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Environmental Scoping Assessment (ESA) Study Report:

The Proposed Exploration Activities on Exclusive Prospecting License (EPL) No. 10740 located Northwest of Opuwo in the Kunene Region - Application for Environmental Clearance Certificate (ECC) for Exploration Activities Only

ECC Application No.:	**APP-005790**
Document Version:	**Final for Submission to the MEFT**
Proponent:	**Congleton Investments (Pty) Ltd** **P.O. Box 8912 Swakopmund, Namibia**

December 2025

DOCUMENT INFORMATION

Title: Environmental Scoping Assessment (ESA) Study Report for the Proposed Exploration Activities on Exclusive Prospecting License (EPL) No. 10740 located Northwest of Opuwo in the Kunene Region – Application for Environmental Clearance Certificate (ECC) for Exploration Activities Only

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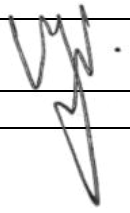
Signature:	
Date:	24/10/2025

SERJA'S STATEMENT OF INDEPENDENCE

As the Appointed Environmental Consultant to undertake the Environmental Scoping Assessment (ESA) Study for the Proposed Exploration Activities on Exclusive Prospecting License (EPL) No. 10740 located Northwest of Opuwo in the Kunene Region, Serja Hydrogeo-Environmental Consultants declares that we:

- do not have, to our knowledge, any information or relationship with Congleton Investments (Pty) Ltd (the Proponent), the Ministry of Environment, Forestry and Tourism (MEFT)'s Department of Environmental Affairs and Forestry (DEAF) or the Competent Authority (Ministry of Mines, Industries, and Energy (MIME)) that may reasonably have potential of influencing the outcome of this Environmental Assessment and the subsequent Environmental Clearance Certificate (ECC) applied for.
- have knowledge of and experience in conducting environmental assessments, the Environmental Management Act (EMA) No. 7 of 2007, and its 2012 Environmental Impact Assessment (EIA) Regulation, as well as other relevant national and international legislation, guidelines, policies, and standards that govern the proposed project as presented herein.
- have performed work related to the ECC application in an objective manner, even if the results in views and findings, or some of these may not be favourable to the Proponent.
- have complied with the EMA and other relevant regulations, guidelines, and other applicable laws as listed in this document.
- declare that we do not have and will not have any involvement or financial interest in the undertaking/implementation of the proposed project, other than remuneration (professional fees) for work performed to conduct the ESA and apply for the ECC in terms of the EIA Regulations' requirement as an Environmental Assessment Practitioner (EAP).

Disclaimer: Serja Hydrogeo-Environmental Consultants will not be held responsible for any omissions and inconsistencies that may result from information that was not available at the time this document was prepared and submitted for evaluation.

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Signature:

Fredrika N. Shagama: Principal Environmental Assessment Practitioner & Hydrogeologist

Date: December 2025

EXECUTIVE SUMMARY

Congleton Investments (Pty) Ltd (hereinafter referred to as the Proponent) has applied to the Ministry of Industries, Mines and Energy (MIME) on the 1st of April 2025 for the rights to prospect and explore on the Exclusive Prospecting License (EPL) No. 10740 as per the ‘’application’’ status on the Namibia MME Portal https://portal.mme.gov.na/page/MapPublic. However, the approval of the EPL application and subsequent prospecting and exploration activities are subject to an Environmental Clearance Certificate (ECC). The EPL has potential for 7 mineral commodities, namely Base & Rare Metals, Dimension Stone, Industrial Minerals, Non-Nuclear Fuel Minerals, Nuclear Fuel Minerals, Precious Metals, and Semi-Precious Stones. Thus, upon granting of the EPL rights by the MIME, the Proponent intends to prospect and explore within the boundaries of EPL-10740. The EPL covers an area of 48,836.2195 hectares (ha) and is about 90km northwest of Opuwo and about 30km west of Okangwati Settlement in the Kunene Region. The EPL overlies the Marienfluss and Otjitanda Communal Conservancies.

Proposed Project Activities

The project will be carried out using two groups of techniques:

- Non-invasive technique (Desktop Study). During the prospecting and exploration phase, the vital components include reviewing existing reports and composite stratigraphic, lithological-geochemical maps of the targeted areas to identify prospective lithostratigraphic packages. In addition to the literature review, fieldwork (lithological (soil/rock) mapping and sampling) and drone-borne geophysical surveys will be conducted to verify desktop work and delineate exploration targets. These works do not require physical disturbance.
- Invasive techniques (Detailed exploration): This will entail the verification of information collected during the desktop study and survey, and obtaining more/detailed information about the EPL. The invasive techniques include soil sampling, trenching, and drilling.

Communication with I&APs and Means of Consultation Employed

Communication with I&APs concerning the proposed development was facilitated through the following means and in this order:

- The background Information Document (BID) containing brief information about the proposed project was compiled and hand-delivered to the Ministry of Environment, Forestry and Tourism (MEFT), accompanying the ECC application, and uploaded on the MEFT (ECC) Portal for project registration and shared with registered Interested and Affected parties (I&APs).
- Project Environmental Assessment notices were published in two different newspapers, dated 12 & 19 May 2025 (in the *New Era newspaper*) and 14, 15 & 19 May 2025 (in the *Windhoek Observer*). The consultation period ran from the 12th of May 2025 to the 20th of June 2025.

- A combined consultation meeting between key stakeholders and some community members was scheduled and held on the 21st of June 2025 in Marienfluss at the Community Campsite. In the meeting, the EPL area was attended and represented by six (6) community members and Conservancy management committee members from the Marienfluss and Otjitanda (including a representative from the Integrated Rural Development and Nature Conservation (IRDNC)). The meeting attendees included three environmental consultants and two representatives from the Proponent. The meeting minutes were taken.
- Due to the remoteness of the area with no settlement, an EIA poster was only placed at the Kunene Regional Council in Opuwo.
- Issues were raised by I&APs (from the consultation meetings and review of draft documents), and these issues have been recorded and incorporated in the final ESA Report and EMP. The summary of these few key issues is as follows:
    - Prioritizing the local community for employment opportunities.
    - Transparency and clear communication between the proponent and the conservancies in the EPL area, i.e., there should be transparency and constant communication between the local community and the proponent to update them on the project progress.
    - The zonation of the conservancies, as well as villages that are not in the BID maps, needs to be mapped in relation to the EPL to ensure that highly sensitive areas are excluded from the exploration activities.
    - The request for the proponent to return to the community representatives (traditional authority and conservancies) to forge a way forward once the ECC and EPL certificates are issued by the MEFT and MIME, respectively.
    - Water Resources Impact: Water is extremely scarce in Kunene, and any use or potential contamination of water resources is a critical issue.
    - Soil Disturbance and Erosion
    - Biodiversity and Habitat
    - Water Resources Impact: Water is extremely scarce in Kunene, and any use or potential contamination of water resources is a critical issue.
    - Air Quality and Noise.
    - Visual and Landscape Impacts.
    - Occupational and Community Health & Safety
    - Socio-economic landscape
    - Cumulative impacts assessment
    - Recommendation for a coordinated consultation approach throughout the project cycle.

- Recommendation for a Regional or Strategic Environmental Assessment Approach. However, this is directed to the MEFT for future consideration regarding mineral exploration within the Kunene communal conservancies. Short of a formal SEA, the proponents and consultant should at a minimum engage in information-sharing and coordination amongst themselves.

- Review of draft Scoping Report and Environmental Management Plan (EMP): After the compilation of the draft Scoping Report and Environmental Management Plan (EMP), the two documents and consultation meeting minutes were circulated to registered stakeholders for review and further comments before finalizing for submission to the MEFT for evaluation. The review and comments period was fourteen (14) days, i.e., from the 02nd to the 17th of October 2025. There were no major issues or comments received from one of the stakeholders (from IRDNC) on the draft documents. However, one stakeholder responded to the email circulation enquiring if there would be a feedback meeting to review (go through) the circulated draft Scoping Report and EMP with communities. The Environmental Consultants responded that due to the time and resources constraints, there was no provision for a feedback meeting in the Kunene Region at this moment. However, recommendations have been made in the EMP to require the Proponent to hold an additional meeting with the communities should the ECC and EPL certificates be issued and granted, respectively. The meeting would be held as part of the planning phase for the communities, their leaders, and the Proponent to come together and plan for the commencement of activities and agree on conditions of operations.

Identified potential impacts

Positive impacts:

- Local socio-economic development through temporary employment creation for locals.
- Payment of land use fees to the land custodians (and land users/conservancy) and traditional authority to uplift the local communities within or in proximity of the EPL, where possible.
- Procurement of local goods and services by local/regional businesses to generate income.

Negative impacts:

- Physical soil disturbance resulting in compaction and erosion
- Impact on local biodiversity (fauna and flora) and habitat disturbance
- The potential impact of illegal hunting/poaching of wildlife in the area, with the EPL in conservation areas (communal conservancies)
- Potential impact on water resources and soils (over-abstraction and pollution)
- Impact on air quality due to dust generation (compromises the surrounding air quality)

- Visual impacts due to unrehabilitated exploration sites (e.g., from trenching and drilling activities)
- Occupational and community health and safety risks (open trenches and drilled holes may pose a risk to people), and to wildlife (animals) in the area
- Potential conflicts over land use between current activities in the area and exploration activities
- Noise associated with exploration drilling and the movement of heavy trucks to the site
- Vehicular traffic safety & impact on local roads
- Environmental pollution (littering) through improper handling, storage, and disposal of waste
- Impact on archaeological & cultural heritage resources.

Impact Assessment: The key negative impacts as well as cumulative impacts were described and assessed. The potential negative impacts indicated a medium rating of significance. To minimize the significance, appropriate management and mitigation measures are made for implementation by the Proponent, their contractors, and workers to avoid and/or minimize their significance on the environmental and social components. The effective implementation of the recommended management and mitigation measures, accompanied by monitoring, will particularly see a reduction in the significance of adverse impacts that cannot be avoided completely (from medium rating to low).

Conclusions

The ESA Study for the proposed exploration activities on EPL-10740 was undertaken per the EMA and its 2012 EIA Regulations. Some key potential positive and negative impacts were identified. The key negative impacts were described, assessed, and appropriate management and mitigation measures were made for implementation by the Proponent, their contractors, and workers.

The public was notified as required by Sections 21 to 24 of the EIA Regulations by placing adverts in two different newspapers, dated 12 & 19 May 2025 (in the *New Era newspaper*) and 14, 15 & 19 May 2025 (in the *Windhoek Observer*). A Consultation meeting between key stakeholders (some community representatives as well as members from the Marienfluss and Otjitanda Communal Conservancy management) was held on the 21st of June 2025. The consultation period ran from the 12th of May 2025 to the 20th of June 2025.

Apart from the necessary Archaeological and Heritage Impact Assessment (AHIA), which is required by the National Heritage Council for evaluation and issuance of the heritage consent for the MEFT, no other or further detailed assessments are required for the EIA Scoping Study. Therefore, the study was deemed sufficient and concluded that no further assessments are required for the ECC application for the prospecting and exploration activities.

Serja Consultants are confident that the potential negative impacts associated with the proposed project activities can be managed and mitigated by the effective implementation of the recommended management and mitigation measures, and with more effort and commitment put into monitoring the implementation of

these measures. It is therefore recommended that the proposed prospecting and exploration activities be granted an Environmental Clearance Certificate, and provided that:

- All the management and mitigation measures provided herein are effectively and progressively implemented.
- All required permits, licenses, and approvals for the proposed activities should be obtained as required. These include permits and licenses for land use agreements, service provision agreements (water provision), and exploring and ensuring compliance with these specific legal requirements.
- The Proponent should hold a feedback (planning) meeting with the project site communities as part of their planning phase so that the communities, their leaders (and other local key stakeholders), and the Proponent can come together to plan for the commencement of activities and agree on conditions of operations. In other words, the Proponent should commit to holding a feedback meeting with the communities once the ECC is granted (and share key conditions of the ECC and plans). This should be done before any exploration commences on the ground.
- Transparency in communication and continued engagement with key stakeholders (communities, traditional authority, and Conservancy managements of Marienfluss and Otjitanda) before and during exploration should be maintained throughout the project.
- The Proponent, their workers or contractors, comply with the legal requirements governing their project and its associated activities and ensure that project permits and or approvals required to undertake specific site activities are obtained and renewed as stipulated by the issuing authorities.
- Site areas where exploration activities have ceased are rehabilitated, as far as practicable, to their pre-exploration state. This includes the levelling of stockpiled topsoil, backfilling of exploration trenches, and closing/capping of exploration holes.
- Respecting no-go zones and avoiding exploration within buffer zones (no exploration within 1.5km of homesteads, settlements, and community structures) should be effectively implemented.

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

Lastly, since the proposed activity will be in existing communities, building good relationships from the beginning and throughout the process, and heeding the requests for transparency, ongoing dialogue, and respect for community input, will lay a positive groundwork not only for the proposed exploration works, but also for any future developments.

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LIST OF ABBREVIATIONS

Abbreviation	Meaning
AHIA	Archaeological & Heritage Impact Assessment
BID	Background Information Document
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSR	Corporate Social Responsibility
DEAF	Department of Environmental Affairs and Forestry
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate

Abbreviation	Meaning
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPL	Exclusive Prospecting License
ESA	Environmental Scoping Assessment
GG	Government Gazette
GN	Government Notice
I&APs	Interested and Affected Parties
IFC	International Finance Corporation
IRDNC	Integrated Rural Development and Nature Conservation
MAWLR	Ministry of Agriculture, Water, and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
MIME	Ministry of Industries, Mines, and Energy
NACSO	Namibian Association of CBNRM (Community-based Natural Resource Management) Support Organisations
NHC	National Heritage Council (NHC) of Namibia
NSA	Namibia Statistics Agency
PPE	Personal Protective Equipment
Reg	Regulation
S	Section

GLOSSARY (KEY TERMS)

Term	Definition
Alternative	A possible course of action, in place of another that would meet the same purpose and need of the proposal. Baseline - Work done to collect and interpret information on the condition/trends of the existing environment.
Biophysical	The part of the environment that does not originate with human activities (e.g., biological, physical, and chemical processes).
Cumulative Impacts / Effects Assessment	In relation to an activity, it means the impact of an activity that, in itself, may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Term	Definition
Decision-maker	The person(s) entrusted with the responsibility for allocating resources or granting approval to a proposal
Ecological Processes	Processes that play an essential part in maintaining ecosystem integrity. Four fundamental ecological processes are the cycling of water, the cycling of nutrients, the flow of energy, and biological diversity (as an expression of evolution).
Environment	As defined in Environmental Management Act - the complex of natural and anthropogenic factors and elements that are mutually interrelated and affect the ecological equilibrium and the quality of life, including – (a) the natural environment that is land, water, and air; all organic and inorganic matter and living organisms and (b) the human environment that is the landscape and natural, cultural, historical, aesthetic, economic and social heritage and values.
Environmental Management Plan (Draft EMP)	As defined in the EIA Regulations (Section 8(j)), a plan that describes how activities that may have significant environmental effects are to be mitigated, controlled, and monitored.
Exclusive Prospecting Licence	A license that confers exclusive mineral prospecting rights over land of up to 1000km^2 in size for an initial period of 3 years, renewable twice for a maximum of 2 years at a time.
Interested and Affected Party (I&AP)	In relation to the assessment of a listed activity, it includes - (a) any person, group of persons, or organization interested in or affected by an activity; and (b) any organ of state that may have jurisdiction over any aspect of the activity. Mitigate - practical measures to reduce adverse impacts. Proponent – as defined in the Environmental Management Act, a person who proposes to undertake a listed activity. Significant impact - means an impact that by its magnitude, duration, intensity, or probability of occurrence may have a notable effect on one or more aspects of the environment.
Fauna and Flora	The animals and plants found in an area.
Mitigation	The purposeful implementation of decisions or activities that are designed to reduce the undesirable impacts of a proposed action on the affected environment
Monitoring	Activity involving repeated observation, according to a pre-determined schedule, of one or more elements of the environment to detect their characteristics (status and trends).
Proponent	Organization (private or public sector) or individual intending to implement a development proposal.
Public Consultation/Involvement	A range of techniques can be used to inform, consult, or interact with stakeholders affected by the proposed activities.
Protected Area	Refers to a protected area that is proclaimed in the Government Gazette according to the Nature Conservation Ordinance number 4 of 1975, as amended.
Scoping	An early and open activity to identify the impacts that are most likely to be significant and require specialized investigation during the EIA work. It can also be used to identify alternative project designs/sites to be assessed, obtain local knowledge of the site and surroundings, and prepare a plan for public involvement. The results of scoping are frequently used to prepare a Terms of Reference for the specialized input into a full EIA.

1 INTRODUCTION

1.1 Project Background and Location

Congleton Investments (Pty) Ltd (hereinafter referred to as the Proponent) has applied to the Ministry of Industries, Mines and Energy (MIME) on the 1st of April 2025 for the rights to prospect and explore on the Exclusive Prospecting Licence (EPL) No. 10740 as per the ‘’application’’ status on the Namibia MME Portal https://portal.mme.gov.na/page/MapPublic - Figure 1-1. However, the approval of the EPL application and subsequent prospecting and exploration activities are subject to an Environmental Clearance Certificate (ECC).

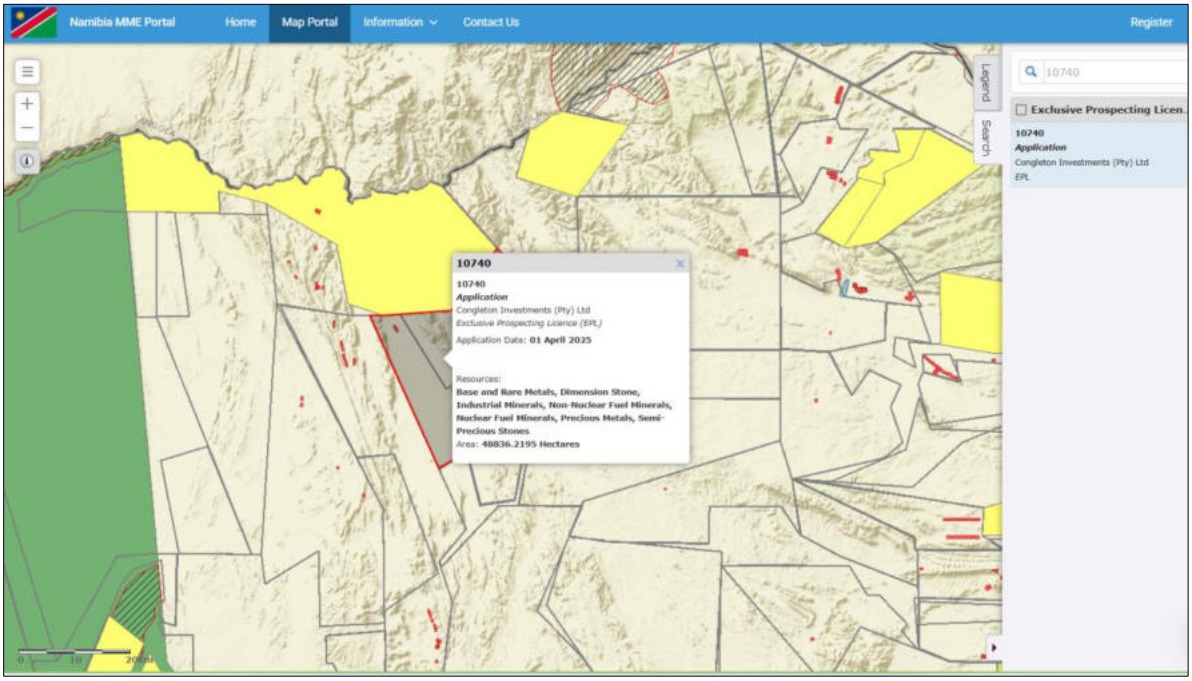


Figure 1-1: The status of EPL-10740 on the Namibia Mining Cadastre Map Portal (https://portal.mme.gov.na/page/MapPublic)

The EPL has potential for 7 mineral commodities, namely Base & Rare Metals, Dimension Stone, Industrial Minerals, Non-Nuclear Fuel Minerals, Nuclear Fuel Minerals, Precious Metals, and Semi-Precious Stones. Thus, upon granting of the EPL rights by the MIME, the Proponent intends to prospect and explore within the boundaries of EPL-10740. The EPL covers an area of 48,836.2195 hectares (ha) and is about 90km northwest of Opuwo and about 30km west of Okangwati Settlement in the Kunene Region - Figure 1-2. The EPL overlies the Marienfluss and Otjitanda Communal Conservancies (Figure 1-3).

