerability may arise due to degradation and contamination by allowing seepage (surface run-off) to enter the aquifers through areas associated with fault lines. Water contamination may result from seepage emanating from tailings, maintenance of equipment (oil change, refueling, washing), or a lack of sanitation facilities. Hence, a good knowledge of aquifers characteristics associated with project area is significantly important for implementing water resource management strategies that can also be derived from conditions of the water use license applied for. Hence, a study (hydrogeology) directed towards assessing anticipating water requirements potential water pollution sources should be considered in advance. Fair and effective groundwater allocation is key to sustaining different water-use categories. Forming part of the water use license approval process, is a well-formulated water management plan is paramount for the successful management of water resources in the project area. The latter is also a crucial element in managing tailing storage facilities to avoid or minimize pollution risks.

Heritage and Archaeological Resource

Information from the National Heritage Council shows that the project area falls within the broader cultural landscape of the Kunene Region. Kunene Region has about seven (7) known heritage sites, which are listed as national monuments (Declared Sites/Lists of National Heritage). Table 22 and Figure 41 shows the declared heritage sites in Kunene Region in Namibia

Table 22 Heritage Sites in Kunene Region

Designation	Description	Built/Construction Period	Location	Monument number
1.Naulila-Denkmal	Monument	1933	Outjo Karte	052/1971
2. Stone Tower	Wasserturm(remains of windmill)	1900	Outjo Karte	027/1975
3.Dorsland Tractor Cottage	Historic building	1878	Otjitunduwa	009/1951
4.Verbrandeberg-Burnt Mountain	Rock Formation- the 'burnt' appearance is due to sunlight and a peculiar geological formation.	80 million years	Khorixas	024/1956
5.Rock Engravings at Peet Alberts Koppie	Rock engravings		Kamanjab Karte	036/1967
6.Petrified Forest	Petrified Wood	250 million years	Khorixas	004/1950
7.Twyfelfontein	Cave, rock carvings	about 4000 BC Chr	Khorixas	016/1952

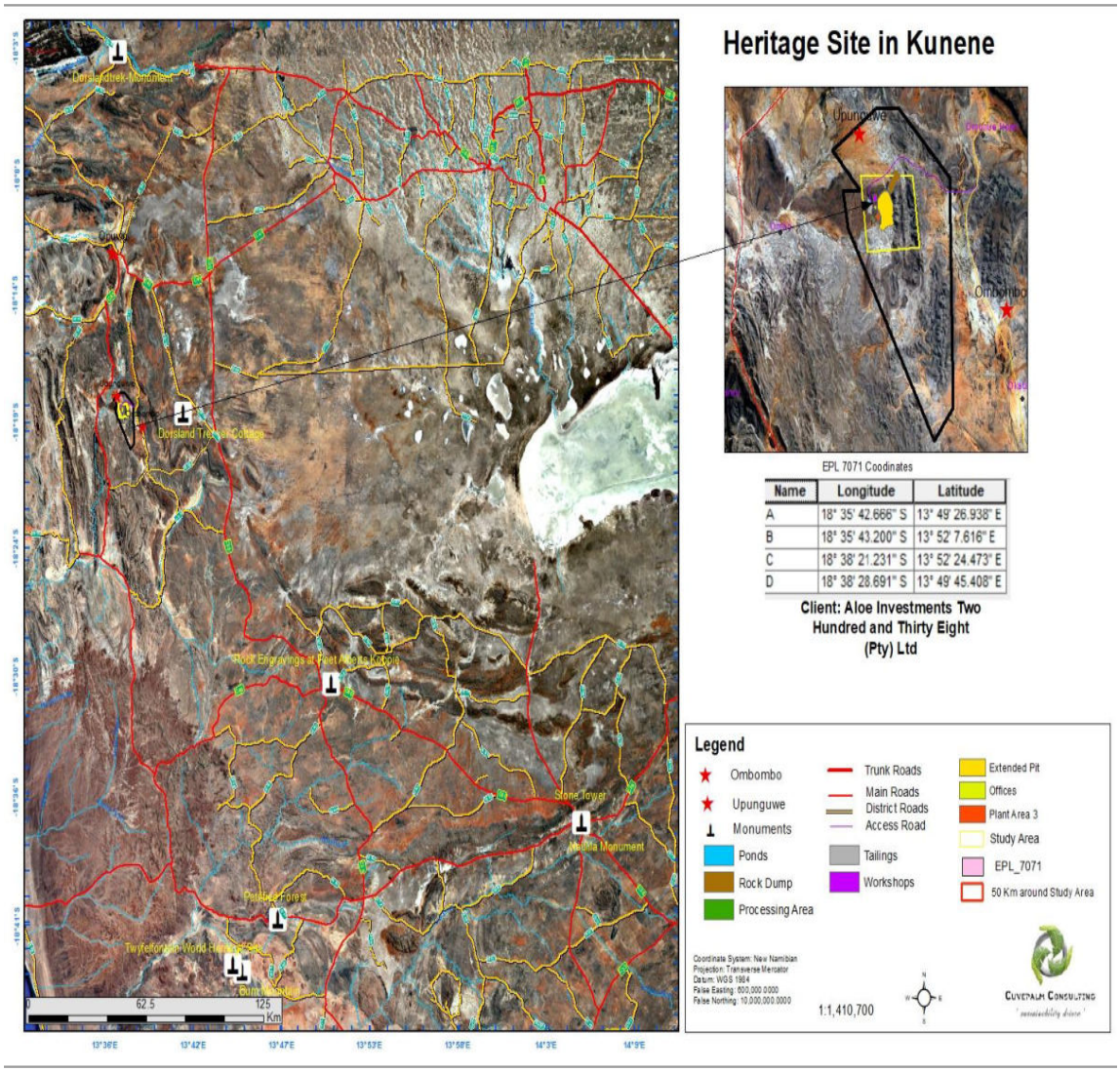


Figure 41 Heritage Sites (Monuments) found in Kunene

As shown above, none of the aforementioned heritage sites or monuments are found in close proximity to the proposed mining area. Direct archaeological impact could occur during land clearance or construction of infrastructure in the area such as access roads, accommodation facilities, or siting of equipment for mining works. While unlikely, evidence of temporary human settlement most likely attributed to seasonal grazing practices historically may suggest that the project area may host archaeological remnants. To mitigate this, proper caution should be considered when deciding on where to construct or set up infrastructure to avoid the proliferation of land disturbance in the area. **It should also be noted that the study area has been subjected to recent and past exploration activities in the region; hence, the possibility of finding sites of significance is minimal**.

Social pathology

Noise pollution will emanate from blasting, drilling, crushing, grinding, and stockpiling, vehicle engines, and loading and unloading of ore or waste rocks into dumpers. The noise-sensitive receptors include households residing in close proximity to the project area, wildlife, and livestock. Generally, vegetation cover and wind speed influence ambient noise levels. Noise levels can be amplified by removal of vegetation. Mitigation measures can include the effective planning and scheduling of work activities to minimize noise. The news of construction activities and the promise of job opportunities may cause immigration and an increase in people in areas close to mining operations. Given the current unemployment rate, the project can potentially attract people from outside the area to set up informal settlements around mine site and surroundings. Inbound persons from diverse backgrounds and cultures may exhibit behavioral traits (social norms, culture, and values, alcoholism), potentially antagonizing locals. This may lead to social clashes between the locals and "outsiders". This influx of newcomers can also have a profound impact on the original inhabitants, and disputes may arise over the use of natural resources and the way benefits have been shared. Livestock losses due to thefts may increase as criminals become opportunistic due to increased presence and movement of people in the MLA and adjacent areas. Increased crime may lead to social disruption among local community members.

Topsoil Loss

Removal of vegetation may result in soil erosion as the topsoil becomes exposed. Heavy equipment can compact the soil, affecting the topsoil (texture) and causing soil degradation. Topsoil loss can increase with increased surface runoff. Soil loss can trigger the formation of dongas and gullies, which present an unpleasant visual character.

Waste Generation

Mining operations will produce stockpiles of waste rock and pilling of debris (cleared vegetation matter). Sanitary waste and domestic household waste are expected to build up, especially around staging areas and field camps.

9. CHAPTER NINE ASSESSMENT OF IMPACTS

The EIA Regulations require a description of the significance of potential effects, including cumulative effects that may occur due to undertaking the activity. The significance of the identified impacts were assessed. The following sections outline the overall approach and assessment criteria adopted to assess the potential environmental and social impacts of the project. Definitions and explanations for each criterion is as provided in the following sections.

Table 23 Assessment Criteria

Duration: What is the duration of the negative impact?	
None	No Effect
Short	Less than one year
Moderate	One to ten years
Permanent	Irreversible
Magnitude: What is the effect on resources within the study area?	
None	No Effect
Small	Effecting less than 1% of the resource
Moderate	Affecting 1-10% of the resource
Great	affecting more than 10% of the resource
Spatial Extent: The scale of the impact in terms of area, considering cumulative impacts and International importance?	
Local	In the immediate vicinity of the impact
Regional/National	Large-scale impacts
International	International importance
Type: Impact	
Direct	Caused by the project and occurs simultaneously with project activities
Indirect	Associated with the project and may occur later or over a wider area
Cumulative	The combined effects of the project with other existing/planned activities
Probability of impact likelihood	
Low	<25%
Medium	25-75%
High	>75%

Table 24. Impact Significance

Class	Significance	Descriptions
1	Major Impact	Impacts are expected to be permanent and non-reversible on a national scale and/or they will have international significance or result in legislative non-compliant.
2	Moderate Impact	Impacts are long-term but reversible and/or have regional significance.
3	Minor	Impacts are considered short-term, reversible and/or localised in extent.
4	Insignificant	No impact is expected.
5	Unknown	Insufficient data to assess significance.
6	Positive	Impacts are beneficial

The significance of the potential impacts identified for this project was determined using a combination of criteria.

