SERJAHGE CONSULTANTS
CC/2020/0010007

Environmental Impact Assessment (EIA) Study: Scoping Report

The Proposed Exploration Activities on Exclusive Prospecting License (EPL) No. 8345 near Otjiwarongo in the Otjozondjupa Region - An Application for Environmental Clearance Certificate (ECC): Prospecting and Exploration only

ECC Application No.: **APP-005469**

Document Version: **Final for Submission**

Proponent: **Gecko Gold Mining (Pty) Ltd**

gecko NAMIBIA

P.O. Box 31694 Pioneers Park

Windhoek, Namibia

May 2025

DOCUMENT INFORMATION

Title: Environmental Impact Assessment (EIA) Study Report for the Proposed Exploration Activities on Exclusive Prospecting License (EPL) No. 8345 near Otjiwarongo in the Otjozondjupa Region – An Application for Environmental Clearance Certificate (ECC): Prospecting and Exploration only

Prepared by:

Author:	Fredrika N. Shagama (Environmental Assessment Practitioner & Hydrogeologist)
Qualifications:	PhD. Student: Civil Engineering (Geotechnics & Hydrogeology), VSB - Technical University of Ostrava, Czech Republic Post Graduate Diploma in Environmental Studies, International University of Management (IUM) MSc. Geological Engineering (*cum laude*) with primary focus in Hydrogeology, VSB - Technical University of Ostrava, Czech Republic BSc. Geological Engineering, VSB - Technical University of Ostrava, Czech Republic
Professional Affiliations:	Environmental Assessment Professionals of Namibia (EAPAN) - Practitioner (Membership No. 183); Geoscience Council of Namibia (GSCN) – Geoscientist. Registration No. GSCN/G-057; International Association of Hydrogeologists (IAH) - Full Member, Membership No.139790; Namibian Hydrogeological Association (NHA) – Member
Contact Details:	Email: eias.public@serjaconsultants.com; P. O. Box 27318 Windhoek, Namibia
Signature:	
Date:	30 May 2025
PROPONENT DETAILS	
Proponent:	Gecko Gold Mining (Pty) Ltd P.O. Box 31694 Pioneers Park, Windhoek, Namibia
Name of the Representative & Role:	MORNE DU TOIT DIRECTOR
Contact details:	morne.dutoit@gecko.na
Signature:	
Date:	02 JUNE 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. 8345 near Otjiwarongo in the Otjozondjupa Region, Serja Hydrogeo-Environmental Consultants cc declares that we:

- do not have, to our knowledge, any information or relationship with Gecko Gold Mining (Pty) Ltd (the Proponent), the Ministry of Environment, Forestry and Tourism (MEFT)'s Department of Environmental Affairs and Forestry (DEAF) that may reasonably have the 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 favorable 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.

……

Signature:

Fredrika N. Shagama: Principal Environmental Assessment Practitioner & Hydrogeologist

Date: 30 May 2025

EXECUTIVE SUMMARY

Gecko Gold Mining (Pty) Ltd (hereinafter referred to as *Gecko Gold Mining* or *the Proponent*) has applied to the Ministry of Industries, Mines and Energy (MIME) on 01 September 2020 for the rights to prospect and explore on the Exclusive Prospecting Licence (EPL) No. 8345. The approval of the EPL is, however, subject to an Environmental Clearance Certificate (ECC) as per the status of the EPL application on the Namibia Mines and Energy Cadastre Map Portal https://portals.landfolio.com/namibia/ ''pending ECC''.

Should the EPL be granted by MIME, the Proponent intends to prospect and explore for Base & Rare Metals (e.g., copper, zinc), Industrial Minerals (gypsum, graphite, etc), Precious Metals (Gold), and Semi-Precious Stones (e.g., Amethyst) that are potentially occurring within EPL-8345. It is important to note that the proposed activities will be done at a very small-scale level on targeted sites of the EPL towards exploration (to enable the Proponent to get sufficient and reliable exploration data only) and not mining. Thus, this environmental assessment is for exploration activities only, but not for mining activities.

The 5,094.6427 hectare (Ha)-EPL is located about 10km south of Otjiwarongo Town, covering mainly two commercial farms, i.e., Farm Pinnacles No. 310 and Farm Roland No. 419, and a very small and negligible part of the EPL touching Farm Graslaagte No. 313 in the Otjozondjupa Region.

Proposed Project Activities

Should the ECC and EPL certificate (rights) be issued by MEFT and MIME, respectively, and before mobilizing to the site and undertaking any groundwork for the proposed activities at the site (on the EPL), the Proponent will engage with the individual affected landowners (Pinnacles farms, and Farm Roland) as provided for by Section 52 (1) (a) of the Minerals (Prospecting and Mining) Act No. 33 of 1992. This is aimed at one-on-one Proponent meetings with individual affected farmers/landowners to set up agreements in terms of conditions of land access and use agreements before any work can be carried out on the EPL.