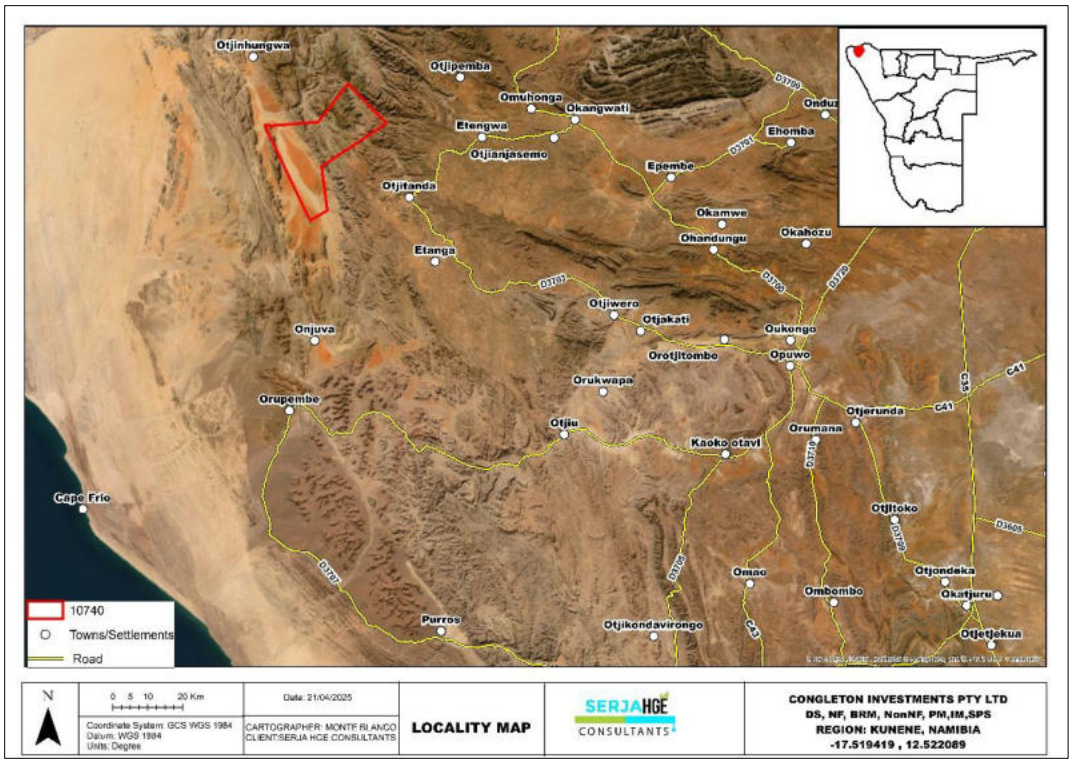


Figure 1-2: Locality map of the EPL-10740, 30km west of Okangwati in the Kunene Region

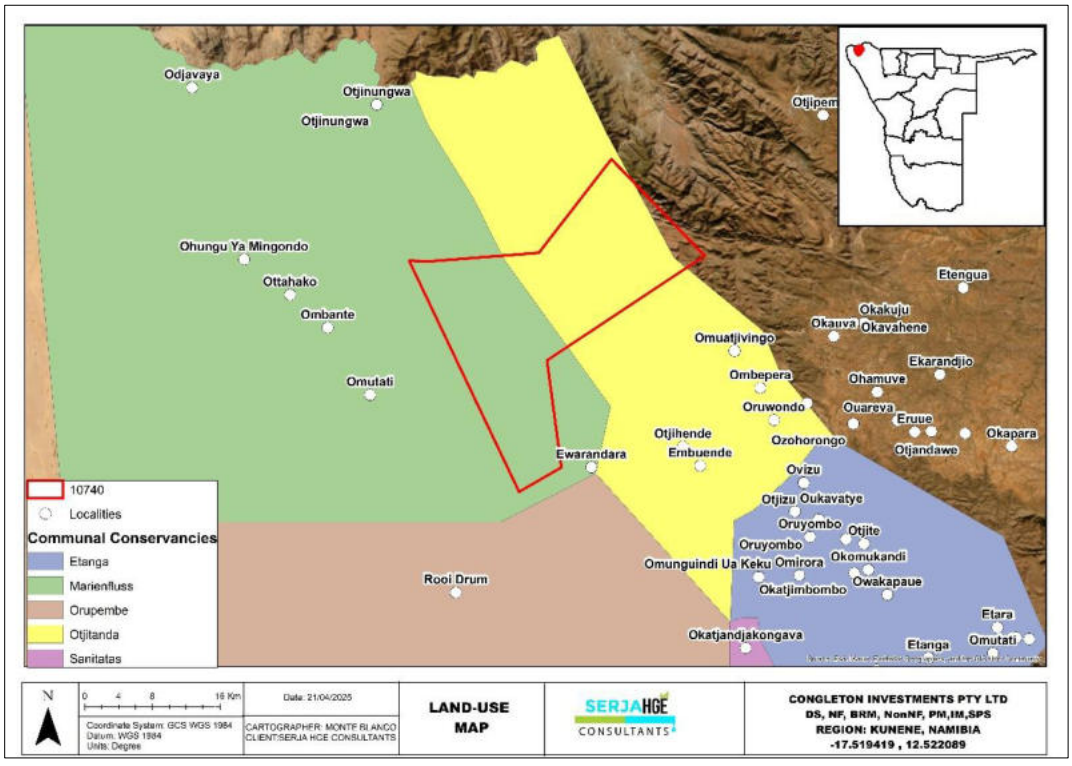


Figure 1-3: Locality map with the significant land use (communal conservancies) overlain by EPL-10740

1.2 The Need and Desirability of the Proposed Project

The Proponent is committed to contributing to the socio-economic development of Namibia through various industrial sectors, including mining. According to the Chamber of Mines of Namibia (2024), the mining industry's contribution to gross domestic product (GDP) increased to 14.4% in 2023, from 9% in 2021 and 11.9 % in 2022. The proposed prospecting and exploration activities on EPL-10740 have the potential to enhance and contribute to the development of other sectors, and their activities provide temporary employment, taxes, and levies, as well as social responsibilities. Additionally, the industry produces a trained workforce and small businesses that can serve communities and may initiate related businesses. The successful exploration of the EPL would then lead to the mining of economically feasible commodities (ies) based on the results of exploration. This would contribute towards achieving the goals of the national development plans, such as the National Development Plan 5 (NDP5) and Harambee Prosperity Plans (HPPs) I and II. Mining is therefore essential to the development goals of Namibia in contributing to meeting the ever-increasing global demand for minerals and for national prosperity. Thus, a need for exploration activities.

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

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

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

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

1.4 Appointed Independent Environmental Consultant

To comply with the EMA and its Regulations and ensure environmental management, protection, and sustainability, the Proponent appointed Serja Hydrogeo-Environmental Consultants CC, Independent Environmental Consultants, to apply for the ECC and conduct the required Environmental Assessment Process, which includes Public Consultation and prepare the Scoping Report and EMP (Appendix A).

The EIA process (stakeholder / public consultation and engagement, including consultation meeting facilitation) and environmental mapping were conducted by Mr. Stefanus Johannes, respectively. Mr. Johannes is an experienced Environmental Assessment Practitioner (EAP) and qualified and experienced GIS Specialist/Cartographer with over 4 years of experience in Natural Resources Management Consulting and Mapping (Geospatial Analysis). The EIA Scoping, EMP, and associated documents were compiled by Ms. Fredrika Shagama. Ms. Shagama is a qualified and experienced Hydrogeologist and Environmental Assessment Practitioner by training, with over 10 years of experience in Groundwater and Environmental Management Consulting. The CVs of the two Environmental Assessment Practitioners are attached to this Report as Appendix B.

1.5 Application for the Environmental Clearance Certificate

The application for the ECC process was done as follows:

- Preparation of the Background Information Document (BID) for the proposed project,
- Launching of the ECC application on the ECC Portal of the Ministry of Environment, Forestry and Tourism (MEFT) with the Proponent details (accompanied by the BID) for project registration purposes and obtaining a MEFT application/reference number (APP-005790),
- Completion of Form 1 (Section 32) of the EIA Regulations with the required project and Proponent information,
- Submission of the printed hard copy of the ECC application (with affixed NAD300 revenue stamps as application fees). The MEFT's date-stamped copy of the ECC application (Appendix B) was uploaded on the ECC Portal as proof of application and payment.

The next component of the ECC application was to undertake an Environmental Scoping Assessment (ESA) process, which entails a Baseline Assessment of the Biophysical and Social environments, as well as Public Consultation & Engagement. The findings of the ESA process are then incorporated into an ESA Report, and a Draft EMP is also developed for the mitigation of potential adverse impacts anticipated from the proposed project activities. The two documents and associated documents (appendices) are then submitted to the Environmental Commissioner at MEFT's Department of Environmental Affairs and Forestry (DEAF) for evaluation and consideration of the ECC.

1.6 Scope of Work and Report Contents

This Study has been conducted according to the EMA No. 7 of 2007, and its 2012 EIA Regulations, as mentioned in the preceding subsections, i.e., the proposed project may not be undertaken without an ECC. Therefore, the process has been undertaken as required and guided by the Regulations. Furthermore, the ECC is required by the MIME for the consideration of issuing the EPL rights (EPL certificate).

This Report has been compiled as a required output of an environmental assessment process. The ESA Report, together with the EMP and all its appendices, will be submitted to the DEAF.

The document (Report) covers the following chapters or sections, in addition to the introductory chapter:

- Project description and associated activities - (Chapter 2).
- Project alternatives considered (that were found to be environmentally friendly and technically feasible) - Chapter 3.
- The Legal requirements governing the proposed project and its related activities, i.e., the legislation that the proposed project must comply with (Chapter 4).
- The Environmental and Social Baseline of the project area - Chapter 5.
- The Public Consultation & Engagement Process undertaken to inform, invite, and engage the public (stakeholders and interested & affected parties) on the proposed project- Chapter 6.
- The Assessment of identified potential impacts associated with the proposed project (Chapter 7) - This chapter presents both the positive and negative (adverse) as well as cumulative impacts, assessment methodology, and the assessment of the negative impacts. The mitigation measures in the form of management action plans, with a timeframe and implementation responsibilities, are given in the Draft Environmental Management Plan (EMP) under Appendix C.
- The recommendations and conclusions of the environmental assessment are presented in Chapter 8. The data sources (literature/references) consulted for the assessment are listed under Chapter 9.

Based on the information provided by the Proponent and the EAP's experience, a description of the project activities is presented in the next chapter.

2 DESCRIPTION OF THE PROPOSED PROJECT ACTIVITIES

It should be noted that this EIA Study is for exploration activities only and not mining because mining cannot be done on an EPL. A mining license would need to be applied for after exploration (if found to be economically feasible), of which another EIA study would be conducted to apply for a mining license, i.e., to convert the EPL into a mining license.

Before undertaking the proposed activities on the EPL, the Proponent will be required to obtain consent and sign land use agreements with the Traditional Authority of the area and the management of the two conservancies (i.e., mainly over Marienfluss and Otjitanda).

2.1 Duration of Mineral Exploration

The exploration programmes are based on an iterative, results-driven, and phased nature. Therefore, it is not possible at an early stage of exploration to give exact areas for future drilling or an exact duration of the exploration activities (Resilient Environmental Solutions, 2019). Drone surveys, ground geophysical surveys, and soil sampling programmes, for instance, may last from one week to a month at a time over specific areas until the exploration targets are delineated. Drilling programmes may initially range from two weeks to a month at a time, depending on the planned programme or based on the results of the programme. The Proponent undertakes to work with all relevant stakeholders to keep them informed of the exploration progress, facilitating site visits and access to ongoing field exploration programs.

In general terms, the minerals exploration activities can take up to a maximum of seven years, with different projects at various stages of the exploration phase (Resilient Environmental Solutions (RES), 2019). The Proponent intends to adopt a systematic and standard prospecting and exploration approach for the commodities of interest (Base & Rare Metals, Dimension Stone, Industrial Minerals, Non-Nuclear Fuel Minerals, Nuclear Fuel Minerals, Precious Metals, and Semi-Precious Stones) potentially occurring on the EPL. The exploration methods are presented under the subsections below.

2.2 Base & Rare Metals, Industrial Minerals, Non-Nuclear Fuel Minerals, Nuclear Fuel Minerals, Precious Metals, and Semi-Precious Stones

2.2.1 Prospecting Stage (Non-Invasive Technique)

This stage of the project is known as a Non-invasive technique (Desktop Study). During the prospecting and exploration phase, the vital components include reviewing existing reports and composite stratigraphic, lithological-geochemical maps of the targeted areas to identify prospective lithostratigraphic packages.

In addition to the literature review, fieldwork (lithological (soil/rock) mapping and sampling) and drone-borne geophysical surveys will be conducted to verify desktop work and delineate exploration targets. These works do not require physical disturbance.

2.2.1.1 Geophysical surveys

This will entail data collection of the substrata (in most cases, the service of an aero-geophysical contractor will be sourced), by air or ground, through sensors such as radar, magnetic, and electromagnetic, to detect any mineralization in the area, and is conducted to ascertain the mineralization. Initial geophysical surveys on the license will comprise drone/heli-borne surveys over the entire EPL to delineate exploration targets. Ground truthing will be confirmed by ground geophysical surveys and geological mapping, where necessary, using vehicle-mounted sensors or handheld by staff members. These surveys are crucial in defining targets for test pitting, trenching, and drilling.

2.2.2 Planned Exploration Methods (Invasive Techniques)

This stage (Detailed Field Evaluation), following the Non-Invasive techniques, will be carried out by the simple collection of soil and rock samples from the target EPL areas to verify desktop/non-invasive information. It should be noted that no explosives will be used during exploration. These detailed techniques will include activities, as described under the subsection:

- Soil and rock sampling,
- Trenching, and
- Exploration drilling (Reverse Circulation (RC) and diamond drilling).

2.2.2.1 Lithology geochemical surveys

Rock and soil samples shall be collected and taken for trace element analysis to be conducted by analytical chemistry laboratories to determine if enough Base & Rare, Precious Metals, Precious Stones, or other minerals of interest are present. Also, trenches or pits may be dug depending on the commodity (in a controlled environment, e.g., fencing off and labelling activity sites), adopting manual or an excavator to further investigate the mineral potential.

Soil sampling consists of small pits (±20cm X 30cm deep) being dug where 1kg samples can be extracted and sieved to collect 50g of material. As necessary, and to ensure adequate risk mitigation, all major excavations will either be opened or closed immediately after obtaining the needed samples, or the sites will be secured until the trenches or pits are closed. At all times, the landowner/custodian and other relevant stakeholders will be engaged to obtain authorisation where necessary. A typical example of soil sampling in the field for exploration is shown in Figure 2-1.

Figure 2-1: Examples of soil sample collection and equipment (RES, 2019)

2.2.2.2 Detailed Exploration Drilling

Should analyses by an analytical laboratory be positive, holes are drilled, and drill samples are collected for further analysis. This will determine the depth of the potential mineralization. If necessary, new access tracks to the drill sites will be created, and drill pads will be cleared in which to set up the rig. Two widely used drilling options may be adopted: Reverse Circulation (RC) drilling and/or diamond-core drilling. RC drilling uses a pneumatic hammer, which drives a rotating tungsten-steel bit. The technique produces an uncontaminated large volume sample, which is comprised of rock chips. It is relatively quicker and cheaper when compared to other techniques like Diamond Drilling. However, diamond drilling may also be considered for this exploration programme, for better geological control and to perform processing trials.

A typical drilling site will consist of a drill rig and support vehicles, as well as a drill core and geological samples store. A drill equipment parking and maintenance yard may be set up (including a fuel and lubricants storage facility). A typical example of drilling activities on active EPLs in the Erongo and Omaheke Regions is shown in Figure 2-2 and Figure 2-3.

Figure 2-2: A-typical drill rig on an EPL (Resilient Environmental Solutions, 2019), B- drill rig on active EPL precious metals exploration site visited by the Author in Erongo Region (photo by Author, 2022)

Figure 2-3: A drill rig on an EPL in the Omaheke Region (Resilient Environmental Solutions, 2022)

2.3 Dimension Stone Explorations

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

- Non-invasive techniques: Geophysical surveys, geological mapping, reviewing of existing geological maps and historical drilling/quarrying data, field evaluation and sampling, and
- Invasive techniques: Detailed exploration (Down-The-Hole drilling).

The proposed activities are summarized as follows

2.3.1 Desktop Study

The exploration program will commence with a review of geological maps and historical drilling and/ or quarrying data for the area, if any.

2.3.2 Field Evaluation

The field evaluation is to be carried out by a qualified geologist, aimed at locating suitable host rock outcrops in the field from where the:

- General soundness (intactness).
- Appearance (patterns and colour), and
- Joint and vein spacing can be evaluated.

Small samples (about 30 cm³ in dimension) will be removed for cutting and polishing to provide insights on whether the stone can be polished to an acceptable finish, as well as to indicate the hardness of the stone from a sawing and finishing point of view. Where field evaluation indicates a potentially economically viable deposit, detailed geological mapping will be conducted utilizing mapping transversely across exposed/cleaned segments of the rock unit. Where cleaning of the rock unit is required to aid geological mapping, air compressors will be used to expose the rock. The mapping is aimed at delineating major geological structures such as fault and shear zones (zones of weakness), the extent of veins, and further delineation of fracture/discontinuity frequencies.

Collectively, field evaluation and detailed geological mapping will result in the production of a refined and detailed geological map for the targeted sites on the EPL.

2.3.3 Detailed Exploration

The refined geological map would then assist in target generation for subsequent detailed exploration, such as drilling and possibly test quarrying.