Table 25 Criteria used to determine the significance their definitions.

CRITERIA	DESCRIPTION
NATURE	This criterion indicates whether the proposed activity has a positive or negative impact on the environment (environment comprise bothsocio-economic and biophysical aspects). Reviews the type of effect that the proposed activity will have on a relevant component of the environment and includes "what will be affectedand how.
EXTENT	Spatial extent i.e. zone of influence Within Namibia Within the Region On site or within 5km of the impact site
DURATION	This criterion considers the lifetime of the impact as short/temporal (days, less than a year), medium (1-5 years), long (5-10 years but cease after operation), or permanent (more than 10 years)
INTENSITY	This criterion is used to determine whether the magnitude of the impact is destructive or innocuous and whether it exceeds set standards and is described as none (no impact); low (where the natural/social environment functions and processes are negligibly affected); medium (where the environment continues to function but in a noticeably modified manner); or high (where environmental functions and processes are altered such that temporarily or permanently cease and/or exceed legal standards
PROBABILITY	Considers the likelihood of an impact, which is described as uncertain. Improbable (low likelihood), probable (distinct possibility), highly

	probable (most likely), or definite (impact will happen regardless of prevention measures).
SIGNIFICANCE	Significance is given before and after mitigation. Rating **Low** if the impact will not have an influence on the decision or require significant accommodation in the project design; **Medium** if the impact could have an influence on the environment that requires modification of the project design or alternative mitigation (the route can be used, but with deviations or mitigation); **High** where it could have a "no-go" implication regardless of any possible mitigation.
STATUS OF THE IMPACT	A statement of whether the impact is positive (a benefit), negative (a cost), or neutral. In each case, indicate who is likely to benefit and who is likely to bear the costs of impact.
DEGREE OF CONFIDENCE PREDICTION	This is based on the availability of information and knowledge used to assess impacts.

Table 26 Definition of the significance rating criteria

Significance	Criteria
Low	Where the impact will have a negligible influence. on the environment, no mitigation is required
Medium	Where the impact could influence the environment, requiring some modifications to the project activities and/or alternative mitigation
High	Where the impact could have a significant influence on the environment, and in the event of a negative impact, the activity should not be permitted.

To fully understand the significance of each potential impact raised through stakeholder engagements.

1 *Table 27 Impact Rating*

Aspect	Mitigation Measures Proposed	Significance rating of impact un-mitigated	Significance rating of impact mitigated
Socioeconomic/Social pathology	Formulate and implement a Social Development Framework/Plan or Social Impact Management Plan. The plan may comprise but not limited to the following: • Social Performance i.e. - Respecting local cultural norms , values and traditional livelihoods - Education , training and employment of local residents, - Local content (local employment and procurement opportunities for local business) support and development. - Ensure due consideration is given to matters regarding the cultural and general well-being of the affected community and matters incidental thereto. • Identify individuals and groups who might be disproportionately impacted due to their disadvantaged or vulnerable status, and put measures in place to ensure they have access to development benefits and opportunities(IAIA); • Formation of partnerships with schools, small scale miners and indigenous conservation body in promoting of environmental stewardship • Support to local security cluster in order to combat wildlife crime and livestock theft. • Maintain regular communication between community leaders and mine management teams; • Communicate uniformly all planned activities with local leaders. • Establish minimum requirements designed to facilitate timely resolution of concerns related to mining • Information regarding major project activities such as blasting should be communicated through community communication channels. • Adopt a dispute resolution mechanism. Where land dispute relating to land access or grazing rights arise, through the TA, establish a multipartite team comprising of traditional authority, conservancy and proponent and land board representatives to undertake an opportunity assessment to identify the nature and	High	Moderate

	extent of land access.		
Biodiversity loss and habitat fragmentation	• Erect fences around hazardous work areas to prevent human-wildlife encounters and livestock interactions • Explore alternative energy sources to reduce community/laborers reliance on firewood • Collaborate with local conservation agencies to address the potential impacts of project on wildlife movement patterns and conflict	High	Low

Heritage, Resources, Culture	• Graves should be avoided, if possible. Any grave that cannot be avoided due to sitting requirements may require exhumation and possibly reburial. As for the latter, a permit is required from the National Heritage Council of Namibia. • The Environmental Management Plan is to ensure that all the existing archaeological reference guidelines (Chance Find Procedure Guideline by NHC (2017) are shared with the proponent for guidance. So, any buried archaeological remains that might be discovered during the prospecting phase are handled following the provisions of Part V Section 46 of the National Heritage Act (27 0f 2004). • Proponent is cautioned that 'Chance finds' is mandatory and should be complied with throughout the operational phase of the project. • Mining activities should be halted immediately in case any archaeological materials are unearthed during the phase of mining and the discovered site should be demarcated off, and the site's locations must also be incorporated within the project Environment Management Plan and GIS. • Create practical buffers around areas with potential for heritage conservation.	Moderate	Low
Ground Water Resources	• Practice water conservation measures such as the re-use of water from tailing ponds, installation of water efficient technology. • All water conservation measures should be articulated in the water resource management plan • Decant water from the TSF. • Re-use decant water in the processing plant	Unknown	Unknown
Public, Occupational Health and Safety	• Take account of employee and community safety considerations • Conduct First Aid Training and Safety Drills • Prepare and adopt health and safety policy concerning the protection of the health and safety of employees, including a description of the organization and arrangements for conducting reviews of the policy. • Institute health and safety committee • Conduct annual audits to ensure that TSF comply with and operate in accordance with approved safety standards	High	Moderate
	• Prepare and implement integrated waste management	High	Low

Waste Generation	program that accounts for all waste streams associated with mining operations. • Waste management guidelines should be established for the proper handling, collection and disposal of hazardous waste. • Waste skip storage areas should be properly positioned, roofed and bunded in the case of stored oil or hazardous waste residues. • Appropriately design TSF in accordance with globally accepted industry standards and local environmental conditions • Ensure TSF prescribe to measures for maintaining the integrity of eco-system		
Air Emissions	• Continuous improvement: Prepare air quality management plan that is regularly reviewed and updated based on monitoring data, operational changes, and emerging best practices. • Optimize travel distances through appropriate site layout and design. • Vehicular emission of particulate matter, SO2, NOx, and hydrocarbons can be minimized by training personnel and maintenance of vehicles and other oil-operated equipment. • Suppress dust emissions by instituting vehicle speed controls • The speed controls on vehicles have an approximately linear effect on dust emissions. In other words, a speed reduction from 30 km/h to 15 km/h will achieve an approximately 50% reduction in dust emissions. Enhance Meteorological Data Collection: Establish a dedicated meteorological station to collect high-resolution data on wind speed, direction, temperature, humidity, and other relevant parameters. These data are essential for accurate dispersion modeling and understanding the transport and dispersion of potential air pollutants. • Engage Local Communities: Maintain open communication with local communities, address their concerns, and provide transparent information about air quality monitoring and management efforts. • Comply with Environmental Regulations: Ensure strict adherence to all applicable air quality regulations and permits.	Low	Low

2

Environmental aspects and impact assessment

Environmental Aspect	Valued Ecosystem Component	Impact	Project Phase	Duration	Magnitude	Extent	Type	Probability	Significance
AESTHETICS									
Visual Impacts/nuisance	Landscape Scenery	Visual aesthetic impact	Construction and Operation	Moderate	Moderate	Local	Direct	Medium 25 - 75%	Moderate
	Topography and Landscapes	Visual impacts of infrastructure due to the disposal of tailings.	Construction and Operation	Short	Small	Local	Direct	Low <25%	Minor
	Landscape/Civic amenities	Excavations can cause visual impacts and complete change of scenery	Construction and Operation	Long term	Small	Local	Direct	Medium 25 - 75%	Moderate
LAND CAPABILITY									
	Soil	Spillages of fuel, oil, and other types of lubricants.	Construction and Operation	Short	Small	Local	Direct	Low <25%	Minor

	Soil	Loss of valuable topsoil material	Construction	Long term	Small	Local	Direct	High>75%	Moderate
	Terrestrial ecology and biodiversity	Changes in land use	Construction n and Operation	Permanent	Great	Local	Direct	Low <25%	Moderate
		Wildlife corridor diminished which include valuable pasture in and around the project Area.	Construction n and Operation	Long term	Low	Local	Direct	High>75%	Low