The Proponent intends to adopt a systematic and standard prospecting and exploration approach for mineral commodities using the following groups of techniques:

- Desktop Study (Non-invasive method): Geological mapping (Non-invasive Technique): The exploration program will commence with a review of geological maps and historical drilling and/or exploration data for the area, if any.
- Geophysical surveys (Non-invasive): This will entail data collection of the substrata. Ground geophysical surveys shall be conducted, where necessary, using vehicle-mounted sensors.
- Lithology geochemical surveys (Invasive): Rock and soil sampling from small pits/trenches.
- Detailed Exploration Drilling (Invasive): Should analyses of soil/rock samples by an analytical laboratory be positive, holes are drilled, and drill samples collected for further analysis. No explosives will be used on-site.

Communication with I&APs and Means of Consultation Employed

Communication with I&APs on the proposed project activities was facilitated as follows:

- A Background Information Document (BID) containing brief information about the proposed project was compiled and uploaded onto the 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 on the 07th of March (in both newspapers), the 10th &17th of March 2025 (2nd & 3rd runs in the *Windhoek Observer*), and 01st of April 2025 (for the 2nd advert in the *New Era – due to mishaps from the New Era on the requested and required date of the 12 March 2024 (proof of this is provided)*). The consultation period ran from the 07th of March 2025 to the 04th of April 2025. The comments period was further extended to the 27th of May 2025 to allow for the review of the draft Scoping Report and EMP and submission of further comments.
- EIA posters were pasted at four strategic places in Otjiwarongo before the consultation meeting (on 11 March 2025).
- A consultation meeting was scheduled and held with available stakeholders (I&APs) in Otjiwarongo on the 18th of March 2025. The meeting was attended by 10 people. The consultation meeting minutes were taken, alongside the signed attendance register.

Summary of key issues raised in the consultation meeting

Key aspect/Issue	Summarized description of the key issue/comment
Water availability	There is a water problem in the area owing to low groundwater potential in the EPL area.
Local labourers and poaching (illegal hunting)	Local casual labourers are not allowed on farms (as part of the exploration workforce) as they may be too familiar with the area, and farmers have experienced theft and poaching locally.
Security of the farm during exploration	A suggestion to have a security guard whereby the farmer pays 50% and Gecko Gold Mining pays 50% for the service. The farm gates should be locked at specific times (open at 08:00 and close at 17:00).
Maintaining water quality	Farmers suggest water quality and levels testing before and after exploration work is done.
Non-compliance with the set rules (by farmers) and in the project EMP	Enquiry on the consequences of breaking the farm rules and EMP measures by project workers, e.g., oil spill
Timely planning for farm visits	Farmers requested to be informed of site visits well in advance.
Protection of vegetation species	Some farms have omborombongo (leadwood) and camelthorn that are protected under the Forestry Act. They need to be protected, especially from use as firewood by the project personnel on-site.

Feedback on the Draft Scoping Assessment Report Review

For review and further comments, the draft Scoping Report, Environmental Management Plan (EMP), as well as the associated appendices, were circulated to the registered stakeholders/I&APs from the 14th of May 2025 to the 27th of May 2025. There were no comments received on the circulated documents.

Recommendations and Conclusions

The environmental scoping assessment was carried out for the proposed exploration activities on EPL-8345 near Otjiwarongo. Some key potential positive and negative impacts were identified. The key negative impacts were described and 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 newspapers, namely, the *New Era* and *Windhoek Observer* newspapers on the 07th of March (in both newspapers) & 17th of March 2025 (2nd advert in the *Windhoek Observer*), and 01st of April 2025 (for the 2nd advert in the *New Era*). The consultation period ran from the 07th of March 2025 to the 04th of April 2025. The comments period was further extended to the 27th of May 2025 to allow for the review of the draft Scoping Report and EMP and submission of further comments.

Impact identification: Some key potential positive and negative impacts were identified by the Environmental Consultant and based on issues raised by I&APs during the consultation period. The issues raised by the I&APs were addressed and incorporated into this Report, and mitigation measures have been provided in the Draft EMP (in the form of action measures) for implementation to avoid and/or minimize their significance on the environmental and social components.

Impact Assessment: The key negative 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).

The Scoping assessment study was deemed sufficient and concluded that no further detailed assessments for exploration activities are required for the ECC application to prospect and explore.