2.3.3.1 Feasibility Study: Exploration Component

Where exploration drilling yields positive results, small blocks will be obtained using the butterfly cutting method. This will be done to fully evaluate the recovery of the small saleable blocks and better optimize the extraction methods, production rates, and operational costs in the future. The exploration test quarrying will only be carried out on select targeted areas of the EPL and shall be performed on as small an area as possible to minimize environmental impacts. The outcomes/results of the test quarrying will be recorded and archived by the Proponent for future use (when mining will be considered, depending on the outcome of exploration).

It is important to note that the test quarrying referred to above is only a component of exploration activities, to be done at a very small-scale level on targeted sites of the EPL to enable the Proponent to get sufficient and reliable exploration data, but not for mining purposes. Therefore, this ESA process only covers exploration activities.

2.4 Project Resources and Services Infrastructure

The following services and infrastructure, as provided below, will be required for the project activities.

2.4.1 Human resources

The exploration crew will consist of a minimum of seven people, comprising one to two skilled, two to three semi-skilled, and four casual workers. However, this number may vary depending on the stages of the exploration activities. For instance, fewer people would be required for soil sampling and trenching compared to drilling workforce requirements.

2.4.2 Project Crew Accommodation

Exploration (mainly drilling) workers will be housed in nearby villages and surrounding communities – hence, it is recommended to employ as many locals as possible for the work they can do. This is to minimize the number of outsiders who may need accommodation. Out-of-area workers, such as those with specialized skills for exploration, would be accommodated in an exploration camp to be set up in the area, particularly for the trenching and drilling phases

2.4.3 Project Equipment, Material, Machinery, and Vehicles

The following equipment and machinery will be required for the exploration stage:

- A minimum of two (4X4) pickup trucks (vehicles), and a heavy truck,
- Air compressor,
- Drill rigs and drilling machines,
- Two-way radios (for communication),
- Water supply tanks with dispersion pipelines, and a fuel bowser,
- Power generators (minimum two),
- Down-The-Hole (DTH) drilling rig (for Dimension Stone exploration), and
- Biodegradable drilling fluids stored in manufacturer-approved containers.

Equipment and vehicles will be stored at a designated area near the accommodation site (campsite) or a storage site established within the EPL site area.

2.4.4 Water Supply

The required water will be used for actual detailed exploration activities, such as drilling, cooling down, and washing of drilling equipment, as well as domestic use (drinking).

It is anticipated that water for drilling activities will be tanked to the site from Okangwati (upon reaching a water supply agreement with the Settlement Council). Alternatively, water for exploration activities can be sourced from the Kunene River, upon obtaining an abstraction permit from the Water Affairs Department. Water for drinking will be purchased from shops in Okangwati, or arrangements can be made with the Okangwati Settlement to provide potable water for the exploration workforce in the field. However, if found to be more feasible (given the remote nature of potential drilling), where bowser transport may be untenable, a borehole would be drilled to supply water for exploration purposes.

Commonly, initial basic exploration activities do not use water, or much less water is needed during the reconnaissance survey (including RC drilling), mainly for domestic use at exploration campsites for drinking, minimal washing, basic sanitation, as well as reasonable dust suppression at problematic sites or road sections with dust. The water is typically stored in a 5000-litre tank or less, stationed at the exploration campsite to cater for ten (10) to twenty (20) people during the drilling stage of exploration. The water tank would be needed in approximately 4 to 5 years after the commencement of exploration works because the first three years would be dedicated to geophysical surveys, whereby about 2 to 3 people would be in the area to collect data, followed by reverse circulation (RC) drilling, which does not require water. The data and samples collected from the reconnaissance survey activities will be interpreted and analysed at the laboratory to determine the next step in exploration. The water range would be between 6,000 and 25,000 litres per month for that many people, maximum.

Should a good deposit be discovered after RC drilling, diamond drilling will be implemented, which will require water. More water would be required for diamond drilling (DD) if reconnaissance surveys indicate a promising mineral deposit. DD is water-consuming compared to RC drilling, where about 10,000 to 25,000 litres (10 to 25 m3) per would be required per day per hole. Moreover, water needs would also be dependent on the duration of the exploration works and the number of exploration holes required to make a reliable interpretation of the commodity presence explored during DD exploration. The water requirement would also be determined during the reconnaissance stage on whether exploration will continue to diamond drilling or not (this cannot be determined at this stage). Therefore, the impact will only last for the duration of the exploration activities and will cease upon their completion. Therefore, in this instance (where DD would be certain), a water supply assessment for this water-consuming activity will be conducted as exploration progresses.

2.4.5 Fuel supply (For Cooking)

The Proponent will provide firewood or fuel to be used for food preparation by the site workers. No firewood will be collected onsite or on neighbouring communal land.

2.4.6 Fuel Supply (Machinery and Equipment)

Diesel will be used for machinery and equipment, and a fuel generator. A trailer-mounted and bunded fuel tank of about 10,000 litres will be on-site to ensure an uninterrupted fuel supply to the project.

2.4.7 Accessibility (roads)

The nearest proclaimed road to the EPL is D3703 on the eastern side of the EPL. Therefore, the access route will use D3703 and a newly developed access road to reach the EPL site. The Traditional Authority and Conservancy management will be consulted, and consent acquired for the development of any new roads or tracks.

2.4.8 Waste management

The onsite waste types will be managed as follows:

- Sewage: Two portable ablution facilities with septic tanks will be provided on site and emptied according to manufacturers' instructions. The following options will be considered based on the site conditions at the time of exploration activities:
    1) If the exploration camp is near an existing community, then the facilities could 'tap' into whatever type of French drain system is used in the community. The Proponent will ensure the maintenance of these sewage facilities, not only for the project personnel, but also for the community. However, consent will be obtained from the local community leader(s) before the project can establish and or use community sewage infrastructure.
    2) The project will use temporary septic tanks to manage sewage at the exploration campsite.
    3) Alternatively, and more practicable or feasible, is the construction of a French drain and the application of a discharge permit. The French drain will not be constructed along a watercourse or within 100m of any watercourse (active stream) in accordance with the Water Resources Management Regulations (2023).
- General and domestic waste: Solid waste containers will be made available at both exploration sites and the campsite for waste storage, sorting, and later disposal at the Opuwo dumpsite.
- Hazardous waste: All vehicles, machinery, and fuel-consuming equipment will be provided with drip trays to capture potential fuel spills and waste oils.

  The waste fuel/oils will be carefully stored in a standardized container to be disposed of at the nearest approved hazardous waste management facility in Windhoek.

2.4.9 Occupational Health and Safety

The following measures will be implemented onsite to ensure safety and security:

- Adequate and appropriate Personal Protective Equipment (PPE) will be provided to all project personnel while on and working at the site, including site visitors. Two fully-equipped first aid kits will be readily available on-site.
- First aid: A minimum of two first aid kits will be readily available at exploration and camp sites to attend to potential minor injuries, while major injuries will need to be attended to further by transporting the injured to the nearest health centre for treatment. At least 2 personnel will be trained to administer first aid.
- Potential Accidental Fire Outbreaks: As a control measure for accidental fire outbreaks, basic firefighting equipment, i.e., well-serviced fire extinguishers, will be readily available in every exploration vehicle, at the working sites, and at the project campsite (accommodation units). The site personnel will be trained in and provided with firefighting skills.

- Open exploration trenches and boreholes: The trenches dug for sampling will be temporarily fenced off to prevent potential injuries to wildlife and livestock in the area. Once sampling is completed, the trenches will be progressively backfilled and levelled, and fencing will be removed for storage or donation to the land custodians for the communities. Similarly, for exploration boreholes that are no longer required after rock samples, they will be backfilled and closed off.
  Warning signage at hazardous site areas, such as open trenches, will be erected.

2.5 Decommissioning and Rehabilitation of Disturbed Sites

Once the exploration activities on the EPL come to an end, the Proponent will need to put site rehabilitation measures in place. Decommissioning and rehabilitation are primarily reinforced through a decommissioning and rehabilitation plan, which consists of safety, health, environmental, and contingency aspects. The economic situation or unconvincing exploration results might force the Proponent to cease the exploration program before the predicted closure. Therefore, it is best practice for the Proponent to ensure the project activities are ceased in an environmentally friendly manner, and the site is rehabilitated by:

- Dismantling and removal of campsites and associated infrastructures from the project site and area,
- Carrying away all exploration equipment and vehicles, and
- Cleaning up of site working areas and transporting the recently generated waste to the nearby approved waste management facility (as per agreement with the facility operator/owner),

Further decommissioning and rehabilitation practice onsite will include:

- Backfilling of pits and trenches used for sampling,
- Closing and capping of exploration boreholes to ensure that they do not pose a risk to both people and animals in the area, and
- Levelling of stockpiled topsoil. This will be done to ensure that the disturbed land sites are left as close to their original state as possible.

2.6 Post-Exploration Activities

After a successful exploration activity, the EPL would be converted into a Mining License by submitting exploration results and an application to the Mining Commissioner at the MIME for consideration of the Mining License. Upon approval of the application by MIME, feasibility study, and full EIA Study (with an approved ECC for mining activities), the site would be prepared for mine development, actual mining, and subsequent mine closure.

The next chapter presents different and relevant alternatives considered for the project activities.

3 PROJECT ALTERNATIVES

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

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

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

The alternatives considered for the proposed project are discussed below.

3.1 The "No-Go" Alternative

The “no action” alternative implies that the status quo remains, and nothing happens. Should the proposal of exploration activities on the EPL be discontinued, none of the potential impacts (positive and negative) identified would occur. If the proposed project is to be discontinued, the current land use for the proposed site will remain unchanged. This option was considered, and a comparative assessment of the environmental and socio-economic impacts of the “no action” alternative was undertaken to establish what benefits might be lost if the project is not implemented.

Considering the above losses, the “no-action/go” alternative was not considered a viable option for this project.

3.2 Exploration Location

The prospecting/exploration location is dependent on the geological setting (regional and local) and economic geology. Therefore, finding an alternative location for these planned exploration activities for the specific commodities in the area is not possible. This means that the mineralization of the target commodities is area-specific, which means exploration targets are primarily determined by the geology (host rocks) and the ore-forming mechanism. The location of the EPL also depends on the availability of license areas that the different applicants and Proponents applied for and are interested in (specific minerals).

Furthermore, the national mineral resources’ potential locations are also mapped and categorized by the Ministry of Mines and Energy in exclusive prospecting licenses, mining licenses and claims, mineral deposit retention licenses, reconnaissance licenses, and exclusive reconnaissance licenses. Available information on EPL-10740 and other licenses is available on the Namibia Mines and Energy Mining Cadastral Map.

3.3 Exploration Methods

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

3.4 Services Infrastructure

Alternatives were considered for different supporting infrastructures to ensure that the most feasible options were selected. The technological, economic, and environmental limitations were considered to select the most feasible option. The alternative considered in this regard is presented in Table 3-1 below.

Table 3-1: The presentation of service infrastructure alternatives considered for the project activities

Category of Infrastructure	Alternatives Considered	Justification for the selected option
Ablution facilities	-Install a fixed facility with a septic tank -Portable facilities with a septic tank 1) If the exploration camp is near an existing community, then the facilities could 'tap' into whatever type of French drain system is used in the community. 2) The project will use temporary septic tanks to manage sewerage at the remote exploration camps. 3) Alternatively, and more practicable or feasible, is the construction of a French drain and the application of a discharge permit.	To minimize rehabilitation costs, portable facilities were selected as the best option, and the following are recommended as they would become suitable in the environment where the exploration campsite would be: 1) If the campsite is near an existing community, the project will 'tap' into the French drain system that is used in the community. The Proponent will ensure the maintenance of these sewage facilities, not only for the project personnel, but also for the community. However, consent will be obtained from the local community leader(s) before the project can establish and or use community sewage infrastructure. 2) Temporary septic tanks 3) Construction of a French drain, which will not be constructed along a watercourse or within 100m of any watercourse (active stream) in accordance with the Water Resources Management Regulations (2023). The application for an effluent discharge permit will be made to the MAFWLR and issued before the system is constructed.
Water supply	-Bring water from elsewhere -Abstract from site boreholes	-The project water will be brought from elsewhere (Okangwati or Opuwo) to minimize the impact on the local resources. Moreover, a combination of water bowsing and onsite water supply may be considered to drill a borehole for water for exploration uses or tap from the nearest water supply source in Okangwati, as water bowsing/transport might be untenable. The long-term water supply option will be

Category of Infrastructure	Alternatives Considered	Justification for the selected option
		determined at a later stage of exploration upon proving that there is a good mineral deposit (after drone and geophysical survey and RC drilling), if diamond drilling, which uses more water, would be implemented/required.
Fuel storage	-Trailer-mounted diesel tank -Fixed the bundled fuel tank	-During exploration, use a trailer-mounted diesel tank for fuel storage due to the great mobility requirements.
Power supply	-Diesel generator set and, if considered, solar power. -Powerline (grid) supply	-The diesel and or solar power are the most practical & economically viable options for exploration (in case of no favourable results of exploration).
Offices, accommodation	-Erect disassemblable prefabricated units -Fixed structures	-Favoured due to: (a) Ease of installation, (b) Low installation costs, and (c) Ease of dismantling & moving.
Accommodation site	-Setting up campsites, a tented campsite within the EPL -Workers are housed in nearby villages and surrounding communities. -Commuting from Okangwati, which is 30km away, or Opuwo, which is about 90km away from the EPL.	-Combining workers from their houses in nearby villages and surrounding communities with Okangwati or Opuwo accommodation (for area specialized employees), where possible.

The following chapter presents the national and international legal requirements that are applicable and relevant to the project.

4 APPLICABLE LEGAL FRAMEWORK

The project's activities, or some of them, may be regulated and governed by certain legal policies. Therefore, it is necessary to review and consider this legislation and the legal requirements. These legal requirements are either on a local (institutional), national (Namibian), or international legislation, policies, guidelines, etc. This review serves to inform the project Proponent, Interested and Affected Parties, and the decision-makers at the DEAF of the requirements and expectations, as laid out in terms of these instruments, to be fulfilled to establish the proposed prospecting and exploration activities.

4.1 Environmental Management Act No. 7 of 2007

The Environmental Management Act No.7 of 2007 and its 2012 EIA Regulations aim to ensure that the potential impacts of the development on the environment are considered carefully and in good time; that all interested and affected parties have a chance to participate in the environmental assessments and that the findings of the environmental assessments are fully considered before any decisions are made about activities which might affect the environment.

The Act aims at promoting sustainable management of the environment and the use of natural resources. The Environmental Management Act (EMA) is broad; it regulates land use development through environmental clearance certification and/or Environmental Impact Assessments. The Act provides for the clearance certification for '' ***mining and quarrying activities".***

4.2 Minerals (Mining & Prospecting) Act No. 33 of 1992

The most applicable Sections to the project are as follows:

- Section 54 requires a written notice to be submitted to the Mining Commissioner if the holder of a mineral license intends to abandon the mineral license area.
- Section 68 stipulates that an application for a mineral license shall contain the particulars of the condition of, and any existing damage to, the environment in the area to which the application relates and an estimate of the effect which the proposed prospecting operations may have on the environment and the proposed steps to be taken to prevent or minimize any such effect.
- Section 91 requires that rehabilitation measures be included in an application for a mineral license.

Implication for the proposed project: The Proponent should assess the impact on the receiving environment. The Proponent should include as part of their application for the EPL measures by which they will rehabilitate the areas where they intend to carry out exploration activities.

Other applicable legal frameworks and policies relevant to the proposed project are presented in Table 4-1.

Table 4-1: List of applicable legislation for the proposed prospecting and exploration activities on the EPL

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
The Constitution of the Republic of Namibia, 1990, as amended	The Constitution of the Republic of Namibia (1990 as amended) addresses matters relating to environmental protection and sustainable development. Article 91(c) defines the functions of the Ombudsman to include: "…the duty to investigate complaints concerning the over-utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems, and failure to protect the beauty and character of Namibia…" Article 95(l) commits the state to actively promoting and maintaining the welfare of the people by adopting policies aimed at: "…Natural resources situated in the soil and on the subsoil, the internal waters, in the sea, in the continental shelf, and in the exclusive economic zone are property of the State."	By implementing the environmental management plan, the establishment will comply with the constitution in terms of environmental management and sustainability. Ecological sustainability will be the main priority for the proposed development.
Nature Conservation Amendment Act, No. 3 of 2017	National Parks are established and gazetted per the Nature Conservation Ordinance, 1975 (4 of 1975), as amended. The Ordinance provides a legal framework with regard to the permission to enter a state-protected area, as well as requirements for individuals damaging objects (geological, ethnological, archaeological, and historical) within a protected area. Though the Ordinance does not specifically refer to mining as an activity within a protected area (PA) or recreational area (RA), it does restrict access to PAs and prohibit certain acts therein, as well as the purposes for which permission to enter game parks and nature reserves may be granted.	The Proponent will be required to enhance the conservation of biodiversity and the maintenance of the ecological integrity of protected areas and other State land. The EPL is within the Marienfluss and Otjitanda Conservancies. Therefore, they should be engaged before and throughout the project implementation. The consent should be obtained from the Conservancy management, and land use agreements should be entered into before exploration activities start. Agreements and conditions set by the conservancy management should be compiled throughout the project cycle.
The Parks and Wildlife Management Bill of 2008	Aims to provide a regulatory framework for the protection, conservation, and rehabilitation of species and ecosystems, the sustainable use and sustainable management of indigenous biological resources, and the management of protected areas, to conserve biodiversity and to contribute to national development.	

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
Traditional Authority Act (Act No. 25 of 2000):	The Act also stipulates that Traditional Authorities (TAs) should ensure that natural resources are used on a sustainable basis that conserves the ecosystem. This Act implies that TAs must be fully involved in the planning of land use and development for their area. It is the responsibility of the TAs' customary leadership, the Chiefs, to exercise control on behalf of the state and the residents in their designated area.	The EPL considered under this project is within the predominantly communal land under the Traditional Authority (TA). Therefore, they should be consulted for the land use consent, and engagement should continue throughout the Project.
Mine Health & Safety Regulations, 10th Draft	Makes provision for the health and safety of persons employed or otherwise present in the mineral license area. These deal with, among other matters, clothing and devices; design, use, operation, supervision, and control of machinery; fencing and guards; and safety measures during repairs and maintenance.	The Proponent should comply with all these regulations with respect to their employees.
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)	Regulation 3(2)(b) states that "No person shall possess [sic] or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area."	The Proponent should obtain the necessary authorisation from the MIME for the storage of fuel on-site.
The Regional Councils Act (No. 22 of 1992)	This Act sets out the conditions under which Regional Councils must be elected and administer each delineated region. From a land use and project planning point of view, their duties include, as described in section 28 "to undertake the planning of the development of the region for which it has been established with a view to physical, social and economic characteristics, urbanisation patterns, natural resources, economic development potential, infrastructure, land utilisation pattern and sensitivity of the natural environment.	The relevant Regional Councils are I&APs and must be consulted during the Environmental Assessment (EA) process. The project site falls under the Kunene Regional Council; therefore, they should be consulted and updated throughout the project implementation.
Water Resources Management Act (No 11 of 2013) and its 2023 Water Regulations	The Act provides for the management, protection, development, use, and conservation of water resources; provides for the regulation and monitoring of water services; and provides for incidental matters. The objects of this Act are to:	The protection (both quality and quantity/abstraction) of water resources should be a priority. Relevant permits and or agreements to abstract and use water should be applied for and obtained.