WASTE									
WASTE GENERATION	Ground water quality	Hazardous waste emanating from the waste storage site	Operation	Long term (operation)	Small	Local	Direct	Medium 25 - 75%	Low
		Leaching of hazardous substances or constituents from tailings	Construction and Operation	Long term	Small	Local	Direct	Medium 25 - 75%	Low
ECOLOGY									
BIODIVERSITY (***FAUNA***)	Terrestrial ecology and biology	Operational dust fallout , soil disturbance affecting soil organism associated with nutrient recycling	Construction, Operation	Moderate	Small	Local	Direct	Low <25%	Moderate
		Disturbance of vertebrate fauna (e.g., road kills; fence and construction/land clearing mortalities,	Construction and Operation	Long	Moderate	Local	Direct	Low <25%	Moderate
		Increased vehicular movement can displace wildlife or exacerbate human-wildlife conflict	Construction, operation, and decommissioning	Moderate	Moderate	Local	Direct	Medium 25%–75%	Low
BIODIVERSITY (***FLORA***)	Terrestrial ecology and biodiversity	Proliferation of invasive plants	Construction and Operation	Long	Moderate	Local	Direct	High >75%	Moderate
	Terrestrial ecology and biodiversity	Loss of unique flora and special habitats in local environments due to general nuisances and illegal bioprospecting	Construction and Operation	None	Moderate	Region	Direct	Low <25%	Moderate

	Terrestrial ecology and biodiversity	Dust fallout may adversely affect sensitive plants and prompt stunted growth.	Construction and Operation	Long Term	Small	Local	Direct	Medium 25 - 75%	Low
	Terrestrial ecology and biodiversity	Clearing land may lead to destruction of indigenous vegetation or diminish plant diversity	Construction	Long Term	Moderate	Local	Direct	High >75%	Low
	Terrestrial ecology and biodiversity	Uncontrolled/accidental veld fires	Construction and Operation	Long Term	Great	Local	Direct	Medium 25%–75%	Low
CLIMATE,ENERGY,EMMISSIONS									
DUST EMMISSIONS/AIR QUALITY	Greenhouse Gases	Open-pit excavations can release GHG such as S0x, CO2, and CH4.	Construction, operation, and decommissioning	Moderate	Great	Local	Direct	Medium 25%–75%	Minor
	Ambient air quality	Potentially release the following: emissions. PM2.5 -PM10 -Fallout dust	Construction, operation, and decommissioning	Short term	Moderate	Local	Direct	Medium 25 -75%	Moderate
	Fuel (Firewood)	Firewood as energy source create CO2 emissions	Construction, operation, and decommissioning	Moderate	Great	Local	Direct	Medium 25%–75%	Minor
	Fuel (Gas)	Vehicle emissions	Construction, operation, and decommissioning	Moderate	Great	Local	Direct	Medium 25%–75%	Minor

WATER									
WATER CONSERVATION	Groundwaterquality	Groundwater sources and soil can be polluted by construction activities and TSF operations	Construction, operation, and decommissioning	Short term	Great	Local	Direct	Medium 25 - 75%	Moderate
	Groundwaterquality	Groundwater sources potentially contaminated due to poor sanitary service infrastructure	Construction, operation, and decommissioning	Long term	Moderate	Local	Direct	Medium 25 - 75%	Low
	Surface waterquality	Periodic increase in surface water runoff from barren and waste stockpile areas during high rainfall months	Construction, operation, and decommissioning	Short term	Moderate	Local	Direct	Low <25%	Low
	Groundwaterquality	Water pollution from oil and lubricants released from vehicles and other mining equipment.	Construction, Operation and Decommissioning	Moderate	Moderate	Local	Direct	Low <25%	Low
	Groundwaterquality	Pollution of underground aquifers due to unsafe waste disposal practices	Construction, Operation and	Long term	Great	Local	Direct	Medium 25 - 75%	Low

SOCIO ECONOMIC									
Community wellness	Noise Pollution	Increased noise levels	Construction, Operation	Moderate	Small	Local	Direct	Low <25%	Minor
	Socio Economics Activities	Temporary and permanent Employment prospects. Training programs for local indigenous enterprises Support for small miners	Construction and Operation	Long	Moderate	Region	Direct	Medium 25%– 75%	Positive
	Primary livelihoods	Loss of pastureland	Construction, Operation, Decommissioning	Long	Moderate	Local	Direct	Low <25%	Minor
	Community health and morality	Increased potential for social problems such as and domestic abuse	Construction, Operation	Moderate	Small	Local	Direct	Low <25%	Minor

		Groups (Children and women). Potential for increased rates of HIV infections							
	Community wellness	An increase in vehicular movement can cause emotional stress resident communities	Operation	Moderate	Moderate	Local	Direct	Medium 25%–75%	Low
	Contribution to the national economy	Employment, local procurement, duties, and taxes.	Construction and Operation	Short	None	Region/National	Direct	Low <25%	Positive
HERITAGE									

HERITAGE/ARCHAEOLOGY	Artefacts, archaeological significant components, and cultural or burial sites	Destruction or affecting paleontological and archaeological artefacts	Construction and Operation	Moderate	Moderate	Local	Direct	Low <25%	Low
HEALTH									
Public Health and Safety	Sanitation	Poor sanitation practices can pose a risk to human health.	Construction, operation, and decommissioning	Moderate	Moderate	Local	Direct	Medium 25%–75%	Moderate
	Employee Health and Safety	Exposure to occupational hazards and, incidents when operating mining equipment. Rock waste dumps can present safety hazards in the form of falling rocks,	Construction, operation, and decommission	Moderate	Moderate	Local	Direct	Medium 25%–75%	Moderate
	Respiratory illnesses	Dust Emissions such as PM10, PM2.5, and PM 0.1 can be highly dangerous to the respiratory system. As such,	Operation	Moderate	Moderate	Local	Direct	Medium 25%–75%	Moderate

		homesteads proximate to MLA should be strictly Monitored dust fallout.							

8.5 Aloe 238 Strategy & Corporate Commitment

With the aforementioned, Aloe 238 has expressed commitment to best environmental management practice, fundamental to corporate strategy. The latter can be supported by practical and effective measures instituted for all anticipated adverse environmental impacts associated with project- activities. To meet set environmental objectives and national (Namibia) compliance requirements, Aloe 238 has to implement an Environmental Management Plan (EMP) to prevent, minimize and mitigate negative impacts. This also agrees with the Namibian Environmental Management legislation and International best practices. The EMP effectively implemented can address anticipated impacts, and can be updated on a continuous basis with the aim of continuous improvement.

10. CHAPTER TEN: CONCLUSION AND RECOMMENDATIONS

The assessment yields that the Okohongo mining project would result in potential environmental and social impacts. Based on stakeholder consultations, corporate social responsibility, wildlife management and water conservation were qualified to be highly significant aspects for consideration and integration into the mine operational cycle. Most IAPS and local community members consulted welcome the proposed development. During the assessment, attention was drawn to potential adverse impacts that were rigorously coupled with mitigation measures to be instituted. Alternatives for mitigating potential adverse impacts or reducing environmental and social risks were purposeful linked to key elements of project (ore processing technology, tailings management), resource optimization (land, water, energy conservation), cognizant of economic and social risks. A 'no go' alternative is perceived to have dire consequences on un-locking the potential diversification of livelihoods, at least in the immediate future. Environmental and Social Impact Management Plan revealing potential negative impacts and the corresponding remedial measures for adverse impacts took account of ESG criteria based on the perspectives and expectations of various stakeholder consulted i.e. communities and regulators. The latter can be secured as the development of the proposed mine advances. CPC thus recommends that a socio-economic study be undertaken alongside a detailed groundwater study before a major decision is made to proceed with the commencement of the actual mining operation (exploitation phase). Ground water study should encompass an investigation on the use of a combination of water sources i.e both local (subterranean) and other remote water supply sources for the project. Hence, the effective adoption and implementation of requirements set under a water use license (WUL) can have a positive impact on ecological integrity and project sustainability. In this regard, the EAP endorses the scoping report and the associated EMP for approval by the Office of the Environmental Commissioner. CPC recommends that the issuance of ECC be supported subject to a high level of compliance and enforcement of measures outlined in EMP that forms part of the ECC approval conditions.

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LIST OF APPENDICES

APPENDIX A: ENVIRONMENTAL MANAGEMENT PLAN

APPENDIX B: CONFIRMATION OF SCREENING NOTICE & ECC (EPL 7071)

SECTION 35(1) (A) (B) OF EMA (ACT NO.7 OF 2007)

Ministry of Environment and Tourism <noreply@met.gov.na>
to me

Jun 4, 2024, 5:12 PM (18 hours ago)

REPUBLIC OF NAMIBIA
Ministry of Environment, Forestry & Tourism

2024-06-04

Dear Martin King Luther Shikongo,

This email serves to inform you that your application **APP-003924** has been verified

Taking the following into considerations:

- Location of the project
- Pollution potential
- Scale of operation of the project

Please upload the following documments:

- Scoping Report
- EMP
- Consent letter or support doc from relevant Authority
- Proof of Consultation (Minutes, Newspaper adverts, etc)
- Confirmation of screening notice received (through email) in terms of assessment procedures (Section 35 (1)(a)(b) of the Environmental Management Act, No 7 of 2007)
- Preliminary Site Map with coordinates (decimal degrees) and a Legend
- CV of Environmental Assessment Practitioner (EAP)
- Consent from the National Heritage Council for protection of archaeological artefacts, paleontological and rare geological specimens, meteorites and any other object which holds cultural significance
- Consent or proof of consultation from Conservancy Management

Please login onto our portal to upload required documents, if any
https://eia.met.gov.na

NB- for the purpose of Section 38 of the Environmental Management Act, 2007 read with Regulation 4(d), kindly forward copies of all relevant documents i.e (application forms, EIA, Scoping reports, EMP etc) to the office of the Environmental Commissioner

Thank you

ECC – 2300259 Serial:230sR2L259

REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

ENVIRONMENTAL CLEARANCE CERTIFICATE

ISSUED

In accordance with Section 37(2) of the Environmental Management Act (Act No. 7 of 2007)

TO

Aloe Investments Two Hundred and Thirty Eight (Pty) Ltd
P. O Box 997154, Windhoek

TO UNDERTAKE THE FOLLOWING LISTED ACTIVITY

Exploration activities for Exclusive Prospecting License (EPL) No. 7071 Northwest of Ombombo Village, Kunene Region.