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 on the EPL be granted an Environmental Clearance Certificate, provided that:

- All the management and mitigation measures provided herein are effectively and progressively implemented.
- All required permits, licenses, and approvals for the proposed activities should be obtained as required. These include permits and licenses for land use agreements, and service provision agreements (water provision) to explore and ensure compliance with these specific legal requirements.
- Transparency in communication and continued engagement with landowners (for land access before and during exploration), as well as other stakeholders, should be maintained before and throughout the project.
- The Proponent, their project workers, or contractors comply with the legal requirements governing their project and its associated activities and ensure that project permits and or approvals required to undertake specific site activities are obtained and renewed as stipulated by the issuing authorities.
- Respecting no-go zone areas and exploring beyond buffer zones should be effectively implemented.
- 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.
- The EMP implementation onsite should be checked and done by the responsible team member onsite (Environmental Control Officer), and audited by an Independent Environmental Consultant on a bi-annual basis to compile Environmental Monitoring (Audit) Reports. These reports are to be submitted to the Environmental Commissioner at the DEAF. This will be required by the Environmental Commissioner (as part of the ECC conditions).

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

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

Appendix A: Draft Environmental Management Plan (EMP)

Appendix B: Curriculum Vitae (CV) of the responsible Environmental Assessment Practitioner (EAP)

Appendix C: EIA Notification in the newspapers (*New Era* and *Windhoek Observer*)

Appendix D: Original copy of the EIA poster pasted in Otjiwarongo

Appendix E: Minutes from the Consultation Meeting with stakeholders / interested & affected parties (I&APs)

Appendix F: Appendix F1 – Written comments as received from one of the I&APs

Appendix F2 - Issues and Response Trail

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
DEAF	Department of Environmental Affairs and Forestry
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
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

Abbreviation	Meaning
IFC	International Finance Corporation
MAFWLR	Ministry of Agriculture, Fisheries, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
MIME	Ministry of Industries, Mines and Energy
NHC	National Heritage Council (NHC) of Namibia
PPE	Personal Protective Equipment
pXRF	Portable X-ray fluorescence analysis is a non-destructive technique used for in-situ elemental analysis of various materials, including soils, rocks, and archaeological artifacts.
Reg, S	Regulation, Section

GLOSSARY (KEY TERMS)

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

Term	Definition
Exclusive Prospecting Licence	A license that confers exclusive mineral prospecting rights over land of up to 1,000km^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)	Concerning the assessment of a listed activity includes - (a) any person, group of persons, or organization interested in or affected by an activity; and (b) any organ of the 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. In this case, Gecko Gold Mining (Pty) Ltd is the Proponent.
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 the full EIA.

1 INTRODUCTION

1.1 Project Background and Location

Gecko Gold Mining (Pty) Ltd (hereinafter referred to as *Gecko Gold Mining* or *the Proponent*) has applied to the Ministry of Industries, Mines and Energy (MIME) on the 1st of September 2020 for the rights to prospect and explore on the Exclusive Prospecting Licence (EPL) No. 8345. The approval of the EPL is, however, subject to an Environmental Clearance Certificate (ECC) as per the status of the EPL application on the Namibia Mines and Energy Cadastre Map Portal https://portals.landfolio.com/namibia/ ''pending ECC'' - Figure 1-1.