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
	Ensure that the water resources of Namibia are managed, developed, used, conserved, and protected in a manner consistent with, or conducive to, the fundamental principles set out in Section 66 - protection of aquifers, Subsection 1 (d) (iii) provides for preventing the contamination of the aquifer and water pollution control (Section 68).	
National Heritage Act No. 27 of 2004	To provide for the protection and conservation of places and objects of heritage significance and the registration of such places and objects; to establish a National Heritage Council; to establish a National Heritage Register; and to provide for incidental matters.	The Proponent should ensure compliance with these Acts' requirements. The necessary management measures and related permitting requirements must be taken. This is done by consulting with the National Heritage Council of Namibia. A Chance Finds Procedure provided to the Draft EMP should be implemented upon discovery of archaeological and heritage resources.
The National Monuments Act (No. 28 of 1969)	The Act enables the proclamation of national monuments and protects archaeological sites.	
Soil Conservation Act (No 76 of 1969)	The Act makes provision for the prevention and control of soil erosion and the protection, improvement, and conservation of soil, vegetation, and water supply sources and resources, through directives declared by the Minister.	Duty of care must be applied to soil conservation, and management measures must be included in the EMP.
Forestry Act (Act No. 12 of 2001	The Act provides for the management and use of forests and forest products. Section 22. (1) provides: “Unless otherwise authorised by this Act, or by a licence issued under subsection (3), no person shall on any land which is not part of a surveyed erven of a local authority area as defined in section 1 of the Local Authorities Act, 1992 (Act No. 23 of 1992) cut, destroy or remove – (a) vegetation which is on a dune or drifting sand or on a gully unless the cutting, destruction or removal is done for the purpose of stabilising the sand or gully; or (b) any living tree, bush or shrub growing within 100m of a river, stream or watercourse.”	The proponent will apply for the relevant permit under this Act if it becomes necessary.

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
Public Health Act (No. 36 of 1919)	Section 119 states that "no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health."	The Proponent and all its employees should ensure compliance with the provisions of these legal instruments.
Public and Environmental Health Act No. 1 of 2015	The Act serves to protect the public from nuisance and states that no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.	
Health and Safety Regulations GN 156/1997 (GG 1617)	Details various requirements regarding the health and safety of labourers.	
Atmospheric Pollution Prevention Ordinance (1976)	This ordinance provides for the prevention of air pollution and is affected by the Health Act 21 of 1988. Under this ordinance, the entire area of Namibia, apart from East Caprivi, is proclaimed as a controlled area for section 4(1) (a) of the ordinance.	The proposed project and related activities should be undertaken in such a way that they do not pollute or compromise the surrounding air quality. Mitigation measures should be put in place and implemented.
Hazardous Substance Ordinance, No. 14 of 1974	The ordinance provides for the control of toxic substances. It covers manufacture, sale, use, disposal, and dumping, as well as import and export. Although the environmental aspects are not explicitly stated, the ordinance provides for the importing, storage, and handling.	The Proponent should handle and manage the storage and use of hazardous substances on site so that they do not harm or compromise the site environment.
Road Traffic and Transport Act, No. 22 of 1999	The Act provides for the establishment of the Transportation Commission of Namibia; for the control of traffic on public roads, the licensing of drivers, the registration and licensing of vehicles, the control and regulation of road transport across Namibia's borders; and for matters incidental thereto.	Mitigation measures should be provided for; if the roads and traffic impact cannot be avoided, the relevant permits must be applied for.
Labour Act (No. 6 of 1992)	The Ministry of Justice and Labour Relations is aimed at ensuring harmonious labour relations through promoting social justice, occupational health and safety, and enhanced labour market services for the benefit of all Namibians. This ministry ensures the effective implementation of the Labour Act No. 6 of 1992.	The Proponent should ensure that the prospecting and exploration activities do not compromise the safety and welfare of workers.

4.3 International Policies, Principles, Standards, Treaties, and Conventions

4.3.1 International Finance Corporation (IFC) Standards

The International Finance Corporation's (IFC) Sustainability Framework articulates the Corporation's strategic commitment to sustainable development and is an integral part of IFC's approach to risk management. The Sustainability Framework comprises IFC's Policy and Performance Standards on Environmental and Social Sustainability and IFC's Access to Information Policy. The Policy on Environmental and Social Sustainability describes IFC's commitments, roles, and responsibilities related to environmental and social sustainability. As of 28 October 2018, there are ten (10) Performance Standards (Performance Standards on Environmental and Social Sustainability) that the IFC requires project Proponents to meet throughout the life of an investment. The proposed project is likely to be funded by international investors; thus, the financing requires the project to comply with certain requirements, particularly the International Finance Corporation (IFC) Performance Standards (PSs). Therefore, it is crucial to analyze the ESA Study process against these IFC's PSs, and these are listed in Table 4-2.

Table 4-2: The IFC Performance Standards (PSs) analysis against the EIA Study for the EPL

IFC PS	Relevant Provisions of the IFC PS	Implications for the Project / Actions Taken
PS1	Assessment and Management of Environmental and Social Risks and Impacts:	The potential impacts associated with the proposed exploration activities have been identified, described, and assessed. Measures to manage and mitigate environmental and social impacts are provided in the EMP for the project.
PS2	Labour and Working Conditions	The ESA Study assessed the potential impacts of the exploration activities on the exploration crew's health and safety per the Labour Act (No. 6 of 1992) and fair labour working conditions, including compensation, i.e., no compromising of the labour and working welfare of workers as required in the EMP.
PS3	Resource Efficiency and Pollution Prevention and Management	The Study assessed the usage of resources such as water, soil, and power resources required for exploration works during that duration. The appropriate measures to manage and mitigate the impacts associated with the project activities have been provided under the EMP for implementation.
PS4	Community Health and Safety	The potential impacts of the exploration activities on the exploration crew, as well as communities' health and safety per the Labour Act (No. 6 of 1992), have been assessed, and mitigation measures provided accordingly in the EMP, i.e., ensuring that the prospecting and exploration activities do not compromise the safety and welfare of workers and communities.

IFC PS	Relevant Provisions of the IFC PS	Implications for the Project / Actions Taken
PS5	Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement	The proposed EPL area is on communal land. Once the EPL certificates are issued by MIME. Certain areas, structures, and human settlements covered by the EPL will be avoided for exploration (establishment of a 1.5km buffer), and since exploration is a short-term activity, no relocation or resettlement will be done. Therefore, PS5 is not considered applicable to the project at this stage.
PS6	Biodiversity Conservation and Sustainable Management of Living Natural Resources	The EIA Scoping Study has considered the baseline assessment of the fauna and flora in the project area. The relevant management and mitigation measures have been provided in the EMP for implementation.
PS7	Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Only the information on Marienfluss Conservancy[1] confirms the presence of indigenous people (Himba communities) within the EPL boundaries. Therefore, PS7 is applicable.
PS8	Cultural Heritage	An Archaeological & Cultural Heritage Impact Assessment (AHIA) has been undertaken by TARO Archaeological & Heritage Consultants (TARO Consultants). The baseline, impact assessment, and mitigation measures have been done and compiled by TARO Consultants. The AHIA Report has been compiled for submission to the National Heritage Council of Namibia per the National Heritage Act No. 27 of 2004 and the National Monuments Act (No. 28 of 1969) to obtain a Heritage Consent Letter for exploration activities before commencing with activities on the EPL.

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

Other international statutes, such as policies, standards, and conventions that may govern the project activities, are provided in Table 4-3.

Table 4-3: Other international treaties and conventions governing the proposed activities of the EPL

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

[1] https://www.nacso.org.na/sites/default/files/Brochure%20Marienfluss.pdf

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

Other relevant international Treaties and Protocols ratified by the Namibian Government are: the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973, as well as the Convention on Biological Diversity, 1992, and the World Heritage Convention, 1972.

In addition to the project description, alternatives, and legal framework, it is also important to note that the proposed project activities will be undertaken in a specific environment, in terms of biophysical and social conditions. Therefore, understanding these existing environmental features before the project activities is crucial for the assessment of the potential impacts stemming from the project activities on the features.

5 BIOPHYSICAL AND SOCIAL BASELINE

The proposed exploration activities will be undertaken in specific environmental and social conditions. Therefore, understanding the pre-project conditions of the environment will aid in describing the status quo versus future projections of environmental conditions once the project is implemented. The baseline information also aids in identifying the sensitive environmental features and how the best suitable management and mitigation measures can be recommended for implementation. The summary of selected biophysical and social baseline information about the project area is given below.

The baseline information presented below is sourced from site visits, online sources ranging from old reports, books, and publications, as well as other relevant research information in the broader area. A site visit was done on the 19th of June 2025. The project baseline that is deemed necessary for the project activities is as follows.

5.1 Biological Environment

The faunal and floral environment of the project site area is provided in the subsections below.

5.1.1 Fauna

The wildlife found in the Marienfluss Conservancy includes springbok, gemsbok, and ostrich. Other mammals include the giraffe, mountain zebra, kudu, klipspringer, duiker, steenbok, and the diminutive dik-dik. Cheetah, leopard, spotted and brown hyena, and jackal all prowl the vastness. The Kunene supports a large crocodile population, as well as the Cape clawless otter (NACSO, 2025a).

Furthermore, the conservancy provides habitat to numerous endemic scorpions and red reptiles, as well as many of the country's near-endemic birds, such as the Benguela long-billed lark, Gray's lark, Carp's tit, rosy-faced lovebird, Rüppell's korhaan, Monteiro's hornbill, white-tailed shrike, Herero chat, and rockrunner. The riverine habitat of the Kunene attracts a variety of birds, including goliath heron, darter, African fish eagle, and osprey. Over 100 bird species have been recorded in the conservancy (NACSO, 2025a).

The major wildlife in the Otjitanda Conservancy includes black-backed jackal, elephant, gemsbok, giraffe, kudu, ostrich, Hartmann's mountain zebra, springbok, steenbok, and klipspringer[2]. Local information also indicated the occasional roaming of black rhinos (critically endangered), elephants, and lions in the Conservancies and thus, considered to have a high conservation value. The black-faced impala also occurs in the Kunene Region conservancies and is considered endemic and of high conservation value. Among

[2]https://www.nacso.org.na/sites/default/files/Otjitanda%20Audit%20Report%202023.pdf

other bird species, the Herero chat and Tractrac chat are considered one of the most important species, being considered near-endemic, thus of high conservation value.

Domestic animals kept at villages within the site area include goats and donkeys (Figure 5-1), seen onsite during the visit.

Figure 5-1: Some local donkeys in the EPL area

5.1.2 Flora

The vegetation structure of the EPL area is characterized by three types (Namib grassland, sparse shrubland, and woodland) - Figure 5-2.

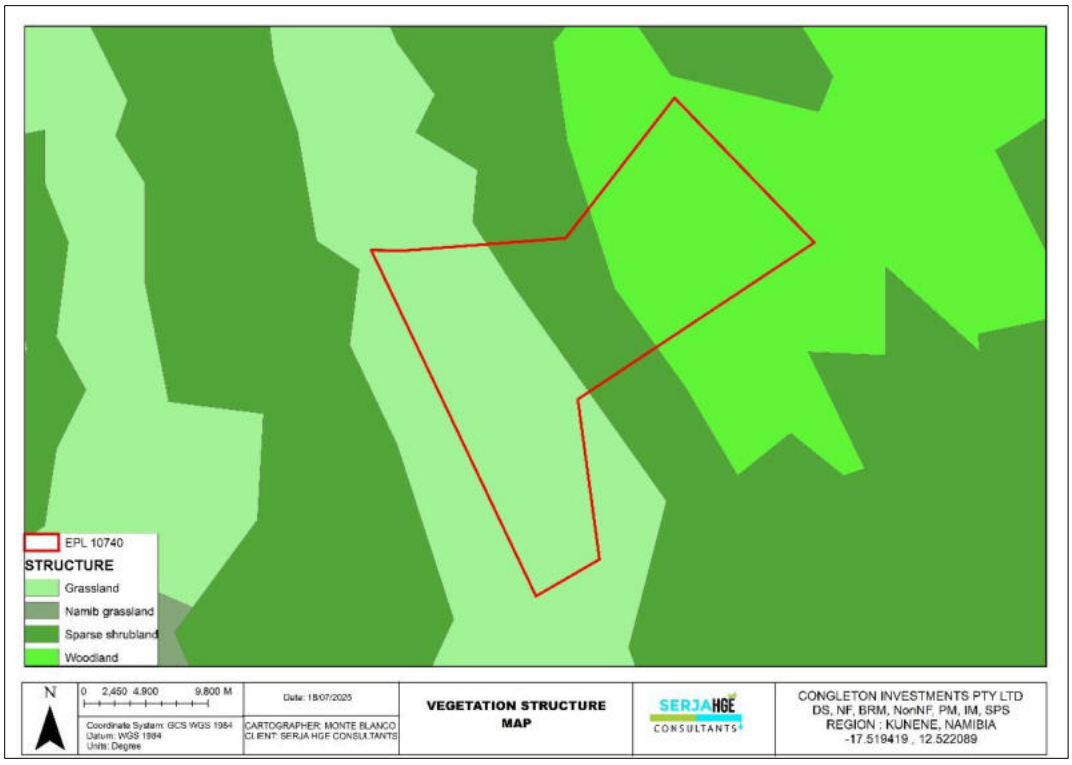


Figure 5-2: Dominant vegetation map within and around the EPL

The EPL area is largely covered by sparsely distributed vegetation comprising shrubs of mopane (*Colophospermum mopane*) and corkwood (*Commiphora glandulosa*) and young trees. Some of these observed vegetation shrubs are shown in Figure 5-3.

Figure 5-3: Observed vegetation shrubs within the EPL

5.2 Physical Environment

5.2.1 Climate

The climatic conditions of the EPL area are arid, with less than 100mm of average annual rainfall. This is also confirmed by Mendelsohn et al. (2002) in Figure 5-4. The EPL site area and surrounding areas receive an average annual rainfall between 100 and 200mm.

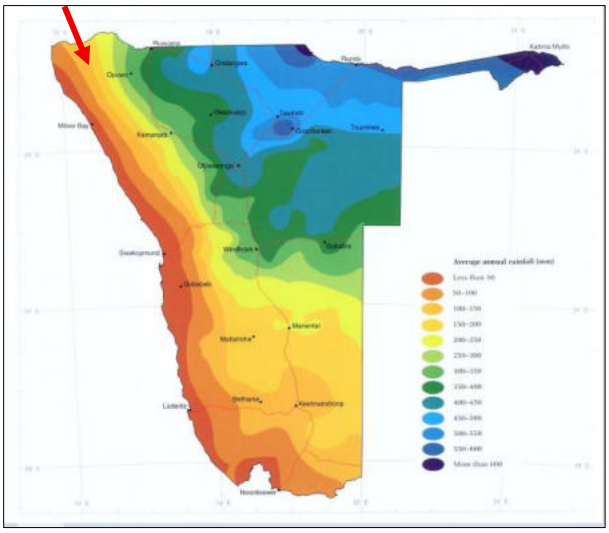


Figure 5-4: The annual rainfall for the project area (Mendelsohn *et al*., 2002)

5.2.1.1 Temperatures

The annual temperatures of the project site area range between 20 and 22°C (Figure 5-5).

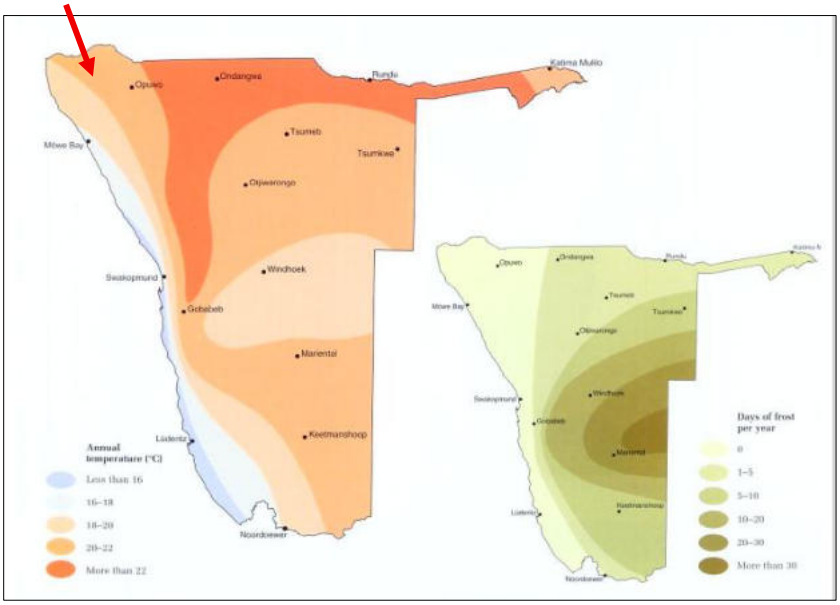


Figure 5-5: The annual temperatures for the project area (Mendelsohn *et al*., 2002)

The minimum temperatures range from 8 to 10°C around June/July, and maximum temperatures range from 30 to 32°C around September and October (Figure 5-6).

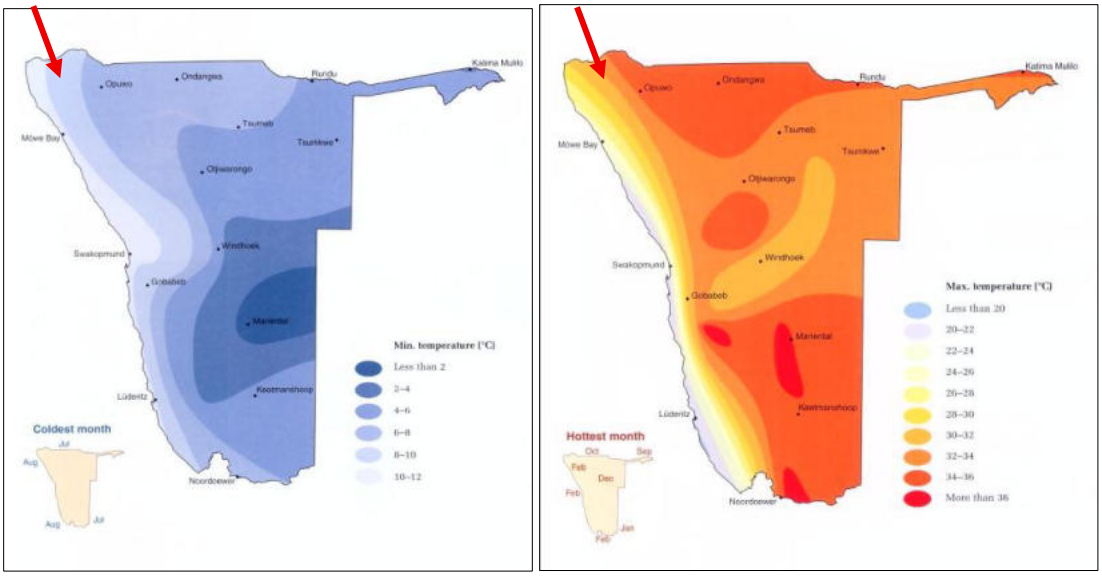


Figure 5-6: The minimum and maximum temperatures for the project area (Mendelsohn *et al*., 2002)

5.2.2 Landscape and Topography

The EPL mainly falls within the Kaokoveld Hills-Hills and Etanga-Epembe landscapes - Figure 5-7. Landscape is a combination of hills, plains, and wooded river valleys and is characterized by the Onjuva Plains (NACSO, 2025a). Defined as a succession of hills and mountains punctuated by endless plains, the Kaokoveld, a vast and empty wilderness occupying the north-western quarter of Namibia, is roughly divided into two by the Hoanib River. It is harsh, remote, and unpopulated, and makes for some of Namibia's finest scenic landscapes[3].