Issued on the date: 2023-03-17

Expires on this date: 2026-03-17

ENVIRONMENTAL COMMISSIONER

(See conditions printed over leaf)

Reduce
Reuse
Recycle

This certificate is printed without erasures or alterations

APPENDIX C: CONSENT LETTERS

I. **Traditional Authority- Letters**
II. **Okangundumba Conservancy Management- Letter**

Date: 29 June 2024

Ombombo Traditional Authorities and Their Community

To: The Director

Aloe Investment

Eddy Angula

1. Introduction

Ombombo district is situated about 80 km south of Opuwo which is the regional capital of Kunene Region. This district is inhabited by about 5000 people. The district is made up of villages. Subsistence farming (livestock) is villagers only means of making a living. Thus most of our youth are unemployed and are counting on the mine to provide them with jobs.

Okohongo where the potential mining area is found is situated in Epunguue one of the villages in Ombombo district. This area, Okohongo is normally the core grazing area for Epunguwe's communal farmers whose livelihoods heavily depend on livestock farming. This area's importance to this community can in no way be over emphasized as this area is where the villagers would seek refuge during severe drought which has been haunting the village in particular, for the last 8 years or so.

Equally to mention is that Aloe Investment with its international partners have been doing exploration works in and around Epunguwe for years and have identified Okohongo as their core area and its where their mining activities will take place should or go well.

In principle, the Ombombo traditional authorities welcome the potential mining activities which might be accompanied by various economic developments while taking cognisance of the total change which may occur among the villagers, some positive and some negative changes. These changes are mentioned but not limited to the hereinafter mentioned.

A. Positive Changes

- Possible employment
- District and villages economic growth
- New Infrastructure to be developed

B. Negative Changes

- Community will have to content with lesser grazing field
- Livestock and human movement will be limited
- Possible increase in HIV and STDs
- Prevalence of more single mothers whom might be impregnated by migrant workers

- Increase in teenage pregnancies
- Alcohol and drug abuse may increase
- Stock theft may increase

In the light of the mentioned socio-economic impacts, and in exchange of the huge sacrifice the community is willing to undertake by forsaking their precious grazing area as well as water source, such should be accompanied by compensating benefits of equivalent or more value in monetary terms which should cover the following aspects:

- Job Creation
- Local Enterprise Development
- Infrastructure Development
- Social Development

2. Mitigating Approach

Since the community remains committed as per previous interactions to the mining development, they deliberated among themselves and suggested various aspects which are their concerns and proposed certain benefits to be accorded to them specifically. As such special and/or preferential treatment should be given to the Ombombo district and its residents geared toward respectful co-existence and mutual benefit. The proposed benefits are mentioned here bellow:

2.1. Aloe investment had requested to camp/fence about 5 km around the mining side, the community had discussed this matter and we had concluded that 5km is too large an area and should reduced to 2.5km.

2.2. All able bodied young people from Ombombo district who are willing should be employed in one way or another. Such employment, and once employed, the people should earn the opportunity granted to them and should regard such employment as carte Blanche appointment.

2.3. Elderly people who are able to work should also be considered for possible employment.

2.4. Business related contract works should be reserved for enterprises owned or co-owned by the residents of Ombombo district. Where capacity might be lacking, the outside companies to whom such works is to be outsourced should be compelled to sub-contract a local enterprise.

2.5. Let build and fully equipped kindergarten and a clinic in Epunguue village.
2.6. No trade should be permanently stationed in the immediate vicinity of the mine.
2.7. Improvement of the all gravel road within Ombombo district.

3. Small Artisans

The small artisans or commonly known as small scale miners should be allowed to mine their claims and whatever minerals they win or discover, the mining company should have the first option to buy these minerals against a fair, reasonable and market related prices. Only in the events where the mining company is not interested in their materials will they be allowed to sell to any interested third parties.

3.1. Since we are no longer to use our borehole at Okohongo, the mining company should connect or help the community connect a water pipeline from the Omumborombonga borehole with the village and connect all the homesteads to this pipeline.

3.2. Equally and imperative to mention, is that the mining company should search or let the community search for water inside Epunguue itself and any other village of their choosing when found, drill for a borehole and set up the infrastructure similar or better to the borehole at Okohongo. A small irrigation garden is to be coupled to this borehole.

4. Economic Development

4.1. We want Ombombo district to be a living example to other mining villages how to co-exist with mining companies. it has become a norm in this region that a place where a mine is to open, disputes arise and community factions arise. This results normally in delays and financial loses, especially from the mining companies' sides. Unnecessary, costly and protracted meetings being held and often reach dead locks. We want to change the status quo.
Equally, the company, Aloe Investment and its Associates should be willing to listen and accommodate our proposals for it also to be a living example to other companies how to co-exist and share the entire God given mineral resources.

4.2. Since the above mentioned benefits (2.1.-2.3) only cater for the youth and the able bodied people, and accompanying mining adverse effects are not only limited to them; the elderly, disabled and the minors should also get a piece from this pie. It is also imperative to mention that most of the mentioned requests are once off (2.4 &2.5), the effects of the mining activities are long term. Hence there should also be long term accompanying benefits which are inclusive.

4.3. At this juncture, the community equity of 15% in the mine is proposed. This equity shares is to be channelled to the community through a yet to be established community trust fund. It will be from this fund from which the vulnerable group will derive financial and/or monetary benefits. The aim here is to compensate all members of Ombombo district for the narrowing their already tiny grazing field and all the other social changes which are likely to occur.

4.4. The trust fund will be managed by 5 members from the community. For the purpose of good governance, the mining company will let this people be trained on the management of the trust fund and be in compliance of the relevant laws of the Republic.

4.5. Normally, the shares are being paid out when profit is realized and so declared. In this case, we anticipate profit to be realizes after years, taking into consideration the huge investment required for setting up the time.

4.6. Our Immediate needs from the mining company are:

- Health facility
- Sponsorship to education
- Solar systems installation to five home stead
- Boreholes drillings in villages to supply water to community
- Roads rehabilitation within Ombombo district
- Donation to Okangundumba conservancy

5. Communications

5.1. As such we recommend, on the mining company's expenses, the appointment of a community relation officer. This person should be from Ombombo district, should know and understand the dynamics and concerns of the Ombombo Community and should have basic corporate knowledge as well as being well versed in English and the local language which is Otjiherero. It will be through this person the communication from the company to the community and vice versa will be channeled. This is seemed to be a more efficient, time and money saving way and will avoid misunderstanding between the two parties.

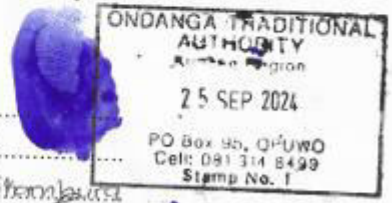
Yours faithfully Ombombo Traditional Aouthorities

Name: David U. Kavetu Signature: .....

Name: Josef U. Hiatjiua Signature: .....

Name: Ebson Rikambura Signature: .....

Name: Mervin K. Herunga Signature: .....



The Herunga Traditional Authority
P.O Box 291,
Opuwo , Namibia

TO WHOM IT MAY CONCERN

Consent has been granted the Ombombo Traditional Authorities for **Aloe 238 Investment** to proceed with the development planning activities relating the proposed Kohongo copper mine. The site for the proposed Kohongo copper mine is situated in the Ombombo district (80km south of Opuwo). The potential mining site within EPL 7071 at Okohongo village forms part of our Ombombo traditional authority area (Okangundumba). Based on our community traditional knowledge, the area proposed for the mining operation does not have heritage or cultural significance. Also ,there are no known recoeds of cultural stones or other material of heritage value associated with the aforementioned area.

For more information, please do not hesitate to us at the above stated address.