The Etanga-Epembe plains area consists of two broad, relatively flat plains surrounded and separated by the rugged Kaokoveld Hills. The northern area slopes down towards the Kunene River, while ephemeral streams in the southern area flow southwards into the Hoarusib River[4].

The EPL is relatively flat with few hills and mountains. The elevations of the site area range between 0 and 951 meters above sea level (masl) and 951 and 2,559masl towards the northeastern side of the EPL, as shown on the topographic map in Figure 5-7.

[3]https://www.fortsesfontein.com/kaokoland-overview/
[4]https://atlasofnamibia.online/chapter-1/landscapes

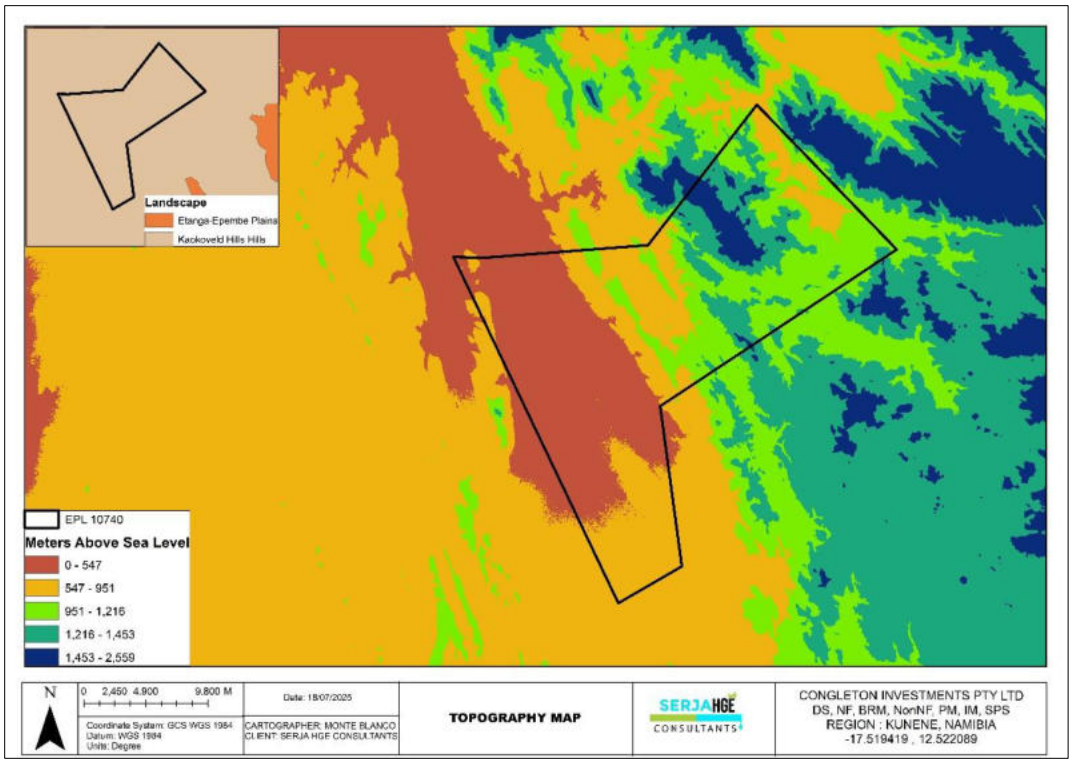


Figure 5-7: The topography and landscape of the EPL area

5.2.3 Geology and Soils

The EPL is characterized by the rock units comprising the following (as seen on the geology map of the site and the surrounding area in Figure 5-8):

- Mainly marble, schist, quartzite, calc-silicate, and graphitic schist.
- Paragneiss, and metasedimentary rocks/orthogneiss, as well as a small portion of quartzite, and conglomerate units.

The geological settings of the area (the rock units and their potential to host ores of the sought commodities) triggered the need to prospect and explore within the EPL.

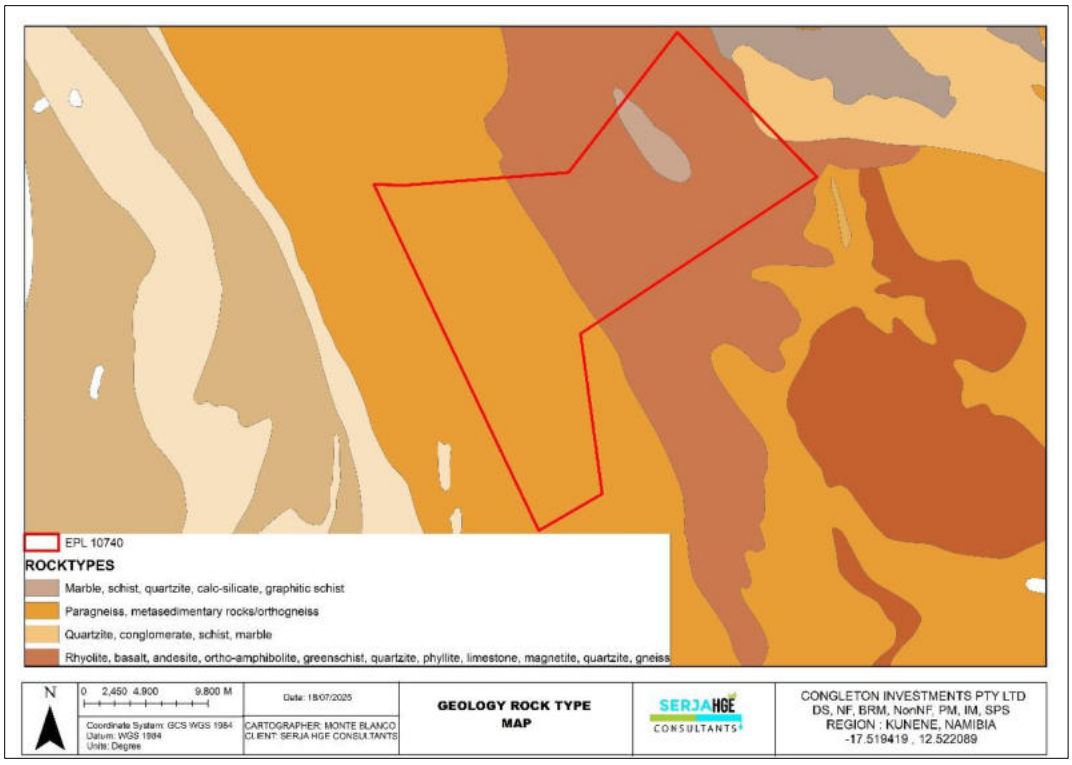


Figure 5-8: The geology of the EPL and the surrounding project area

In terms of soil, EPL-10740 is mainly overlain by rock outcrops and petric calcisols, as shown on the dominant soil map in Figure 5-9. According to Mendelsohn et al. (2002), petric soils are soils with a solid layer at a shallow depth that remains hard even when wet. Calcisols are commonly found in arid and semi-arid environments that have distinct dry seasons. They form in alluvial, colluvial, and aeolian deposits that are rich in calcium and magnesium. Significant amounts of calcium carbonate (lime) form below the surface where the soil is alternately dampened by rain and dried by evaporation, which concentrates the calcium carbonate into soft masses or layers of hard calcrete (Atlas of Namibia Team, 2022).

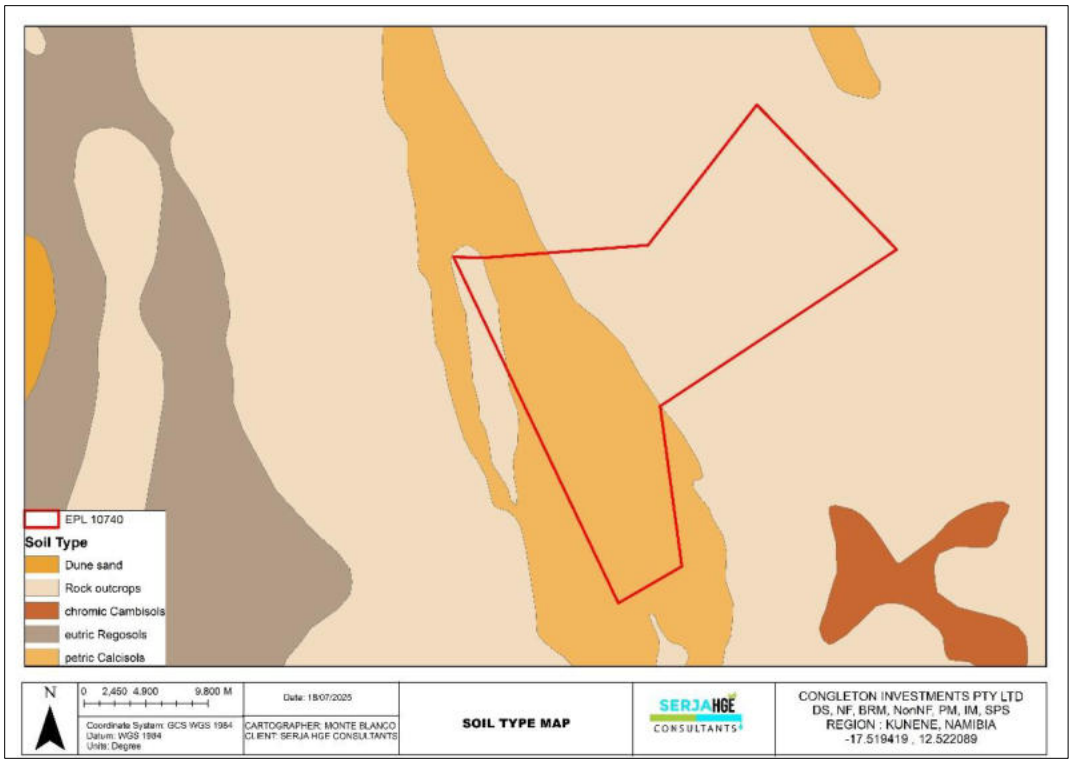


Figure 5-9: The dominant soil types found within the EPL

5.2.4 Water Resources: Groundwater (Hydrogeology) and Surface Water (Hydrology)

With regards to groundwater (hydrogeology), the EPL site is underlain by rock bodies with little groundwater potential, as shown on the map in Figure 5-10. The low/little groundwater potential is attributed to the low rainfall (influenced by the arid climate of the area), the type of rock units underlying the EPL, and their non-fractured/faulted nature that limits the storage, transmission, and flow of groundwater.

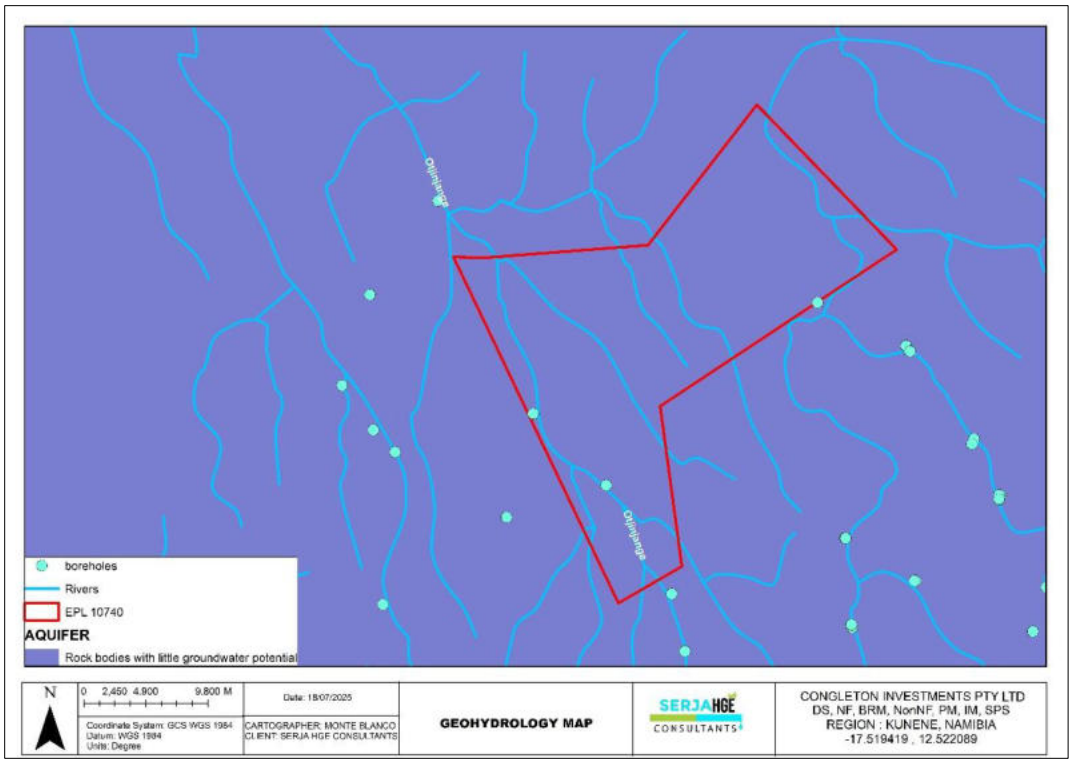


Figure 5-10: The surface and groundwater map of the EPL area

5.2.4.1 Baseline Groundwater (Borehole) Levels and Yields

According to the national groundwater database, there are some boreholes that were drilled in the area over the years. It is important to note that some of the recorded boreholes in the database were drilled many decades ago, and some of them may not be in existence or may no longer be operational. There might be new boreholes as well in the area that have not yet been entered into the database by the time this Report was compiled.

The baseline information of the three boreholes (Borehole 8262, 8270, and 23356) inside the EPL indicates that Borehole 8262 and 8270 have high yields of 50.0m^3/hr and 73m^3/hr, respectively, while Borehole 23356 has a low yield of 1.4m^3/hr (in Figure 5-11). The baseline water levels (as *InitialWat*) are 59.4m, 24.7m, and 8.0m below ground level, respectively, as shown in the Table (insert) of the geohydrology map in Figure 5-11.

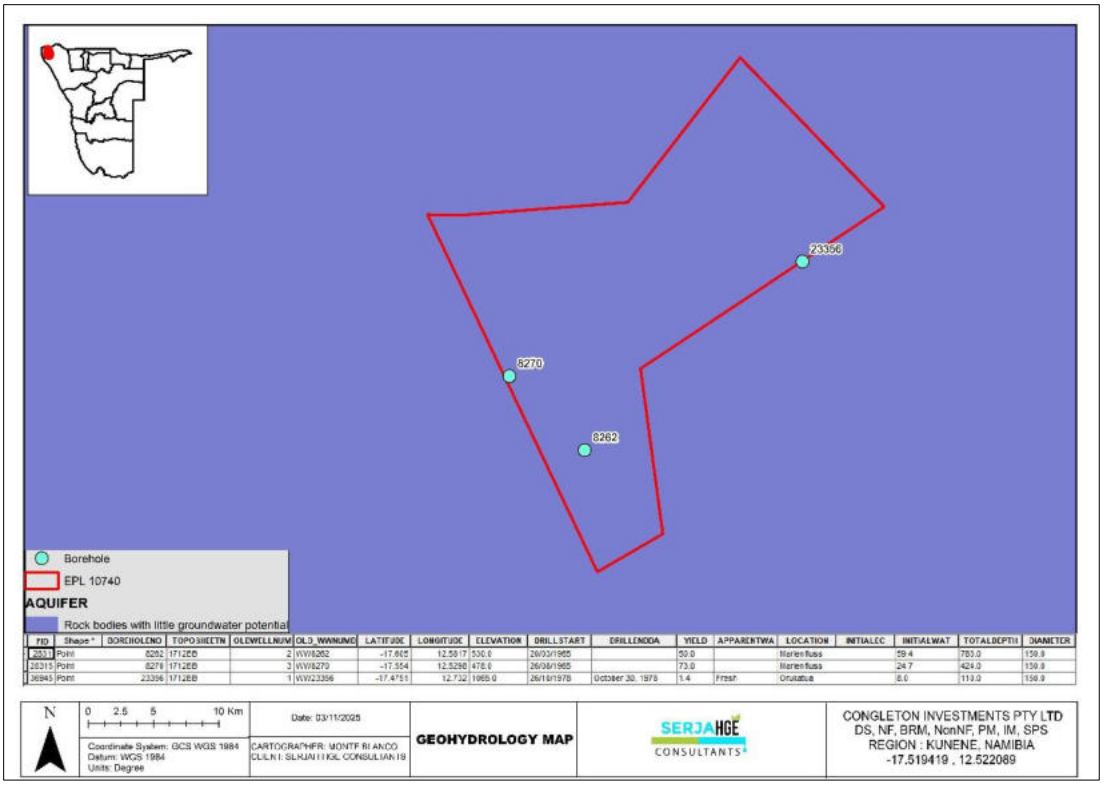


Figure 5-11: The geohydrology (groundwater) map with the existing (database recorded) boreholes within the EPL boundaries

5.3 Social and Economic Environment

5.3.1 Demography

Based on the 2023 Population and Housing Census, the Kunene Region has a population of 120,762 (60,573 males and 60,189 females) and a population density of 1.0 people per square kilometre (persons/km²) (Namibia Statistics Agency, 2024a). The EPL site falls within the Epupa Constituency, which has a population of 26,491, with a population density of 1.1 persons/km^2. The household population is 24,326, and 4,424 households (an average household size is 5.5 people) (NSA, 2024b).

5.3.2 Education and Economic Activities

The Kunene Region has a literacy rate of 63.8%. The early childhood development (age 0 to 5) stands at 11.0%, while for the population of 15+ years of age, 37.6% have never attended school, 14.6% is the population that is currently in school, and 45.9% have left school (NSA, 2024a). Furthermore, NSA (2024a) indicates that the population of 3 years and above has access to the internet (14.2%), and the population that owns cellphones is at 36.4%.

According to the NSA (2024a), the main source of income in households in the Region is farming (16.2%), wages and salaries (35.0%), old age pension (12.8%), as well as business and non-farming (4.7%).

5.3.2.1 Agriculture and Farming

Livestock production is one of the key sources of livelihood for many rural households of the Kunene Region (Kunene Regional Council, 2015). The trading of animals during formal auctions, especially in Outjo, Kamanjab, Khorixas, and informal sales in Opuwo, creates a source of income for farmers (residents) residing in these constituencies. The exportation of animals from Kunene Region to neighbouring countries continues to boost the economy of the Region. In support of the industry, the Government established five Quarantine camps to improve the quality and health of animals marketed, namely, at Swartbooi Drift, Ehomba, Khowarib, Condor, Palmwag, Otjakati, and Omutambo-omawe, which is situated in the Omusati Region but under the jurisdiction of the Opuwo state veterinary office (Kunene Regional Council, 2015).