Yours faithfully

Kondanda Marvin Herunga

Herunga Traditional Authority

HERUNGA TRADITIONAL AUTHORITY OTJIKUKUTU
Kunene Region
31 JAN 2025
Headman:
Kondanda Marvin Herunga
Cellphone: 081 310 8937

Date 31/01/2025

The Conservancy
P.O.BOX 214
Kunene
Namibia
10 June 2024

Conservancy
Enq : Koruhama Ephraim K
Email : koruhamakavekungua@gmail.com
Cell :0818259600

Dear Sir

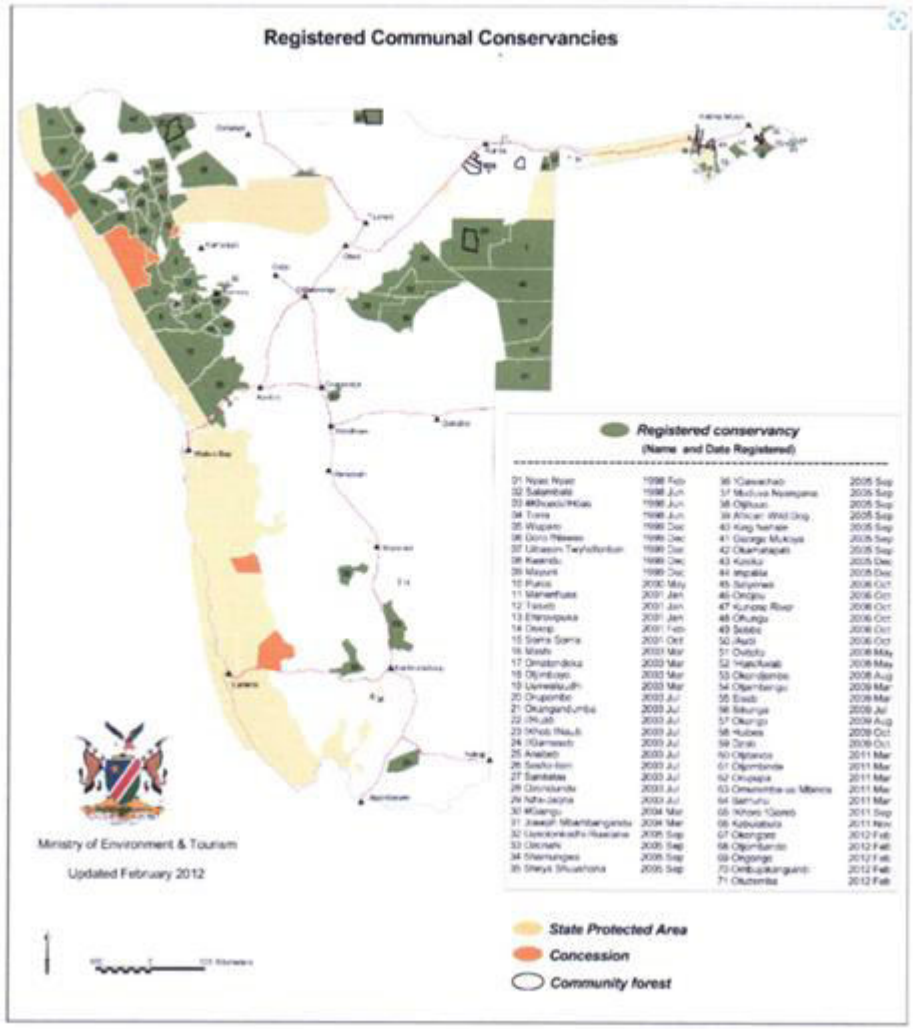
RE: EXPRESSION OF SUPPORT FOR THE DEVELOPMENT OF THE OKOHONGO COPPER-SILVER PROJECT

We are of the understanding that your Company EPL 7071, Iron Bull Mining, that is developing the Okohongo Copper-Silver project within our conservancy requires an expression of support as directed by the Ministry of Mines and Energy. We can confirm that as custodians of the registered conservancy Okangundumba, We are encouraged by the news of the development of this project and the initiation of the Environmental Impact Assessment.

This project represents much needed economic and social benefit to our efforts to date. We are therefore eager to see this project developed as it marks a material milestone in realizing this expectation by the community. We therefore provides this letter as a letter of support and consent on behalf of the conservancy to progress the project and we look forward to seeing realizing the benefits of such an ambition.

Yours
E.K Koruhama

Koruhamam Ephraim Kavekungua
The chairperson :
Okangundumba Conservancy


Registered Communal Conservancies
Registered conservancy
(Name and Date Registered)
Ministry of Environment & Tourism
Updated February 2012
State Protected Area
Concession
Community forest

APPENDIX D: STAKEHOLDER ENGAGEMENT REPORT (DOES NOT APPEAR IN THIS DOCUMENT)

I. **Press & Site notices**
II. **Minutes of Meetings**
III. **Comments/Written correspondents**
IV. **I&Aps Registration**

APPENDIX E: SUMMARY: CV OF ENVIRONMENTAL ASSESSMENT PRACTITIONER

Curriculum Vitae

Name Martin K.L Shikongo

Nationality Namibian

Passport No PO773475

Contact Information P.O Box 41858 Ausspannplatz
Tel: +264 0814905519
Email: mi26nam@gmail.com or projects.cuvepalmconsulting.com

ACADEMIC QUALIFICATIONS

Degree Courses

Name of Course	Institution	Subjects	Year conferred
Bachelor of Science	University of Namibia	Oceanography, Aquatic Science, Statistics, Biochemistry ,Water Micro Biology ; Environmental Impact Assessment, Ecology, Research Projects	2003
Honours: Bachelor of Science (Environmental Management)	University of South Africa	Environmental Monitoring, Environmental Auditing, Environmental Management Systems, Ecological Risk Assessment,	2009
Masters: Environmental Management	Stellenbosch University	Environmental Governance, Environmental Economics, Development Planning and Analysis, Geographic Information Systems	2013
Post Graduate Diploma (Development Finance)	University of Stellenbosch	Financial Analysis & Project Appraisal, Development Finance, Risk Management, Public Private Partnerships, Research, Monitoring and Evaluation	2016

PROJECT EXPIRIENCE

Project Name:	:	Proposed Mineral Claims 75089-75094 , Kamanjab Constituency , Kunene Region
Project Summary	:	Environmental Impact Assessment (EIA)- Kunene Region)
Role and Responsibilities	:	Environmental Specialist
Involvement	:	2024
Organization	:	JG Mining (PTY) LTD
Project Name:	:	Support Towards Industrialization and Productive Sectors" (SIPS) and Programme in the SADC region and COVID19-relevant Medical and Pharmaceutical Products (CMPP) and Antiretroviral (ARV) Value Chains
Project Summary	:	Environmental and Social Safeguards Compliance assessment for Pharmanova , Lusaka , Zambia
Role and Responsibilities	:	Environmental Auditor
Involvement	:	2023
Organization		GIZ Botwana
Project Name:	:	Occupational Hygiene Survey
Project Summary	:	Noise and Illuminance (Lux) Assessment – South Industrial Area Factory Windhoek
Role and Responsibilities	:	Project Planning Supervision
Involvement	:	2023
Organization	:	Plastic Packaging Namibia(PTY) LTD – (Khomas Region)
Project Name:	:	Support Towards Industrialization and Productive Sectors" (SIPS) and Programme in the SADC region and COVID19-relevant Medical and Pharmaceutical Products (CMPP) and Antiretroviral (ARV) Value Chains
Project Summary	:	Environmental and Social Safeguards Compliance assessment for Pharmaco Plant, Lusaka , Zambia
Role and Responsibilities	:	Specialist Auditor
Involvement	:	2023
Organization	:	GIZ Botwana

APPENDIX F: BIODIVERSITY-SPECIES CHECKLIST

Checklist: Birds				
Common name	Family	Scientific Name	Expected	Observed
Shikra	Accipitridae	*Accipiter badius*	Yes	No
Sparrow hawk	Accipitridae	*Accipiter minullus*	Yes	Yes
Little sparrowhawk	Accipitridae	*Accipiter minullus*	Yes	No
	Accipitridae	*Accipiter ovampensis*	Yes	No
The great reed warbler	Acrocephalidae	*Acrocephalus arundinaceus*	Yes	Yes
	Accipitridae	*Acrocephalus baeticatus*	Yes	No
	Acrocephalidae	*Acrocephalus gracilirostris*	Yes	No
	Scolopacidae	*Actitis hypoleucos*	Yes	No
	Otididae	*Afrotis afra*	Yes	No
Rosy-faced lovebird	Psittacidae	*Agapornis roseicollis*	Yes	Yes
Red-headed finch	Estrildidae	*Amadina erythrocephala*	Yes	Yes
Red-headed weaver	Ploceidae	*Anaplectes rubriceps*	Yes	No
	Anatidae	*Anas hottentota*	Yes	No
	Remizidae	*Anthoscopus caroli*	Yes	No
	Remizidae	*Anthoscopus minutus*	Yes	Yes
African pipit	Motacillidae	*Anthus cinnamomeus*	Yes	Yes
	Motacillidae	*Anthus leucophrys*	Yes	No
	Motacillidae	*Anthus vaalensis*	Yes	No
	Cisticolidae	*Apalis flavida*	Yes	No

	Anatidae	*Apus apus*	Yes	No
	Apodidae	*Apus caffer*	Yes	No
	Apodidae	*Apus melba*	Yes	No
Tawny eagle	Accipitridae	*Aquila rapax*	Yes	No
African hawk-eagle	Accipitridae	*Aquila spilogaster*	Yes	No
Verreaux's eagle	Accipitridae	*Aquila verreauxii*	Yes	No
Pririt batis	Platysteiridae	*Batis pririt*	Yes	No

Checklist: Mammals				
Common name	**Mammals**	**Scientific name**	**Expected**	**Observed**
Common slender mongoose	Herpestidae	*Galerella sanguinea*	yes	no
Common dwarf mongoose	Herpestidae	*Helogale parvula*	yes	yes
Gray mongoose	Herpestidae	*Galerella pulverulenta*	Yes	no
Striped Polecat	Mustelidae	*Ictonyx striatus*	yes	no
Yellow mongoose	Herpestidae	*Cynictis penicillata*	yes	no
Meerkat	Herpestidae	*Suricata suricatta*	yes	no
Black-backed jackal	Canidae	*Canis mesomelas*	yes	yes
African wild dog	Canidae	*Lycaon pictus*	no	no
Bat-eared fox	Canidae	*Otocyon megalotis*	yes	no
Cape fox	Canidae	*Vulpes chama*	yes	no
Caracal	Felidae	*Caracal caracal*	yes	no
Wildcat	Felidae	*Felis silvestris*	yes	no
Leopard	Felidae	*Panthera pardus*	yes	no
Lion	Felidae	*Panthera leo*	yes	no
Cheetah	Felidae	*Acinonyx jubatus*	yes	no
Brown hyena	Hyaenidae	*Hyaena brunnea*	yes	no
Aardwolf	Hyaenidae	*Proteles cristata*	yes	no
Spotted hyena	Hyaenidae	*Crocuta crocuta*	yes	no
Striped Polecat	Mustelidae	*Ictonyx striatus*	yes	no
Genete	Viverridae	*Genetta genetta*	yes	no
Cape porcupine	Hystricidae	*Hystrix africaeaustralis*	yes	no
	Primates			
Chacma baboon	Cercopithecidae	*Papio ursinus*	yes	no
	Chiroptera			
Common bent-wing bat	Miniopteridae	*Miniopterus schreibersii*	yes	no
Natal long-fingered bat	Miniopteridae	*Miniopterus natalensis*	yes	no
Slit-faced or hollow-faced bats	Nycteridae	*Nycteris thebaica*	yes	no

Free-tailed bats	Molossidae	*Tadarida aegyptiaca*	yes	no
Sundevall's roundleaf bat	Hipposideridae	*Hipposideros caffer*	yes	no
Striped leaf-nosed bat	Hipposideridae	*Macronycteris vittatus*	yes	no
Darling's Horseshoe Bat	Rhinolophidae	*Rhinolophus darlingi*	yes	no
Dent's horseshoe bat	Rhinolophidae	*Rhinolophus denti*	yes	no
Rüppell's horseshoe bat	Rhinolophidae	*Rhinolophus fumigatus*	yes	no
Geoffroy's horseshoe bat	Rhinolophidae	*Rhinolophus clivosus*	yes	no
white-bellied yellow bat	Vespertilionidae	*Scotophilus leucogaster*	yes	no
Cape serotine	Vespertilionidae	*Neoromicia capensis*	yes	no
House bats	Vespertilionidae		yes	no
	Macroscelidea			
Bushveld elephant shrew	Macroscelididae	*Elephantulus intufi*	yes	no
Western rock elephant shrew	Macroscelididae	Elephantulus rupestris	yes	no
	Artiodactyla			
Black wildebeest	Bovidae	*Connochaetes gnou*	no	no
Blue wildebeest	Bovidae	*Connochaetes taurinus*	yes	no
Springbok	Bovidae	*Antidorcas marsupialis*	yes	no
Oryx	Bovidae	*Oryx gazella*	yes	no
Kudu	Bovidae	*Tragelaphus strepsiceros*	yes	yes
Bontebok	Bovidae	*Damaliscus pygargus*	yes	no
Steenbok	Bovidae	*Raphicerus campestris*	yes	yes
Impala	Bovidae	*Aepyceros melampus*	yes	no
Hartebeest	Bovidae	*Alcelaphus buselaphus*	yes	no
Red hartebeest	Bovidae	*Alcelaphus caama*	yes	no
Roan antelope	Bovidae	*Hippotragus equinus*	yes	no
Common eland	Bovidae	*Taurotragus oryx*	yes	no
Kirk's dik-dik	Bovidae	*Madoqua kirkii*	yes	no
Sable antelope	Bovidae	*Hippotragus niger*	yes	no
Waterbuck	Bovidae	*Kobus ellipsiprymnus*	yes	no
Common duiker	Bovidae	*Sylvicapra grimmia*	yes	no
Common warthog	Suidae	*Phacochoerus africanus*	yes	no
Southern giraffe	Giraffidae	*Giraffa giraffe camelopardalis*	yes	no

	Lagomorpha			
Scrub hare	Leporidae	*Lepus saxatilis*	yes	no
African savanna hare	Leporidae	*Lepus victoriae*	yes	yes
	Perissodactyla			
Black rhinoceros	Rhinocerotidae	*Diceros bicornis*	yes	no
White rhinoceros	Rhinocerotidae	*Ceratotherium simum*	yes	no
Plains zebra	Equidae	*Equus quagga*	yes	no
	Soricomorpha			
Shrews	Soricidae	*Crocidura hirta*	yes	no
Reddish-gray musk shrew	Soricidae	*Crocidura cyanea*	yes	no
	Soricidae	Crocidura fuscomurina	yes	no
Rock hyrax	Hyracoidea	*Procavia capensis*	no	no
African bush elephant	Proboscidea: Elephantidae	*Loxodonta africana*	no	no
Aardvark	Orycteropodidae	*Orycteropus afer*	yes	no
Ground pangolin	Pholidota: Manidae	*Smutsia temminckii*	yes	no
	Rodentia			
	Muridae	*Saccostomus campestris*	yes	no
Black-tailed tree rat	Muridae	*Thallomys nigricauda*	yes	no
Single-striped grass mouse	Muridae	*Lemniscomys rosalia*	yes	yes
Four-striped grass mouse	Muridae	*Rhabdomys pumilio*	yes	yes
Desert pygmy mouse	Muridae	*Mus indutus*	yes	no
	Muridae	*Mastomys natalensis*	yes	no
Namaqua rock rat	Muridae	*Micaelamys namaquensis*	yes	no
Bushveld gerbil	Muridae	*Gerbilliscus leucogaster*	yes	yes
Highveld gerbil	Muridae	*Gerbilliscus brantsii*	yes	no
Cape short-eared gerbil	Muridae	*Desmodillus auricularis*	yes	no
Hairy-footed gerbil	Muridae	*Gerbillurus paeba*	yes	no
Red rock rats	Muridae	*Aethomys chrysophilus*	yes	yes
	Nesomyidae	*Saccostomus campestris*	yes	no
Pygmy rock mouse	Nesomyidae	*Petromyscus collinus*	yes	no
Dassie rat	Petromuridae	*Petromus typicus*	yes	no
Ground squirrel	Sciuridae	*Xerus inauris*	yes	yes

Checklist of Reptiles and Amphibians occurrence				
Common name	**Family**	**species**	**expected**	**observed**
Arthropods				
	Acrididae	*Heteracris prasinata*	yes	no
	Agelenidae	*Agelena australis*	Yes	no
	Nephilidae	*Nephila senegalensis*	Yes	no
Honey bee	Apidae	*Apis mellifera*	yes	no
	Bombyliidae	*Exoprosopa luteicosta*	yes	no
	Bombyliidae	*Anthrax puncturellus*	yes	no
	Bombyliidae	*Bombomyia discoidea*	yes	no
	Brachyceridae	*Ocladius variabilis*	yes	no
	Brachyceridae	*Synthocus acuticollis*	yes	no
	Brachyceridae	*Brachycerus mouffleti*	yes	no
	Brachyceridae	*Brachycerus rotundatus*	yes	no
	Brentidae	*Episus exilis*	yes	no
	Brentidae	*Microcerus subcaudatus*	yes	no
	Brentidae	*Microcerus latipennis*	yes	no
	Buthidae	*Uroplectes planimanus*	yes	no
	Buthidae	*Hottentotta conspersus*	yes	no
	Buthidae	*Parabuthus brevimanus*	yes	no
	Buthidae	*Parabuthus granulatus*	yes	no
	Carabidae	*Crepidogaster posticalis*	yes	no
	Carabidae	*Dichaetochilus incrassatus*	yes	no
	Carabidae	*Graphipterus limbatus*	yes	no
	Carabidae	*Netrodera formicaria*	yes	no
	Carabidae	*Dromica ramigera*	yes	no
	Coreidae	*Cletus caffer*	yes	no
	Crabronidae	*Stizus ferrugineus*	yes	no

	Crabronidae	*Bembix venusta*	yes	no
	Crabronidae	*Palarus furtivus*	yes	no
	Curculionidae	*Calodemas nickerli*	yes	no
	Curculionidae	*Bradybamon swalei*	yes	no
	Curculionidae	*Spartecerus humeralis*	yes	no
	Eumenidae	*Paravespa minutepunctata*	yes	no
	Formicidae	*Pachycondyla analis*	yes	no
	Formicidae	*Myrmicaria natalensis*	yes	no
	Gnaphosidae	*Xerophaeus aridus*	yes	no
	Halictidae	*Halictus michaelseni*	yes	no
	Halictidae	*Halictus hotoni*	yes	no
	Halictidae	*Nomia pandeana*	yes	no
	Hybosoridae	*Hybosorus ruficornis*	yes	no
	Lycosidae	*Pardosa manubriata*	yes	no
	Lygaeidae	*Spilostethus pandurus*	yes	no
	Masaridae	*Jugurtia alfkeni*	yes	no
	Megachilidae	*Megachile sinuata*	yes	no
	Megachilidae	*Megachile damaraensis*	yes	no
	Megachilidae	*Chalicodoma felinum*	yes	no
	Megachilidae	*Anthidiellum turnericum*	yes	no
	Meloidae	*Zonitoschema dunalis*	yes	no
	Meloidae	*Hycleus amoenus*	yes	no
	Meloidae	*Hycleus dicinctus*	yes	no
	Meloidae	*Hycleus arlecchinus*	yes	no
	Membracidae	*Oxyrhachis delalandei*	yes	no
	Pentatomidae	*Piezodorus purus*	yes	no
	Reduviidae	*Oncocephalus clavipes*	yes	no
	Scarabaeidae	*Copris evanidus*	yes	no
	Scarabaeidae	*Copris subsidens*	yes	no
	Scarabaeidae	*Onitis alexis*	yes	no
	Scarabaeidae	*Scarabaeus ambiguus*	yes	no