From a local perspective, some communal farms keep small livestock such as sheep and goats on a small scale that are grazing on the open land in the area.

5.3.2.2 Tourism

The Kunene Region is classified as a prime tourist destination due to its rugged landscapes and ancient traditional diversity and practices. Tourism has been identified as a key economic sector for the region, dominated by wild animals in national parks and conservancies. The potential for further tourism development is very high due to its scenic beauty, wildlife, and the culture of its inhabitants (Kunene Regional Council, 2015).

Part of the land in the Kunene Region is demarcated as communal conservation areas that generate some income for the communities through eco-tourism. Eco-tourism in joint operations with community-based natural resource management is likely to be one of the region's major economic drivers. This is due to the continuous increase in the region's wildlife numbers, which has led to the region becoming a major eco-tourism destination. The creation of conservancies has boosted direct economic benefit to the community on a region-wide basis, to the communal areas of Kunene Region. According to the Namibian Association of Community-Based Natural Resource Management Support Organisations (NACSO) (2025), there are currently eighty-six (86) registered communal conservancies by the MEFT, covering around 20.2% of the country. However, not all conservancies have the potential to earn strong incomes from trophy hunting or tourism. Many are on marginal land with little wildlife, but with a strong conservation value to Namibia.

There are currently forty-two (42) joint venture lodges in Namibian conservancies, and in some of those conservancies, tourism is becoming the key source of income, replacing trophy hunting. The two activities are strictly separated by zoning conservancies into different and separate use areas, including agriculture. Although tourism and hunting provide important income diversification, farming is still the main source of livelihood for most conservancy members. However, with the growing effects of climate change, access to alternative income streams will become increasingly important (NACSO, 2025).

According to NACSO (2025a), the Marienfluss Conservancy's economic activities include several joint-venture lodges that offer tourism accommodation and generate significant conservancy income, as well as providing employment. Around half of the staff at the lodges are from the conservancy.

5.3.2.3 Exploration and Mining

According to the Kunene Regional Council (2015), the Region offers great opportunities for mineral exploration due to its rock and mountainous formations, which are pivotal for regional economic growth and development. Exploration and discovery of mineral resources is at an advanced stage, and if found economically viable, could contribute significantly to the economic growth of the Region.

The Namibia Chamber of Mines' 2013 annual review stated that the Kaoko Base Metals Project has discovered Okanihova Copper targets and confirmed that there is a body of iron ore at Otuziru (e.g., Lead, Zinc, and silver deposits). In addition, Teck Namibia Limited has also been exploring for Copper in the Kunene Region (Kunene Regional Council, 2015). Apart from some exploration licenses in the Region, several small-scale miners own and operate mining claims in the area and the wider area of the Kunene Region. Through the mining claims, the communities generate minimal income through mined elements (i.e., Copper, Zinc, Iron, etc.) sales.

Added to that, the EPL is also surrounded by other registered mineral licenses (EPLs and mining claims), whereby exploration works may or may not be undertaken currently or yet.

5.3.3 Infrastructure and Services

The Kunene Region has some grave and tarred roads. According to the Kunene Regional Council (2015), Kunene Region has a coverage of 545km of tarred road connecting all major towns such as Outjo, Khorixas, Kamanjab, and Opuwo. However, some areas in the Region are not accessible due to poor road infrastructure, and the lack of bridges along river channels contributes to transport challenges during rainy seasons. The landscape of the region is mountainous, making it difficult to reach communities living in the up-hill and valley areas.

The summary of the current services infrastructure in and around the EPL area includes:

- Road network: The nearest proclaimed roads to the EPL are D3703, which passes through and near the EPL, respectively. Therefore, the two routes will provide access to the EPL.
- Electricity supply: Some communities in the Kunene Region are connected to the regional grid (NORED), while remote areas rely on solar and wood for power supply/energy.
- Water supply: The communities are supplied with water from boreholes and some from rural water supply schemes with communal water points for people and livestock. The Marienfluss Conservancy has also developed water points for livestock and distributes game meat to households and the schools (NACSO, 2025a). Some of the water tanks are shown in the photo in Figure 5-12.

Figure 5-12: Some of the water tanks in the Marienfluss Conservancy

5.3.4 Land Uses: Marienfluss and Otjitanda Conservancies Zonation

The EPL mainly lies within the Marienfluss Conservancy, which was registered in January 2001. The Conservancy covers an area of 3,034km^2 with an approximate population of 400 (NACSO, 2025a). Furthermore, the EPL also falls within the Otjitanda Conservancy, which was registered in March 2011, covering an area of about 1,174km^2 and has a population of 631 (NACSO, 2025b). The conservation areas are further zoned into areas with different conservation purposes, as shown on the map in Figure 5-13 created from the NACSO-provided data.

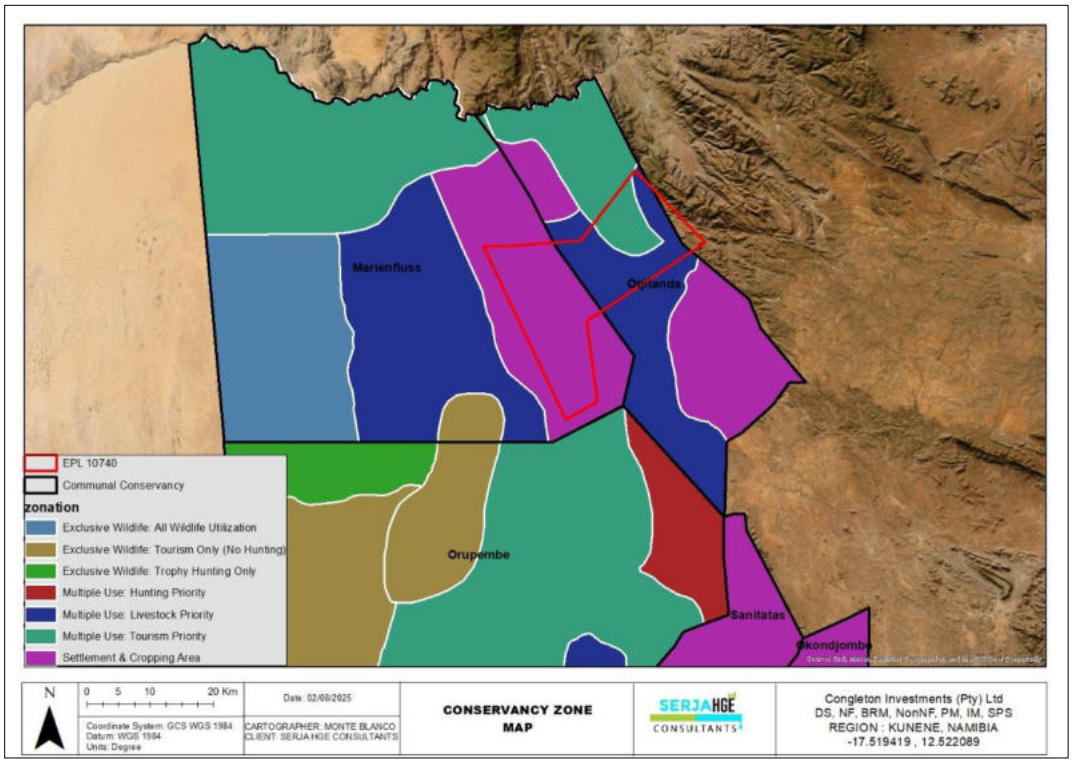


Figure 5-13: The different zonation areas of Marienfluss and Otjitanda Conservancies in relation to the EPL area

The conservancy zonation map for the Marienfluss and Otjitanda Conservancy above shows that EPL-10740 has the following zonation areas.

- Marienfluss Conservancy: five (5) zonation – (1) multiple use: tourism priority, (2) multiple use: livestock priority, (3) settlement & cropping area, and (5) exclusive wildlife: tourism only (no hunting).
- Otjitanda Conservancy zonation: three (3) zonation - (1) multiple use: tourism priority, (2) exclusive wildlife: all wildlife utilization, (3) settlement & cropping area.

As can be seen on the map in Figure 5-13 above, the EPL falls within three zones of zonation (settlement & cropping area, multiple use: livestock priority, and multiple use: tourism priority).

Furthermore, there are some homesteads and settlements in the EPL site area where people live and farm with small livestock. Therefore, a distance of 1.5km away from settlements and homesteads will be maintained during exploration, i.e., no exploration activities will be undertaken within a 1.5km radius of homesteads or residential structures in the area.

5.4 Archaeology and Heritage Aspect

An Archaeological & Heritage Impact Assessment (AHIA) was carried out for the EPL by a qualified and experienced TARO Archaeology Consultant (Mr. Roland Mushi) in June 2025. The baseline information and assessment are presented herein, while mitigation measures are presented in the EMP.

5.4.1 On-site findings: Sensitivity of the Receiving Environs

The Exclusive Prospecting License reported herein is found within two conservancies, i.e., the Otjitanda and Marienfluss communal conservancies. The landscape is typical of Kunene's landscape, characterized by mountainous and rugged terrains. The survey conducted recorded several rock shelters and spiritual places within two conservancies.

The proposed project is situated on the plateau of the mountain ranges, from steep slopes to undulating terrain and mountainous landscape. Archaeologically, the sensitive sites recorded are those that are categorized as cultural heritage sites, i.e., graves and places with stones, which are densely scattered in most of the surveyed places. Generally, all the findings within the license are of moderate archaeological sensitivity (Mushi, 2025).

By using GIS to assess and visualize spatial information of the archaeological or cultural heritage sites of the landscape, the map in Figure 5-14 identifies 4 sites of significance, occurring northwest, north, and northeast of the EPL. One of the sites is not far from the EPL, as it is only 2.6 km away from the EPL.

The footprints of the proposed project fall within the conservancies mentioned above, the sites that reflect the cultural heritage of the Otjitanda and Marienfluss communities include a spiritual site located not far from the boundaries of the EPL. Additionally, one grave has been recorded, though it is situated at a considerable distance from the EPL and will therefore not be impacted. Other recorded sites are of low significance but are still worth documenting and mentioning, as they may contain archaeological, historical, or cultural materials. Overall, findings in an archaeological context are regarded as Low to Moderate (Mushi, 2025).

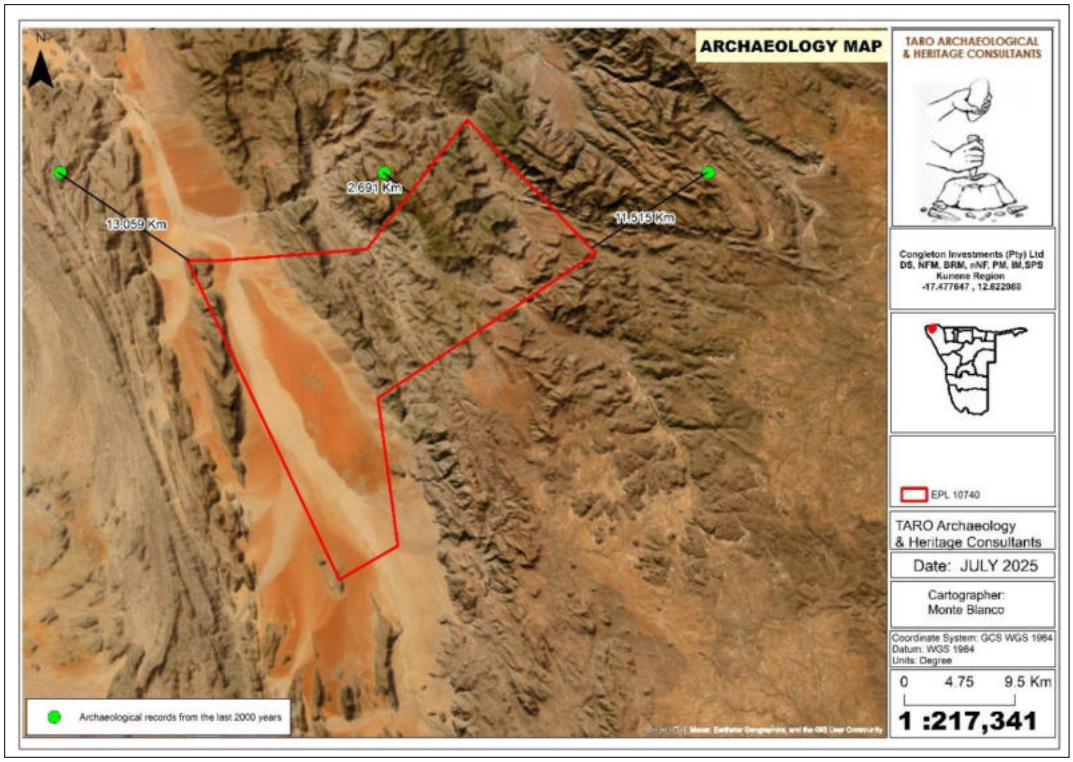


Figure 5-14: The Landscape Archaeological Map (Mushi, 2025)

5.4.1.1 Identification of the Archaeological and Heritage Sensitivity Map

The archaeological findings map below indicates sites of significance that were recorded during the site survey. While the recorded findings lie outside the boundaries of the EPL, some are located near its edges (Figure 5-15). Despite being outside the EPL, these sites are worth mentioning due to their proximity and the potential for indirect impact from project activities. Therefore, this map serves as a guiding tool for the proponent, highlighting areas to be mindful of when accessing or exiting the project site. Adoption and implementation of the Chance Find Procedure is emphasized to be undertaken throughout the exploration phase.

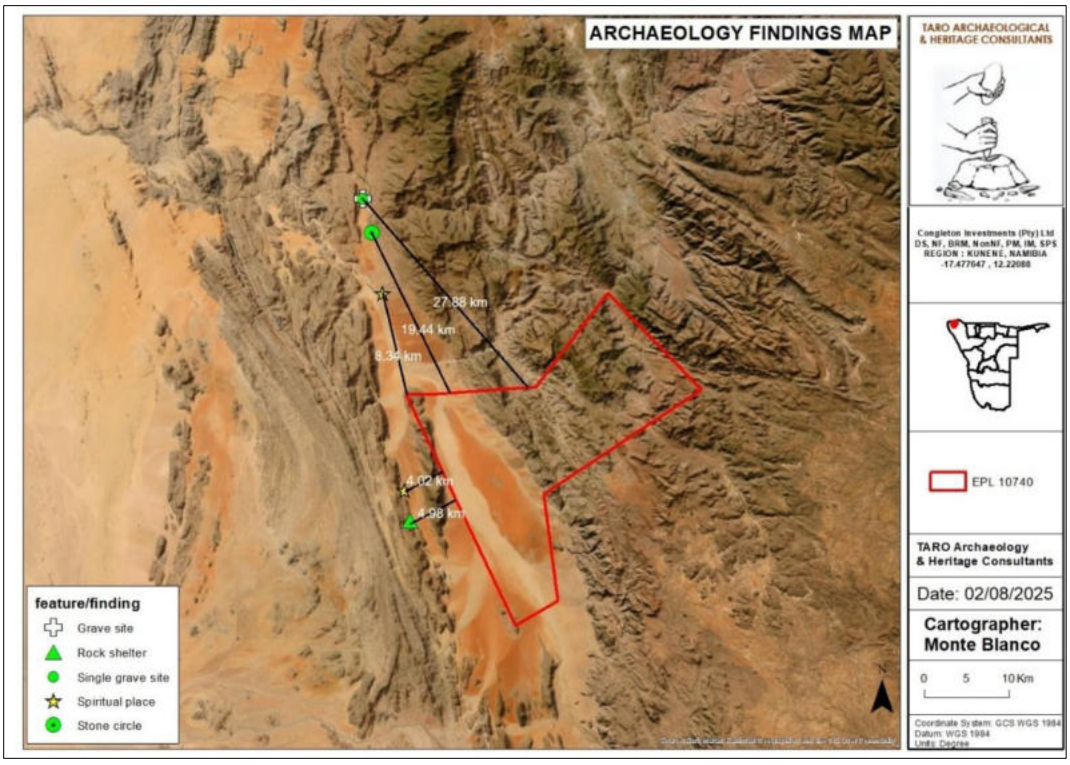


Figure 5-15: Archaeological findings map (Mushi, 2025)

5.4.1.2 Sensitivity Analysis Summary Statement

The field survey conducted has revealed that the majority of the area within the EPL is actually of low sensitivity, with mountains on the east and north-eastern side of the licence, and a bit of flat dune type of environment, with only small areas being of moderate to high sensitivity, where cultural heritage sites have been recorded outside the boundaries of EPL-9985. As seen in the sensitivity map, the recorded grave site and other moderate sites are way outside the boundaries of the EPL (see Figure 5-15).

Summarily, it is evident that only the majority areas within the EPL are of moderate to low/little sensitivity, and that the remainder of the study area is of low sensitivity. However, this does not mean that no archaeological or heritage resources will be present in these areas, but the probability of resources of high cultural significance being found there is considered to be very low (Mushi, 2025).

The public consultation and engagement process and the means employed for the EPL ESA Study are presented in Chapter 6.

6 PUBLIC CONSULTATION AND PARTICIPATION PROCESS

Public consultation and participation form an important component of an EIA process. It provides potential Interested and Affected Parties (I&APs) and stakeholders with an opportunity to comment on and raise any issues relevant to the project for consideration as part of the assessment process. This greatly assists the EAP (Environmental Consultant) in thoroughly identifying and recording potential impacts and to what extent further investigations are necessary. Public consultation can also aid in the process of identifying possible mitigation measures. The consultation for this project has been done under the EMA and its EIA Regulations, and as per the following subsections.

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

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

6.2 Communication with I&APs and Means of Consultation Employed

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

- A Background Information Document (BID) containing brief information about the proposed project was compiled and hand-delivered to the Ministry of Environment, Forestry and Tourism (MEFT), accompanying the ECC application, and uploaded on the MEFT (ECC) Portal for project registration and shared with registered Interested and Affected parties (I&APs).
- Project Environmental Assessment notices were published in the New Era and Windhoek Observer newspapers dated 12 & 19 May 2025 in the *New Era* newspaper and 14, 15 & 19 May 2025 in *Windhoek Observer* (Appendix C). The consultation period ran from the 12th of May 2025 to the 20th of June 2025.
- A combined consultation meeting between key stakeholders and some community members was scheduled and held on the 21st of June 2025 in Marienfluss at the Community Campsite (Figure 6-1). In the meeting, the EPL area was attended and represented by six (6) community members and Conservancy management committee members from the conservancies (including a representative from the Integrated Rural Development and Nature Conservation (IRDNC)). The meeting attendees included three environmental consultants and two representatives from the Proponent. Meeting minutes were taken and attached hereto as Appendix D.

Figure 6-1: The EIA Consultation meeting at the Marienfluss Community Campsite in the Kunene Region on the 21st of June 2025

- Due to the remoteness of the area with no settlement, an EIA poster was only placed at the Kunene Regional Council in Opuwo–Figure 6-2. The copy of the poster is attached as Appendix E.