	Scarabaeidae	*Gymnopleurus ignitus*	yes	no
	Scarabaeidae	*Aphodius calcaratus*	yes	no
	Scarabaeidae	*Aphodius copulatus*	yes	no
	Scarabaeidae	*Xeloma atra*	yes	no
	Scarabaeidae	*Mausoleopsis amabilis*	yes	no
	Scorpionidae	*Opistophthalmus carinatus*	yes	no

Checklist: Plants				
Common name	Order and Family	Scientific Name	expected	observed
	Fabales			
	Fabaceae	*Chamaecrista mimosoides*	yes	no
Mopane	**Fabaceae**	***Colophospermum mopane***	**yes**	**yes**
	Fabaceae	*Crotalaria argyraea*	yes	no
	Fabaceae	*Crotalaria aurea*	yes	no
	Fabaceae	*Crotalaria barkae*	yes	no
	Fabaceae	*Crotalaria damarensis*	yes	no
	Fabaceae	*Crotalaria dinteri*	yes	yes
	Fabaceae	*Crotalaria flavicarinata*	yes	no
	Fabaceae	*Crotalaria heidmannii*	yes	no
	Fabaceae	*Crotalaria leubnitziana*	yes	no
	Fabaceae	*Crotalaria pisicarpa*	yes	no
	Fabaceae	***Crotalaria platysepala***	**yes**	no
	Fabaceae	*Crotalaria podocarpa*	yes	yes
	Fabaceae	*Crotalaria spartioides*	yes	no

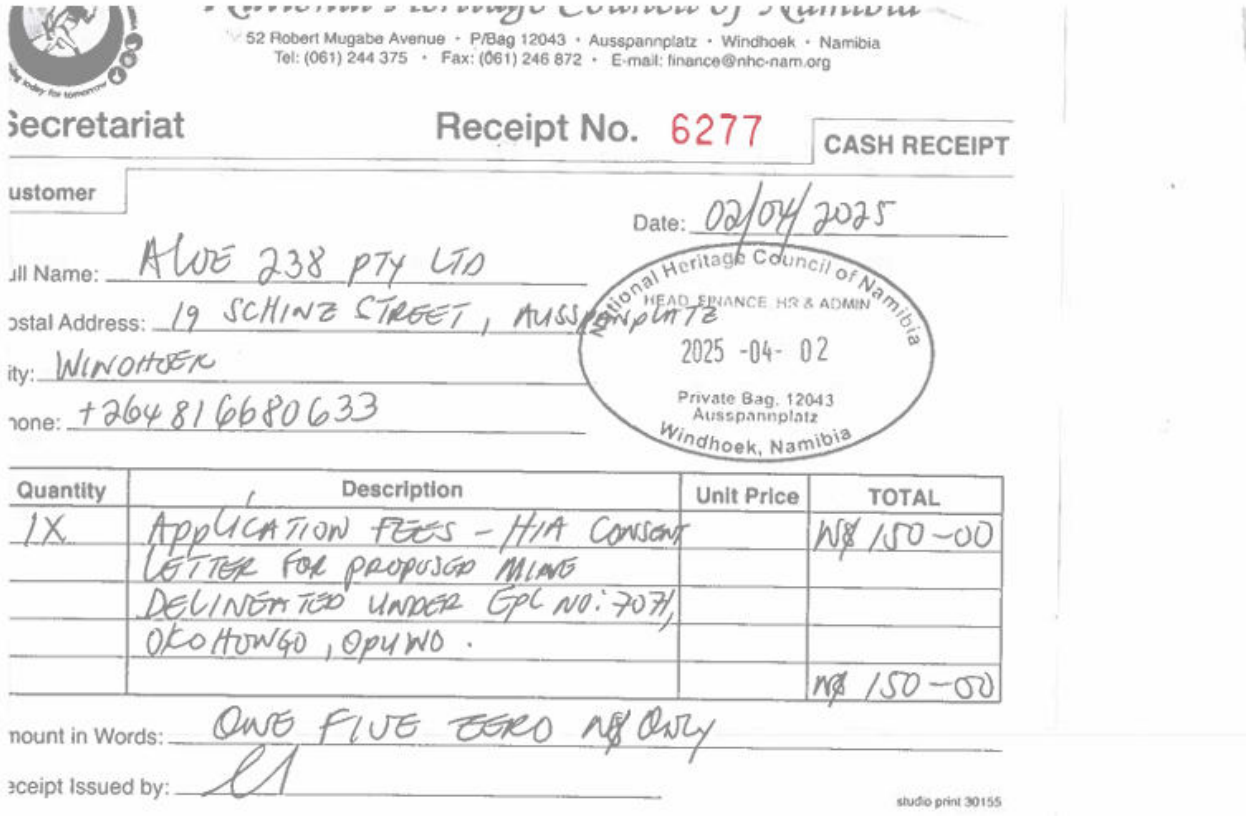
	Fabaceae	*Crotalaria sphaerocarpa*	yes	no
	Fabaceae	*Crotalaria steudneri*	yes	no
	Fabaceae	*Crotalaria virgultalis*	yes	no
	Fabaceae	***Cullen tomentosum***	**yes**	no
	Fabaceae	***Delonix regia***	**yes**	no
	Fabaceae	***Dichrostachys cinerea***	**yes**	**yes**
	Fabaceae	***Faidherbia albida***	**yes**	**no**
	Fabaceae	*Indigastrum candidissimum*	yes	no
	Fabaceae	***Indigastrum costatum***	**yes**	**no**
	Fabaceae	*Indigastrum parviflorum*	yes	no
	Fabaceae	*Indigofera alternans*	yes	yes
	Fabaceae	*Indigofera astragalina*	yes	no
	Fabaceae	*Indigofera auricoma*	yes	no
	Fabaceae	*Indigofera bainesii*	yes	no
	Fabaceae	***Indigofera charrieriana***	**yes**	**no**

Table 28 Meteorological data related to the study area (Source: Met.-Namibia (14 July 2024)

Parameters	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Temperature	2014			24.87	23.88		18.51	18.64	21.07	24.12			25.43
	2015	25.42	27.02	25.45	24.26	22.62	16.91	18.66	20.66	24.34	27.24		25.98
	2016	26.33	26.38	26.34	26.76	22.27	19.95	18.65	22.1	23.83	27.16	27.86	26.89
	2017	25.37	24.47										
	2018									23.87	26.51		
	2019	27.49	27.86	27.12	26.19	24.14	19.88	19.4	21.76	25.01	26.88	27.11	25.71
	2020	26.05	26.38										
Pressure	2014			887.07	888.93		890.66	891.73	889.6	888.85			886.75
	2015	886.99	886.33	887.44	888.63	890.09	890.8	890.4	889.7	888.19	887.52		887.96
	2016	887.37	887	887.5	888.56	890.61	891.98	891.19	890.31	888.38	886.69	886.84	886.34
	2018									887.24	887.51		
	2019	886.18	886.36	887.58	887.54	888.8	891.44	890.98	890.53	888.33	886.52	886.21	886.32
	2020	886.89	886.73										
Relative Humidity	2014			58.77	51.6		30.17	26.39	22.16	23.47			36.23
	2015	44.92	32.87	51.77	37.23	25.1	26.13	22.03	22.43	24.18	24.77		45.61
	2016	42.35	47.14	41.58	32.33	24.58	24.9	21.84	17.03	20.6	21.6	27.53	39.55
	2017	40.56	52.33										
	2018									20.53	28.77		
	2019	29.03	31.04	34.19	35.23	23.16	23	15.68	16.97	16.97	25.65	29.03	43.58
	2020	47.24	39.93										
Wind Speed	2014			1.33	1.75		1.28	1.11	1.08	1.79			1.75

	2015	1.98	1.75	1.49	1.25	0.94	0.75	0.67	0.86	1.49	1.96		1.82
	2016	1.74	1.65	1.32	1.74	1.57	1.35	1.67	1.49	1.47	1.88	2.03	1.78
	2017	1.72	1.4										
	2018									1.35	2.13		
	2019	1.9	1.81	1.6	1.12	1.24	1.51	1.4	1.58	1.79	1.86	1.77	1.52
	2020	1.67	1.56										
Wind Direction	2014			113.39	72.33		63.57	61.48	91.58	115.53			157.65
	2015	209.12	163.74	126.71	114.33	32.47	43.83	41.2	71.89	131.32	153.71		166.16
	2016	167.19	159.83	135.9	91.27	74.94	54.59	74.9	79.03	137.47	178.3	175.2	170.58
	2017	184.22	134.78										
	2018									118.33	130.13		
	2019	185.72	152.36	137.84	106.5	66.42	58.3	53.1	83.87	93.57	162.52	156.27	146.48
	2020	164.59	149.5										
Rainfall	2014			94	0	0	0	0	0	0	0	0	37.8
	2015	15.9	0.4	81.1									
	2016												
	2017	46.3	63.5	117.1	65.4	0	0	0	0	0	0	16.4	23.9
	2018	0	5.6	123.5	20.8	0	0	0	0	0	0	20.3	0
	2019					0	0	0	0	0	45.1	19.5	153.4
	2020	31	110.4	30.5	28	0	0	0	0	0	0	0	0
	2021	20	22	114.5	0	0	0	0	0	0	0	27.5	54
	2022	0	136	69.3	0	0	0	0	0	0	0	0	13
	2023	62.2	12.5	0	0	0	0	0	0	0	0	28.5	24

APPENDIX H: PROOF OF SUBMISSION: ARCHAEOLOGICAL AND CULTURAL HERITAGE IMPACT ASSESSMENT REPORT



52 Robert Mugabe Avenue • P/Bag 12043 • Ausspannplatz • Windhoek • Namibia
Tel: (061) 244 375 • Fax: (061) 246 872 • E-mail: finance@nhc-nam.org

Secretariat

Receipt No. 6277

CASH RECEIPT

ustomer

Date: 02/04/2025

ull Name: ALOE 238 PTY LTD

ostal Address: 19 SCHINZ STREET, AUSSPANNPLATZ

ity: WINDHOEK

hone: +264816680633

National Heritage Council of Namibia
HEAD FINANCE HR & ADMIN
2025 -04- 02
Private Bag 12043
Ausspannplatz
Windhoek, Namibia

Quantity	Description	Unit Price	TOTAL
1X	APPLICATION FEES - HIA CONSENT LETTER FOR PROPOSED MINING DELINEATED UNDER EPL NO: 7071, OKOHONGO, OPUWO.		N$ 150-00
			N$ 150-00

mount in Words: ONE FIVE ZERO N$ ONLY

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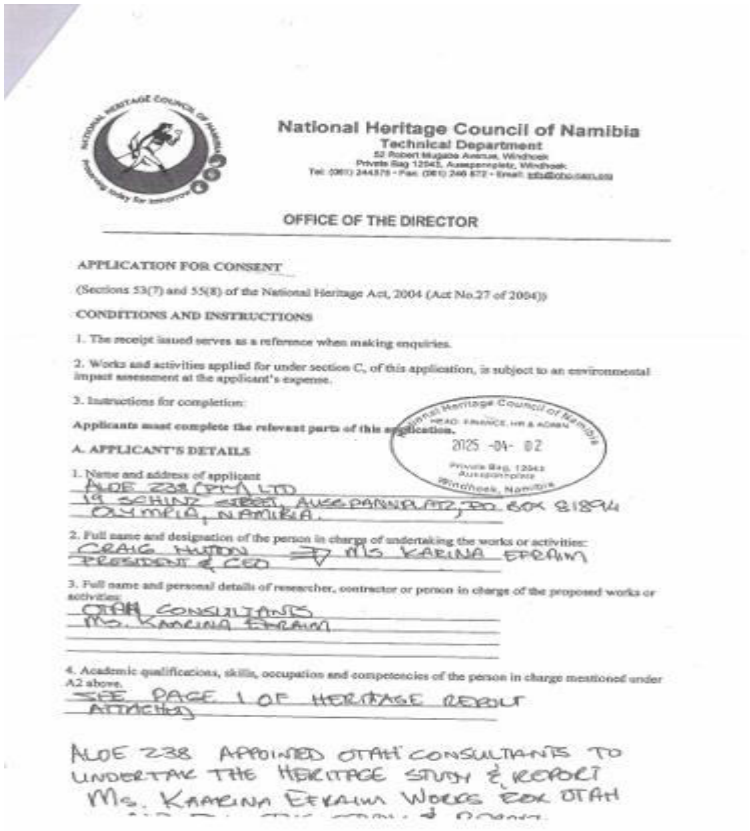
studio print 30155



National Heritage Council of Namibia
Technical Department
52 Robert Mugabe Avenue, Windhoek
Private Bag 12043, Ausspannplatz, Windhoek
Tel: (061) 244379 • Fax: (061) 246 572 • Email: info@nhc.com.na

OFFICE OF THE DIRECTOR

APPLICATION FOR CONSENT

(Sections 53(7) and 55(8) of the National Heritage Act, 2004 (Act No.27 of 2004))

CONDITIONS AND INSTRUCTIONS

1. The receipt issued serves as a reference when making enquiries.

2. Works and activities applied for under section C, of this application, is subject to an environmental impact assessment at the applicant's expense.

3. Instructions for completion:

Applicants must complete the relevant parts of this application.

National Heritage Council of Namibia
HEAD: FINANCE, HR & ADMIN
2025 -04- 02
Private Bag 12043
Ausspannplatz
Windhoek, Namibia

A. APPLICANT'S DETAILS

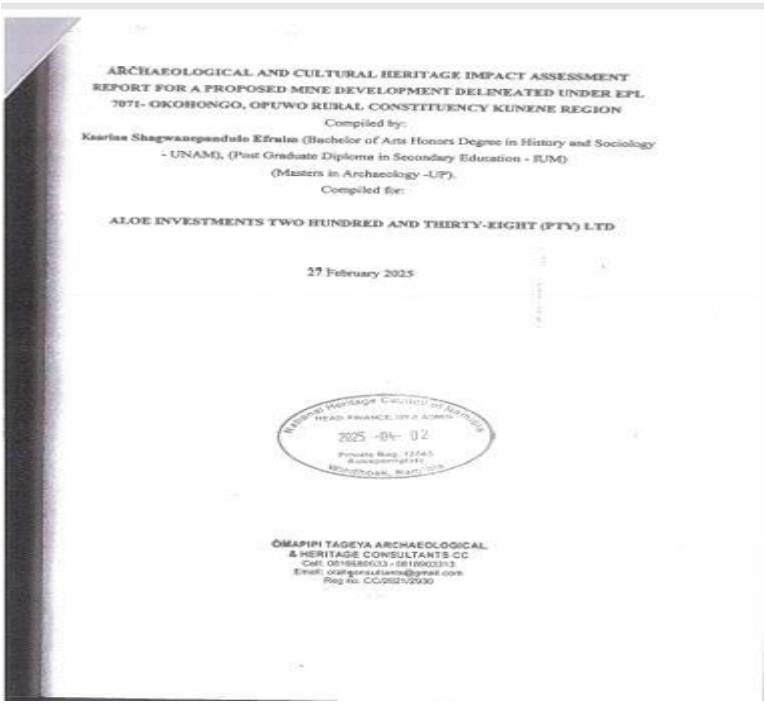
1. Name and address of applicant
ALOE 238 (PTY) LTD
19 SCHUTZ STREET, AUSSPANNPLATZ, PO BOX 81894
OLYMPIA, NAMIBIA.

2. Full name and designation of the person in charge of undertaking the works or activities:
CRAIG HUTTON ⇒ MS KARINA EPHRAIM
PRESIDENT & CEO

3. Full name and personal details of researcher, contractor or person in charge of the proposed works or activities:
OTAH CONSULTANTS
MS. KARINA EPHRAIM

4. Academic qualifications, skills, occupation and competencies of the person in charge mentioned under A2 above.
SEE PAGE 1 OF HERITAGE REPORT ATTACHED

ALOE 238 APPOINED OTAH CONSULTANTS TO UNDERTAK THE HERITAGE STUDY & REPORT
MS. KARINA EPHRAIM WORKS FOR OTAH



ARCHAEOLOGICAL AND CULTURAL HERITAGE IMPACT ASSESSMENT REPORT FOR A PROPOSED MINE DEVELOPMENT DELINEATED UNDER EPL 7071- OKOHONGO, OPUWO RURAL CONSTITUENCY KUNENE REGION

Compiled by:

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Compiled for:

ALOE INVESTMENTS TWO HUNDRED AND THIRTY-EIGHT (PTY) LTD

27 February 2025

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APPENDIX I: ACRONYMS

Abbreviation	Definition
Ag	Silver
Aloe 238	Aloe Two Hundred and Thirty Eight Investments (PTY) LTD
BID	Background Information Document
Cu	Copper
CE,V, E	Critically Endangered, Vulnerable, Endangered
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
OCC	Okangundumba Communal Conservancy
EIA (R)	Environmental Impact Assessment (Report)
ESIA	Environmental and Social Impact Assessment
EMP	Environmental Management Plan
EMPr	Environmental Management Plan Report
ESMP	Environmental and Social Management Plan
GHGs	Greenhouse Gasses
IUCN	International Union for Conservation Network
ISO	International Organization for Standardization
I&Aps	Interested and Affected Parties
mamsl	Meter above mean sea level
LOM	Life of Mine

mbgl	Meter below ground level
MAFWLR	Ministry of Agriculture ,Fisheries,Water and Land Reform (Namibia)
MCs	Mining Claim(s)
MLA	Mining License Area
MEFT: DEA	Ministry of Environment, Forestry and Tourism's (Directorate of Environmental Affairs)
MIME	Ministry of Industrialization ,Mines and Energy(Namibia)
MSDS	Material Safety Data Sheet
NHC	National Heritage Council
NaHS	Sodium hydrosulfide
PM10 and PM2.5	Particulate Matter (PM10 and PM2.5)
SO_2	Sulphur Dioxide
NOx	Nitrogen Oxides
N$	Namibia Currency
Carbon Monoxide (CO)	Carbon Monoxide
(Lead (Pb), Cadmium (Cd), Arsenic (As), Mercury (Hg))	Heavy Metals
Spp	Species
PPP	Public Participation
ToR	Terms of Reference
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
RWL	Rest water level
S-P-R	Source-Pathway-Receptor linkage
VMS	Volcanogenic Massive Sulphide