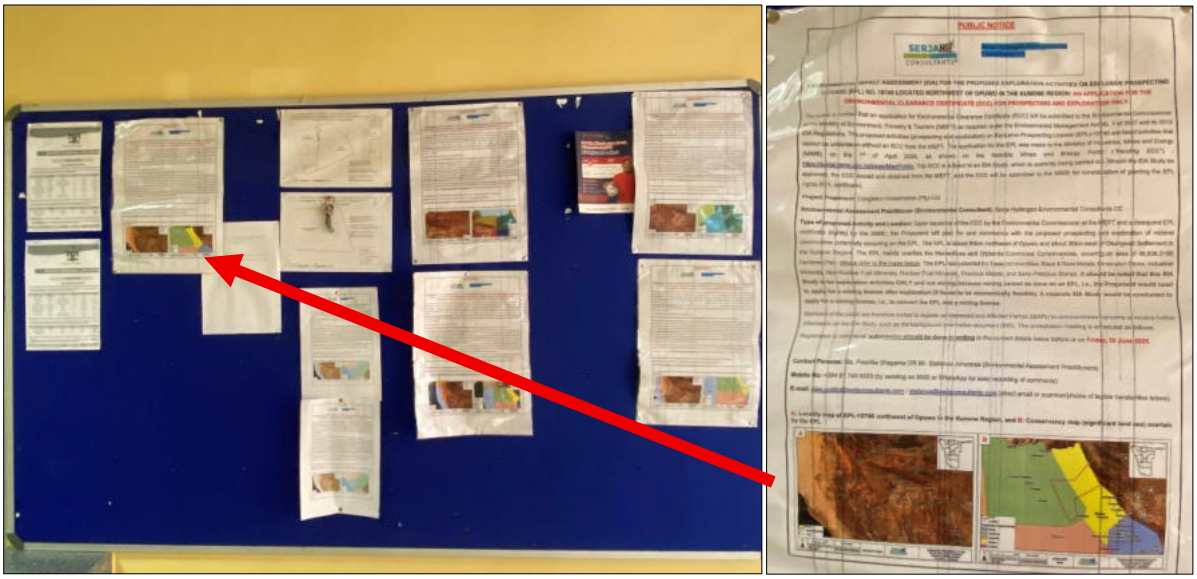


Figure 6-2: The EIA poster at the Kunene Regional Council's notice board in Opuwo

To fulfill the EIA Study documents, as requested by the MEFT and following consultation meetings, consent letters for the EPL have been issued by the Conservancy Management and the Traditional Authority. These are appended hereto as Appendix F.

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

Issues were raised by I&APs (from the consultation meetings and review of draft documents), and these issues have been recorded and incorporated in the final ESA Report and EMP. The summary of these few key issues is as follows:

- Prioritizing the local community for employment opportunities.
- Transparency and clear communication between the proponent and the conservancies in the EPL area, i.e., there should be transparency and constant communication between the local community and the proponent to update them on the project progress.
- The zonation of the conservancies, as well as villages that are not in the BID maps, needs to be mapped in relation to the EPL to ensure that highly sensitive areas are excluded from the exploration activities.
- The request for the proponent to return to the community representatives (traditional authority and conservancies) to forge a way forward once the ECC and EPL certificates are issued by the MEFT and MIME, respectively.
- Water Resources Impact: Water is extremely scarce in Kunene, and any use or potential contamination of water resources is a critical issue.
- Soil Disturbance and Erosion
- Biodiversity and Habitat
- Water Resources Impact: Water is extremely scarce in Kunene, and any use or potential contamination of water resources is a critical issue.
- Air Quality and Noise.
- Visual and Landscape Impacts.
- Occupational and Community Health & Safety
- Socio-economic landscape
- Cumulative impacts assessment
- Recommendation for a coordinated consultation approach throughout the project cycle.
- Recommendation for a Regional or Strategic Environmental Assessment Approach. However, this is directed to the MEFT for future consideration regarding mineral exploration within the Kunene communal conservancies. Short of a formal SEA, the proponents and consultant should at a minimum engage in information-sharing and coordination amongst themselves.

6.4 Feedback on the Draft Scoping Assessment Report Review

After the compilation of the draft Scoping Report and Environmental Management Plan (EMP), the two documents and consultation meeting minutes were circulated to registered stakeholders for review and further comments before finalizing for submission to the MEFT for evaluation. The review and comments period was fourteen (14) days, i.e., from the 02nd to the 17th of October 2025. The email circulation is shown in Figure 6-3.

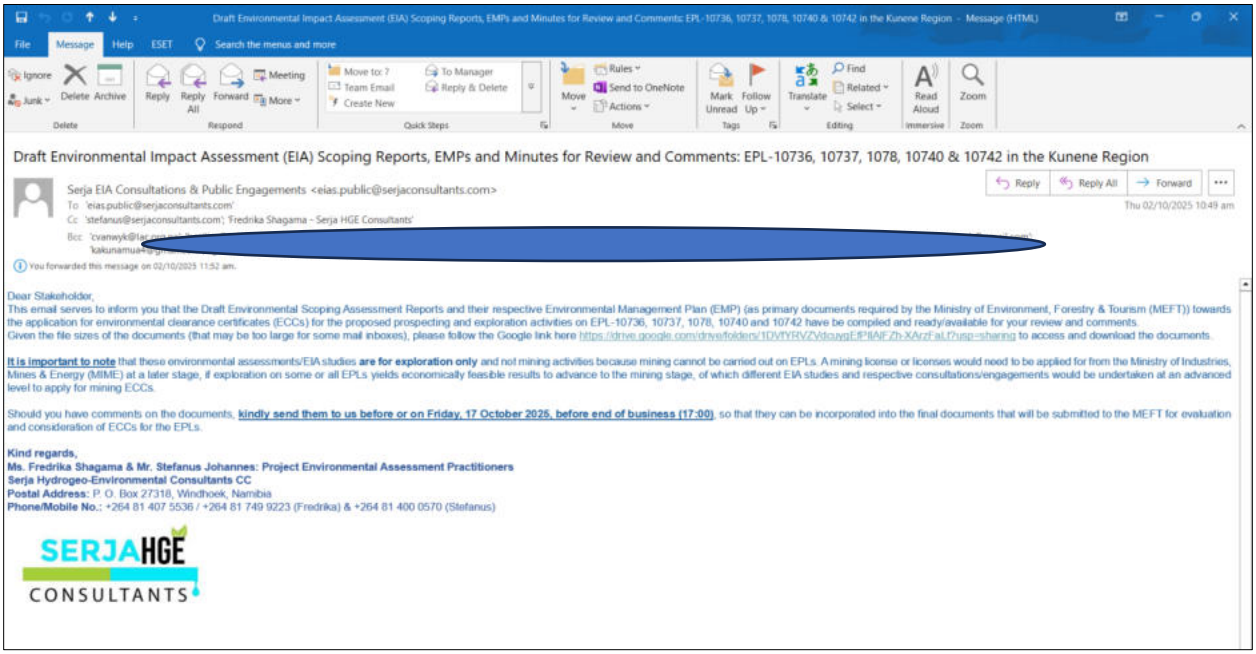
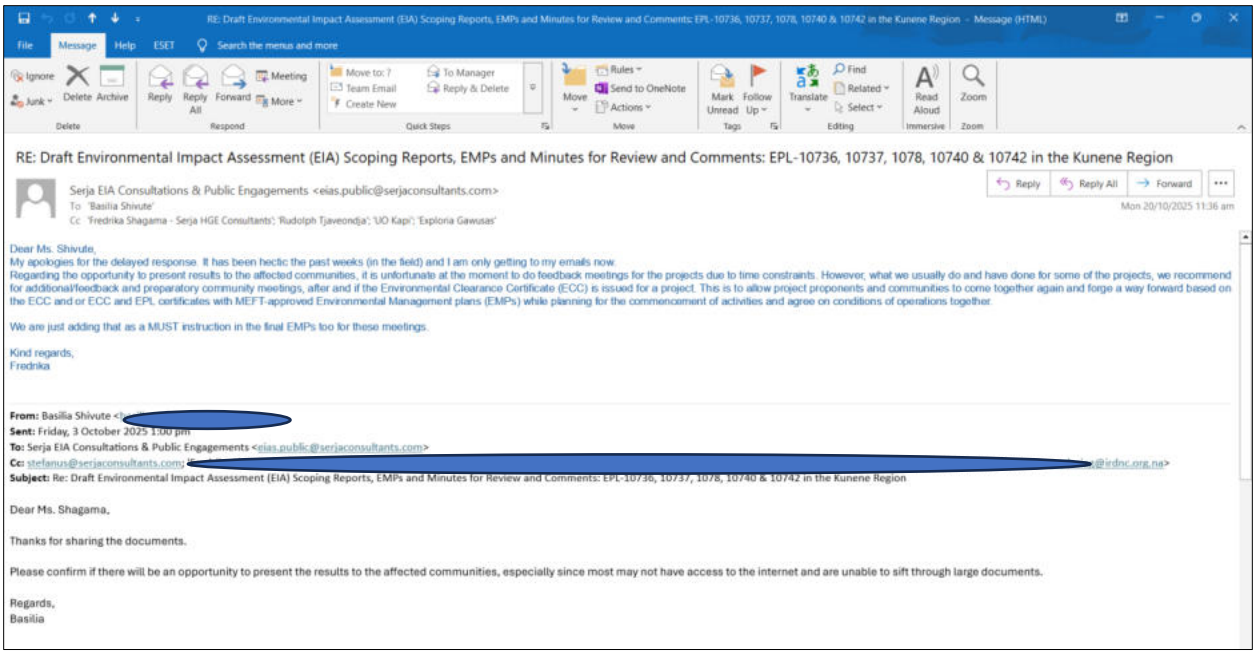


Figure 6-3: Proof of circulation of the draft Scoping Report and EMP to registered I&APs on the 02nd of October 2025

There were no major issues or comments received from one of the stakeholders (from IRDNC) on the draft documents. However, one stakeholder responded to the email circulation enquiring if there would be a feedback meeting to review (go through) the circulated draft Scoping Report and EMP with communities. The Environmental Consultants responded that due to the time and resources constraints, there was no provision for a feedback meeting in the Kunene Region at this moment - Figure 6-4. However, recommendations have been made in the EMP to require the Proponent to hold an additional meeting with the communities should the ECC and EPL certificates be issued and granted, respectively. The meeting would be held as part of the planning phase for the communities, their leaders, and the Proponent to come together and plan for the commencement of activities and agree on conditions of operations.



RE: Draft Environmental Impact Assessment (EIA) Scoping Reports, EMPs and Minutes for Review and Comments: EPL-10736, 10737, 1078, 10740 & 10742 in the Kunene Region - Message (HTML)

File | Message | Help | ESET | Search the menus and more

Ignore | Delete | Archive | Reply | Reply All | Forward | Meeting | More | Move to: ? | Team Email | Create New | To Manager | Reply & Delete | Move | Rules | Send to OneNote | Actions | Mark Unread | Follow Up | Translate | Find | Related | Select | Read Aloud | Zoom

Delete | Respond | Quick Steps | Move | Tags | Editing | Immersive | Zoom

RE: Draft Environmental Impact Assessment (EIA) Scoping Reports, EMPs and Minutes for Review and Comments: EPL-10736, 10737, 1078, 10740 & 10742 in the Kunene Region

Serja EIA Consultations & Public Engagements <eias.public@serjaconsultants.com>

To 'Basilia Shivute'

Cc 'Fredrika Shagama - Serja HGE Consultants'; 'Rudolph Tjaveondja'; 'UO Kapi'; 'Exploria Gawusas'

Reply | Reply All | Forward

Mon 20/10/2025 11:36 am

Dear Ms. Shivute,
My apologies for the delayed response. It has been hectic the past weeks (in the field) and I am only getting to my emails now.
Regarding the opportunity to present results to the affected communities, it is unfortunate at the moment to do feedback meetings for the projects due to time constraints. However, what we usually do and have done for some of the projects, we recommend for additional feedback and preparatory community meetings, after and if the Environmental Clearance Certificate (ECC) is issued for a project. This is to allow project proponents and communities to come together again and forge a way forward based on the ECC and or ECC and EPL certificates with MEFT-approved Environmental Management plans (EMPs) while planning for the commencement of activities and agree on conditions of operations together.

We are just adding that as a MUST instruction in the final EMPs too for these meetings.

Kind regards,
Fredrika

From: Basilia Shivute <[redacted]>
Sent: Friday, 3 October 2025 1:00 pm
To: Serja EIA Consultations & Public Engagements <eias.public@serjaconsultants.com>
Cc: stefanus@serjaconsultants.com; [redacted]@irdnc.org.na>
Subject: Re: Draft Environmental Impact Assessment (EIA) Scoping Reports, EMPs and Minutes for Review and Comments: EPL-10736, 10737, 1078, 10740 & 10742 in the Kunene Region

Dear Ms. Shagama,

Thanks for sharing the documents.

Please confirm if there will be an opportunity to present the results to the affected communities, especially since most may not have access to the internet and are unable to sift through large documents.

Regards,
Basilia

Figure 6-4: Proof of a stakeholder's email on the review of the draft documents and response from SERJA HGE Consultants on the 20th of October 2025 before finalizing the documents for submission

6.4.1 Comments received from I&APs after the Draft Review deadline

Furthermore, late comments were submitted to Serja Consultants on the 24th of October 2025, accompanied by an apology. Therefore, these comments were accepted and have been addressed and incorporated in this Report and in the EMP. The summary of these key issues/comments submitted is as follows, although some impacts have already been listed and addressed in the Report. However, some impacts were detailed by the I&APs; thus, they have been incorporated. The comments (as received) and their responses are appended hereto as Appendix G: G1 and G2, respectively.

The next chapter is the presentation of potential impacts identified, the assessment methodology, impact description, and their assessment.

7 IMPACTS IDENTIFICATION, ASSESSMENT, AND MEASURES

7.1 Identification of Potential Impacts

The proposed project and its associated activities are usually associated with different potential positive and negative impacts. For an environmental assessment, the focus is placed mainly on the negative impacts that are likely to affect the host environment and social features. The assessment is done to ensure that these impacts are sufficiently addressed, and adequate mitigation measures are recommended thereto for implementation so that the impact's significance is brought under control, while maximizing the positive impacts. The potential positive and negative impacts that have been identified from the prospecting activities are listed as follows:

Positive impacts:

- Local socio-economic development through temporary employment creation for locals.
- Payment of land use fees to the land custodians (and land users/conservancy) and traditional authority to uplift the local communities within or in proximity of the EPL, where possible.
- Procurement of local goods and services by local/regional businesses to generate income.

Negative:

- Physical soil disturbance resulting in compaction and erosion
- Impact on local biodiversity (fauna and flora) and habitat disturbance
- The potential impact of illegal hunting/poaching of wildlife in the area, with the EPL in conservation areas (communal conservancies)
- Potential impact on water resources and soils (over-abstraction and pollution)
- Impact on air quality due to dust generation (compromises the surrounding air quality)
- Visual impacts due to unrehabilitated exploration sites (e.g., from trenching and drilling activities)
- Potential occupational and community health and safety risks (open trenches and drilled holes may pose a risk to people), and to wildlife (animals) in the area
- Potential conflicts over land use between current activities in the area and exploration activities
- Noise associated with exploration drilling and the movement of heavy trucks to the site
- Vehicular traffic safety & impact on local roads
- Environmental pollution (littering) through improper handling, storage, and disposal of waste
- Impact on archaeological & cultural heritage resources.

7.2 Impact Assessment Methodology

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

The identified impacts were assessed in terms of scale/extent (spatial scale), duration (temporal scale), magnitude (severity), and probability (likelihood of occurring), as presented in Table 7-1.

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

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

The recommended mitigation measures prescribed for each of the potential impacts contribute towards the attainment of environmentally sustainable operational conditions of the project for various features of the biophysical and social environment. The following criteria (in Table 7-1) were applied in this impact assessment:

Table 7-1: Criteria used for impact assessment (extent, duration, intensity, and probability)

The Criteria used to assess the potential negative impacts.				
Extent or (spatial scale) - extent is an indication of the physical and spatial scale of the impact.				
Low (1)	**Low/Medium (2)**	**Medium (3)**	**Medium/High (4)**	**High (5)**
Impact is localised within the site boundary: Site only	Impact is beyond the site boundary: Local	Impacts felt within adjacent biophysical and social environments: Regional	Impact widespread far beyond the site boundary: Regional	Impact extends beyond National or international boundaries
Duration- Duration refers to the timeframe over which the impact is expected to occur, measured in relation to the lifetime of the project				
Low (1)	**Low/Medium (2)**	**Medium (3)**	**Medium/High (4)**	**High (5)**

The Criteria used to assess the potential negative impacts.				
Immediate mitigating measures, immediate progress	Impact is quickly reversible, short-term impacts (0-5 years)	Reversible over time; medium term (5-15 years)	Impact is long-term	Long term, beyond closure, permanent, irreplaceable, or irretrievable commitment of resources
Intensity, Magnitude/severity - Intensity refers to the degree or magnitude to which the impact alters the functioning of an element of the environment. This is a qualitative type of criterion.				
H-(10)	**M/H-(8)**	**M-(6)**	**M/L-(4)**	**L-(2)**
Very high deterioration, high quantity of deaths, injury or illness / total loss of habitat, total alteration of ecological processes, extinction of rare species	Substantial deterioration, death, illness or injury, loss of habitat/diversity or resource, severe alteration, or disturbance of important processes	Moderate deterioration, discomfort, partial loss of habitat/biodiversity or resource, moderate alteration	Low deterioration, slight noticeable alteration in habitat and biodiversity. Little loss in species numbers	Minor deterioration, nuisance or irritation, minor change in species/habitat/diversity or resource, no or very little quality deterioration.
Probability of occurrence - Probability describes the likelihood of the impacts occurring. This determination is based on previous experience with similar projects and/or based on professional judgment.				
Low (1)	**Medium/Low (2)**	**Medium (3)**	**Medium/High (4)**	**High (5)**
Improbable; low likelihood; seldom. No known risk or vulnerability to natural or induced hazards.	Likely to occur from time to time. Low risk or vulnerability to natural or induced hazards	Possible, distinct possibility, frequent. Low to medium risk or vulnerability to natural or induced hazards.	Probable if mitigating measures are not implemented. Medium risk of vulnerability to natural or induced hazards.	Definite (regardless of preventative measures), highly likely, continuous. High risk or vulnerability to natural or induced hazards.

7.3 Impact Significance

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

Once the above factors (Table 7-1) have been ranked for each potential impact, the impact significance of each is assessed using the following formula:

SP = (magnitude + duration + scale) x probability

The maximum value per potential impact is 100 significance points (SP). Potential impacts were rated as high, moderate, or low significance, based on the following significance rating scale (Table 7-2).

Table 7-2: Impact significance rating scale

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

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

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

7.4 Description and Assessment of Potential Impacts

The potential impacts of the proposed project activities are described and assessed in Table 7-3. The recommended management and mitigation measures to improve (for positive impacts) and reduce the significance of negative impacts are provided in the Draft EMP (Appendix A).

Table 7-3: The Description and Assessment of the impacts of exploration activities on the biophysical and social environment

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
Positive Impacts											
Employment creation	Although temporary, the project activities will create employment for some locals from sampling to drilling. This will include casual labourers, technical assistants, cooks, etc.	L / M- 2	L / M - 2	L / M - 4	L - 1	L - 8	M / H - 4	H - 5	M - 6	H - 5	H - 75
Land use fees for socio-economic development	Payment of land use fees to the Conservancy and Traditional Authority will assist in uplifting the communities within and close to the EPL.	L / M- 2	L / M - 2	L / M - 4	L - 1	L - 8	M / H - 4	H - 5	M - 6	H - 5	H - 75
Empowerment of local businesses	Procurement of local goods and services for exploration by small and medium businesses will promote local entrepreneurship, empowerment, and local economic development (income generation).	L / M- 2	L / M - 2	L / M - 4	L / M - 2	L - 16	M - 3	M / H - 4	L / M - 4	M / H - 4	M - 44
Negative (Adverse) Impacts											
Physical disturbance to the site soils	The excavations and land clearing to enable the siting of project structures and equipment, as well as clearing of tracks, trenching, and drill pad preparation, will potentially result in soil disturbance through target site establishment, access road	M - 3	M / H - 4	L / M - 4	M / H - 4	M – 44	L / M - 2	L / M - 2	L / M - 4	L / M - 2	L - 16

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	creation, and unnecessary off-road driving. These would leave the site soils exposed to erosion (areas with no to little vegetation cover on the soils in place). This is a concern because desert soils are sensitive to disturbance, and the prints may take a hundred years to fade. The movement of heavy vehicles and equipment may lead to compaction of the soils during exploration. This will, however, be a short-term and localized impact.										
Impact on the sensitive Biodiversity: Wild Fauna and Flora	Fauna: The EPL falls within an ecologically sensitive area. Therefore, if activities such as trenching and drilling are not carefully conducted, this would result in land degradation. The degradation would lead to habitat loss for a diversity of flora and fauna on-site. Moreover, noise from drilling, dust, and human presence can drive away wildlife or alter their movement patterns. This is because wildlife is crucial to tourism and trophy hunting income; thus, any	M: -3	M: -3	M: -6	M / H: 4	M: -48	L / M: -2	L / M: -2	L / M: -4	L / M: 2	L: -16

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	uncontrolled disturbance would have socio-economic and ecological ramifications. However, exploration activities will be limited to specific target areas only within the EPL. However, exploration activities will be limited to specific target areas only within the EPL. The presence and movement of the exploration workforce and the operation of project equipment and heavy vehicles would disturb wildlife at the explored sites of the EPL. There is also a potential for illegal hunting (poaching) of local wildlife by project-related workers. This could lead to a loss or reduction of specific faunal species, which also impacts tourism in the community. Flora: The already scarce flora (vegetation) in the area would be impacted through land clearing to create exploration access roads, setting up project equipment and infrastructures, and detailed exploration										

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	activities. The clearing of vegetation, where deemed necessary, will be limited to the specific route and minimal; therefore, the impact will be localized, site-specific, and therefore manageable.										
Air Quality: Dust Generation	There is a potential impact of dust emanating from site access roads when transporting exploration equipment and supplies to and from the site. This may compromise the air quality in the area. Additionally, activities carried out as part of the exploration works, such as drilling, would contribute to the dust levels in the air.	M: -3	M: -3	M / L: -4	M / H: 4	M: -40	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12
Visual impact: Scenic view of the area for Tourism	Exploration activities, particularly for Dimension Stone, usually leave scars on the local landscape. Furthermore, exploration visual impacts can arise from cleared drill pads, temporary camps, or lingering evidence of trenches. This is bound to happen when exploration sites are located close to or along roads, and	M - 3	M - 3	M - 6	M / H - 4	M – 48	L / M: - 2	L / M: -2	L / M: -4	L / M: 2	L: -16

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	these scars may contrast with the surrounding landscape and may potentially become a visual nuisance, especially in tourist-prone areas like conservancies. The sight of the explored and unrehabilitated areas of the EPL may be an eyesore to tourists and travelers alike on D3703 and local access roads. The tourists and motorists/travelers on the D3703, particularly, and the local roads would be impacted if Dimension Stone activities are undertaken on the EPL side overlooking the D3703. The eyesore associated with Dimension Stone is mainly associated with white marble and granite exploration, given its distinctive color from the host environment compared to dark or black granites and dolerites. This impact is considered minimal as only small blocks of the stone will be extracted for analysis as part of exploration, and the duration will be short.										

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
Water Resources Demand and Use	The abstraction of more water than it can be replenished from low groundwater potential areas would negatively affect wildlife watering in the area that depends on the same low potential groundwater resource (aquifer). The impact of the project activities on the resources would be dependent on the water volumes required by each project activity. Commonly, exploration activities use less water during the reconnaissance survey (including RC drilling), mainly for domestic use at exploration campsites (stored in a 5000-litre tank or less for 10 to 20 people in the camp). The water range would be between 6,000 to 25,000 litres per month for that many people, maximum. More water would be required for diamond drilling (DD) if reconnaissance surveys indicate a promising mineral deposit. DD is water-consuming compared to RC drilling, where about 10,000 to 25,000 litres (10 to 25 m^3) per	M - 3	M - 3	M - 6	M / H - 4	M – 48	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	would be required per day per hole. Moreover, water needs would also be dependent on the duration of the exploration works and the number of exploration holes required to make a reliable interpretation of the commodity presence explored during DD exploration. The water requirement would also be determined during the reconnaissance stage on whether exploration will continue to diamond drilling or not (this cannot be determined at this stage). Therefore, the impact will only last for the duration of the exploration activities and will cease upon their completion.										
Soil and Water Resources Pollution	The proposed exploration activities are associated with a variety of potential pollution sources (i.e., lubricants, fuel, and wastewater) that may contaminate/pollute soils and eventually groundwater and surface water. The anticipated potential source of pollution to water resources from the project activities would be hydrocarbons	M: -3	M: -3	M: -6	M / H: 4	M: -48	L / M: -2	L / M: -2	L / M: -4	L / M: 2	L: -16

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	(oil) from project vehicles, machinery, and equipment, as well as potential wastewater/effluent from exploration-related activities. The spills (depending on volumes spilled on the soils) from this machinery, vehicles, and equipment could be washed into surface water bodies such as rivers and streams. The pollution may eventually infiltrate into the ground and pollute the fractured or faulted aquifers. This impact would occur during the heavy rainy seasons, when surface runoff would be inevitable. However, it should be noted that the scale and extent/footprint of the activities where potential sources of pollution will be handled is relatively small. Therefore, the impact will be moderately low.										
Waste Generation (Environmental pollution)	Waste types such as solid, wastewater, and possibly hazardous will be produced onsite during exploration. If the generated waste is not disposed of responsibly, land pollution	M: -3	M: -3	M / L: -4	M / H: 4	M: -40	L - 1	L - 1	L - 2	L / M - 2	L - 8

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	may occur on the EPL or around the site. If solid waste, such as papers and plastics, is not properly stored or just thrown into the environment (littering), it may be consumed by domestic (livestock) and wild animals, which could be detrimental to their health. Improper handling, storage, and disposal of hydrocarbon products and hazardous materials at the site may lead to soil and groundwater contamination in the case of spills and leakages. Therefore, the exploration program needs to have appropriate waste management for the site. To prevent these issues, biodegradable and non-biodegradable wastes will be stored in separate containers and collected regularly for disposal at the nearest recognized waste management facilities.										

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
Occupational Health and Safety Risks	Project personnel (workers) involved in the exploration activities may be exposed to health and safety risks. The heavy vehicle, equipment, and fuel storage area will be properly secured to prevent any harm or injury to the Proponent's personnel, locals, and animals. Another potential risks to both people, livestock, and wildlife within the EPL are unfenced exploration trenches or trenches that are not backfilled after completing the sampling. Unsecured exploration trenches and even uncapped holes could pose a risk of people or animals falling into the open trenches, leading to injuries. The use of heavy equipment, especially during drilling and the presence of hydrocarbons on sites, may result in accidental fire outbreaks. This could pose a safety risk to the project personnel and locals, too.	M - 3	M - 3	M - 6	M / H - 4	M – 48	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12
Vehicular Traffic Safety	The local roads, such as the D3703 and local access roads,	M - 3	M / H - 4	L / M - 4	M / H - 4	M - 44	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	are the main transportation routes for all vehicular movement in the EPL area. There would be a potential increase in traffic flow, especially during the exploration stage of the project activities, due to the delivery of supplies, goods, and services to the site. Depending on the project needs, trucks, medium, and small vehicles will be frequenting the area to and from exploration sites on the EPL. This would potentially increase slow-moving heavy vehicular traffic along these roads. Exploration works will be undertaken in stages, on certain days of the week, with a few vehicles, and the work will be temporary. Therefore, the risk is anticipated to be short-term, not frequent.										
Impact on local road use	The project activities will mean an increased movement of heavy trucks and equipment on the local gravel roads, which would exert more pressure on	M: -3	M: -3	M / L: -4	M / H: 4	M: -40	L - 1	L - 1	M / L - 4	M / L -2	L - 12

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	these roads and worsen their conditions. This will be a concern if maintenance and care are not done during the exploration phase. The impact would be short-term and therefore manageable.										
Noise and vibration from drilling	There is a potential for noise from certain activities, especially drilling and trenching, which may be a nuisance to locals and animals. Excessive noise and vibrations without any protective measures in place can also be a health risk to workers on site. The exploration equipment used for drilling on site is of medium size, and the noise level is bound to be limited to the site only; therefore, the impact likelihood is minimal.	M - 3	M - 3	M - 6	M / H - 4	M – 48	L - 1	L / M - 2	L - 2	L / M -2	L - 10
Archaeological and Heritage resources	According to Mushi (2025), the main archaeological resources found in the EPL area are graves/burial grounds, stone artefacts, and holy/sacred places. The field survey indicated that the majority of the area within the EPL is actually of	M: -3	M: -3	M / L: -4	M / H: 4	M: -40	L - 1	L / M - 2	L - 2	L / M -2	L - 10

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	low sensitivity, with mountains on the east and north-eastern side of the EPL and a bit of flat dune-type environment. Small areas are of moderate to high sensitivity, where cultural heritage sites have been recorded outside the EPL boundaries. The recorded grave site and other moderate sites are way outside the boundaries of the EPL. Thus, the impact significance is moderate to low/little sensitivity. However, this does not indicate that no archaeological or heritage resources will be present in these areas. The probability of high cultural significance being found there is considered to be very low (Mushi, 2025).										

7.5 Description and Assessment of Cumulative Impacts

According to the International Finance Corporation (2013), cumulative impacts are defined as “those that result from the successive, incremental, and/or combined effects of an action, project, or activity (collectively referred to in this document as 'developments') when added to other existing, planned, and/or reasonably anticipated future ones”. Similarly, to many other exploration projects, some of the cumulative impacts to which the proposed project and associated activities potentially contribute are described and assessed in Table 7-4.

The recommended management and mitigation measures to reduce the significance of these impacts are similar to the project impacts provided in the Draft EMP (Appendix A). Therefore, the Proponent will need to effectively and commit to implementing mitigation measures for each project impact and its associated cumulative impact.

Table 7-4: The Description and Assessment of cumulative impacts of exploration activities on the biophysical and social environment

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
Land and Soil Disturbance	The repeated exploration (and other mineral or small-scale mining activities in the region) may cumulatively disturb soils, vegetation, and natural landscapes. Multiple EPLs and mining claims operating in Kunene Region; movement of vehicles and equipment across fragile terrain. These could result in progressive soil erosion, loss of topsoil, and visible scarring of the landscape over time. This would happen if appropriate measures are not properly and effectively implemented to minimize the impact.	M - 3	M / H - 4	L / M - 4	M / H - 4	M – 44	L / M - 2	L / M - 2	L / M - 4	L / M - 2	L - 16
Poaching (illegal hunting of wildlife):	Kunene Region, among other regions with wildlife, is prone to poaching. As such, this could have been ongoing in the area, and some of which could be linked to people from outside the	M: -3	M: -3	M: -6	M / H: 4	M: -48	L / M: -2	L / M: -2	L / M: -4	L / M: 2	L: -16

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	area or other projects. Therefore, this impact is likely to continue with the introduction of additional people (related to projects) in the area at the advanced stages of exploration (from drilling activities). Regardless, mitigation measures will need to be implemented to mitigate these impacts.										
Impact on road infrastructure	The proposed exploration activities will contribute cumulatively to various existing activities, such as travelling associated with tourism, and existing mineral licenses and other projects in the area. The contribution of the proposed project to this cumulative impact is, however, not considered significant given the short duration and local extent (site-specific) of the intended mineral exploration activities.	M: -3	M: -3	M / L: -4	M / H: 4	M: -40	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12
Water Resources	Although individual exploration activities use minimal water (reconnaissance surveys and RC drilling), cumulative abstraction and possible	M - 3	M - 3	M - 6	M / H - 4	M – 48	L / M: - 2	L / M: -2	L / M: -4	L / M: 2	L: -16

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	contamination from several other EPLs in the area and the Region at large could impact scarce water resources in the Kunene Region. Furthermore, the use of water for dust suppression, drilling, and domestic use during exploration, regional water scarcity. This could result in reduced water availability for communities and ecosystems, and a risk of aquifer contamination. Therefore, the respective impact mitigations recommended in the EMP should be implemented.										
Biodiversity and Habitat	The combined effects of several exploration licenses, roads, and human activities can lead to habitat fragmentation and disturbance to wildlife. The contributing factors would be noise, movement of vehicles, vegetation clearance, and many other EPLs within conservancies. This would result in the displacement of fauna, reduced biodiversity, and long-term ecological imbalance. Therefore, the impact	M - 3	M - 3	M - 6	M / H - 4	M – 48	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	significance can be minimized by implementing the respective impact mitigations recommended in the EMP.										
Archaeological and Cultural Heritage	Although each project may have a limited heritage impact, multiple exploration and development activities within the conservancies may collectively increase the risks of disturbance to undiscovered heritage sites. This would stem from ground disturbance from drilling, trenching, and vehicular access. The results would be the loss or damage of archaeological sites if not timely identified and protected. Similarly, the focus of mitigation measures in the AHIA Report is to recommend the layout of the project to avoid all known significant heritage or cultural sites and burial places, and will thus make a negligible contribution to cumulative impacts. The cumulative impacts are deemed to be of low significance, and after mitigation, and eventually negligible.	M - 3	M / H - 4	L / M - 4	M / H - 4	M – 44	L / M - 2	L / M - 2	L / M - 4	L / M - 2	L - 16

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
Visual and Landscape Impacts	Cumulative visual impacts would be from multiple exploration or mining footprints across the conservancies in the Region. This is caused by clearing areas for drill pads, elongated drilling equipment, temporary camps, trenches, and disturbed sites not yet rehabilitated. This would result in the degradation of scenic value, thus affecting tourism and community aesthetics. Therefore, to reduce the impact significance, the effective implementation of respective impact mitigations recommended in the EMP is crucial.	M - 3	M - 3	M - 6	M / H - 4	M – 48	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12
Socio-Economic and Land Use Conflicts	The combined exploration and other existing activities, such as tourism and farming, may increase pressure on communal lands and natural resources. The contributing issue is the overlapping land use (exploration, conservancies, eco-tourism, and grazing). This would result in community dissatisfaction, potential conflicts, and reduced tourism	M - 3	M - 3	M - 6	M / H - 4	M – 48	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	income. Therefore, to reduce the impact significance, the effective implementation of respective impact mitigations recommended in the EMP is crucial.										
Cumulative Regional Development Pressure	Continuous exploration and potential mining in the region could strain local infrastructure and services (roads, water supply, waste disposal). These are attributed to the increased traffic and resource demand across multiple projects. The main issues will be road deterioration and reduced community access to infrastructure.	M - 3	M - 3	M - 6	M / H - 4	M – 48	L - 1	L / M - 2	L - 2	L / M -2	L - 10

8 CONCLUSIONS

The ESA Study for the proposed exploration activities on EPL-10740 was undertaken per the EMA and its 2012 EIA Regulations. Some key potential positive and negative impacts were identified. The key negative impacts were described, assessed, and appropriate management and mitigation measures were made for implementation by the Proponent, their contractors, and workers.

The public was notified as required by Sections 21 to 24 of the EIA Regulations by placing adverts in two different newspapers, dated 12 & 19 May 2025 (in the *New Era newspaper*) and 14, 15 & 19 May 2025 (in the *Windhoek Observer*). A combined consultation meeting between key stakeholders (some community representatives as well as members from the Marienfluss and Otjitanda Communal Conservancy management) was held on the 21st of June 2025. The consultation period ran from the 12th of May 2025 to the 20th of June 2025.

Impact Assessment: The key negative impacts as well as cumulative impacts were described and assessed. The potential negative impacts indicated a medium rating of significance. To minimize the significance, appropriate management and mitigation measures are made for implementation by the Proponent, their contractors, and workers to avoid and/or minimize their significance on the environmental and social components. The effective implementation of the recommended management and mitigation measures, accompanied by monitoring, will particularly see a reduction in the significance of adverse impacts that cannot be avoided completely (from medium rating to low).

Apart from the necessary Archaeological and Heritage Impact Assessment (AHIA), which is required by the National Heritage Council for evaluation and issuance of the heritage consent for the MEFT, no other or further detailed assessments are required for the EIA Scoping Study. Therefore, the study was deemed sufficient and concluded that no further assessments are required for the ECC application for the prospecting and exploration activities.

Serja Consultants are confident that the potential negative impacts associated with the proposed project activities can be managed and mitigated by the effective implementation of the recommended management and mitigation measures, and with more effort and commitment put into monitoring the implementation of these measures. It is therefore recommended that the proposed prospecting and exploration activities be granted an Environmental Clearance Certificate, and provided that:

- All the management and mitigation measures provided herein are effectively and progressively implemented.
- All required permits, licenses, and approvals for the proposed activities should be obtained as required. These include permits and licenses for land use agreements, service provision

agreements (water provision), and exploring and ensuring compliance with these specific legal requirements.

- The Proponent should hold a feedback (planning) meeting with the project site communities as part of their planning phase so that the communities, their leaders (and other local key stakeholders), and the Proponent can come together to plan for the commencement of activities and agree on conditions of operations. In other words, the Proponent should commit to holding a feedback meeting with the communities once the ECC is granted (and share key conditions of the ECC and plans). This should be done before any exploration commences on the ground.
- Transparency in communication and continued engagement with key stakeholders (communities, traditional authority, and Conservancy managements of Marienfluss and Otjitanda Conservancies) before and during exploration should be maintained throughout the project.
- The Proponent, their project workers or contractors, comply with the legal requirements governing their project and its associated activities, and ensure that project permits and or approvals required to undertake specific site activities are obtained and renewed as stipulated by the issuing authorities.
- Site areas where exploration activities have ceased are rehabilitated, as far as practicable, to their pre-exploration state. This includes the leveling of stockpiled topsoil, backfilling of exploration trenches, and closing/capping of exploration holes.
- Respecting no-go zones and avoiding exploration within buffer zones (no exploration within 1.5km of homesteads, settlements, and community structures) should be effectively implemented.

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

Lastly, since the proposed activity will be in existing communities, building good relationships from the beginning and throughout the process, and heeding the requests for transparency, ongoing dialogue, and respect for community input, will lay a positive groundwork not only for the proposed exploration works, but also for any future developments.

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