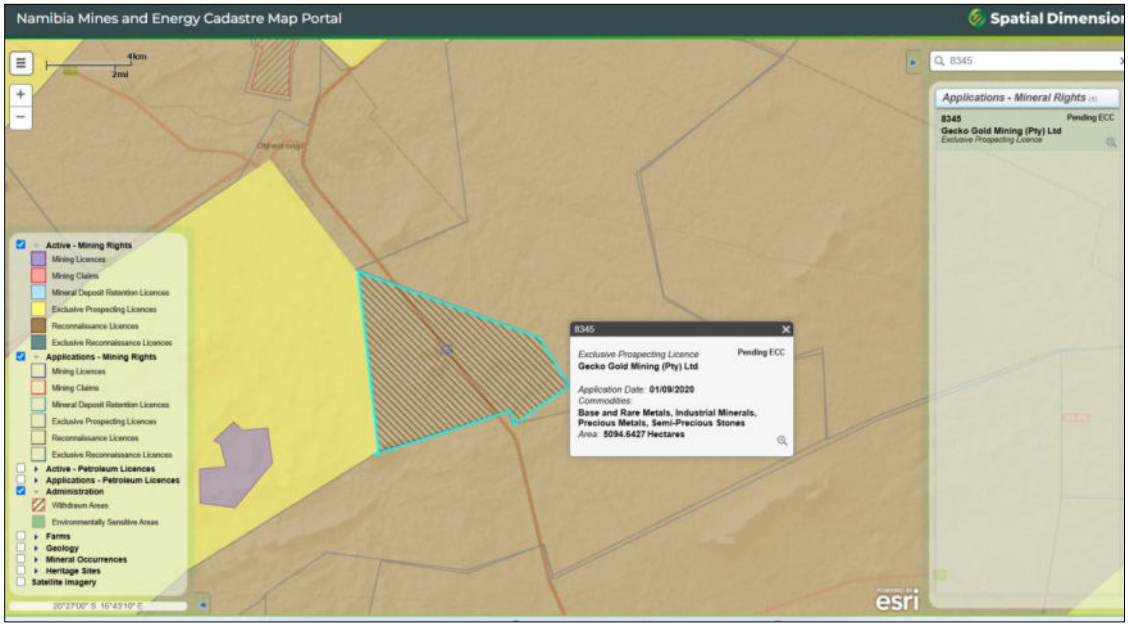

Figure 1-1: The status of EPL-8345 on the Namibia Mines and Energy Cadastre Map Portal (https://portals.landfolio.com/namibia/)

Should the EPL be granted by MIME, the Proponent intends to prospect and explore for Base & Rare Metals (e.g., copper, zinc), Industrial Minerals (gypsum, graphite, etc), Precious Metals (gold), and Semi-Precious Stones (e.g., amethyst) that are potentially occurring within EPL-8345. It is important to note that the proposed activities will be done at a very small-scale level on targeted sites of the EPL towards exploration (to enable the Proponent to get sufficient and reliable exploration data only) and not mining. Thus, this environmental assessment is for exploration activities only, but not for mining activities.

The 5,904.6427 hectare (Ha)-EPL is located about 10km south of Otjiwarongo Town (Figure 1-2), covering mainly two commercial farms, i.e., Farm Pinnacles No. 310 and Farm Roland No. 419, and a very small and negligible part of the EPL touching Farm Graslaagte No. 313 (Figure 1-3) in the Otjozondjupa Region.

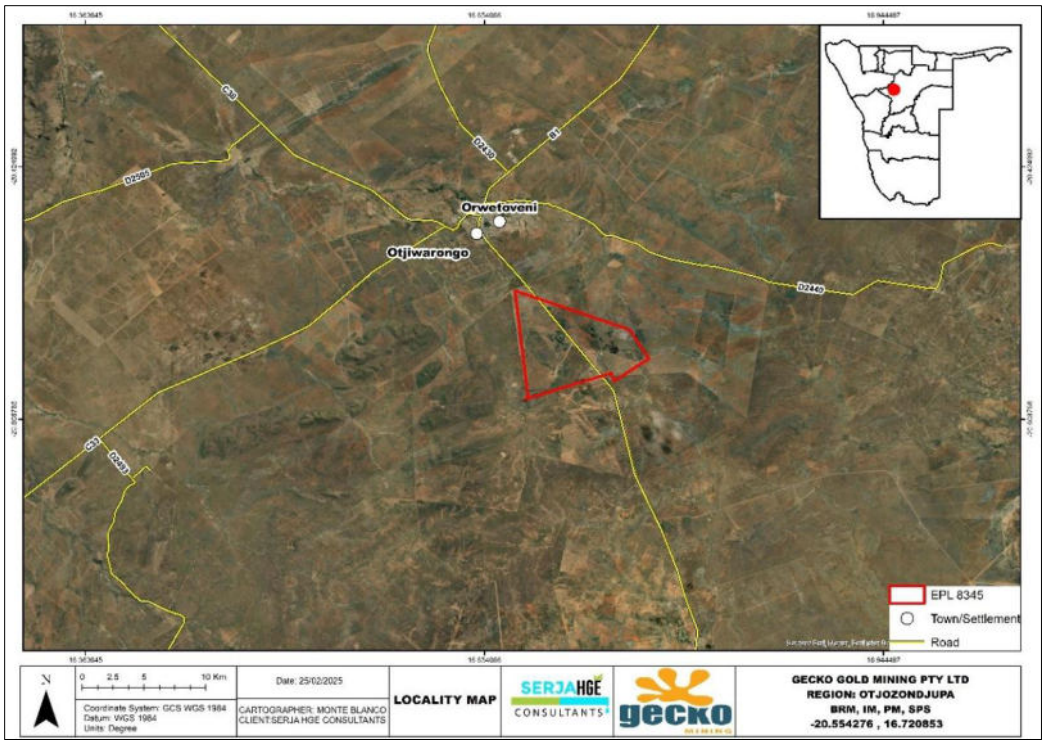

Figure 1-2: Locality Map of EPL-8345 near Otjiwarongo, Otjozondjupa Region

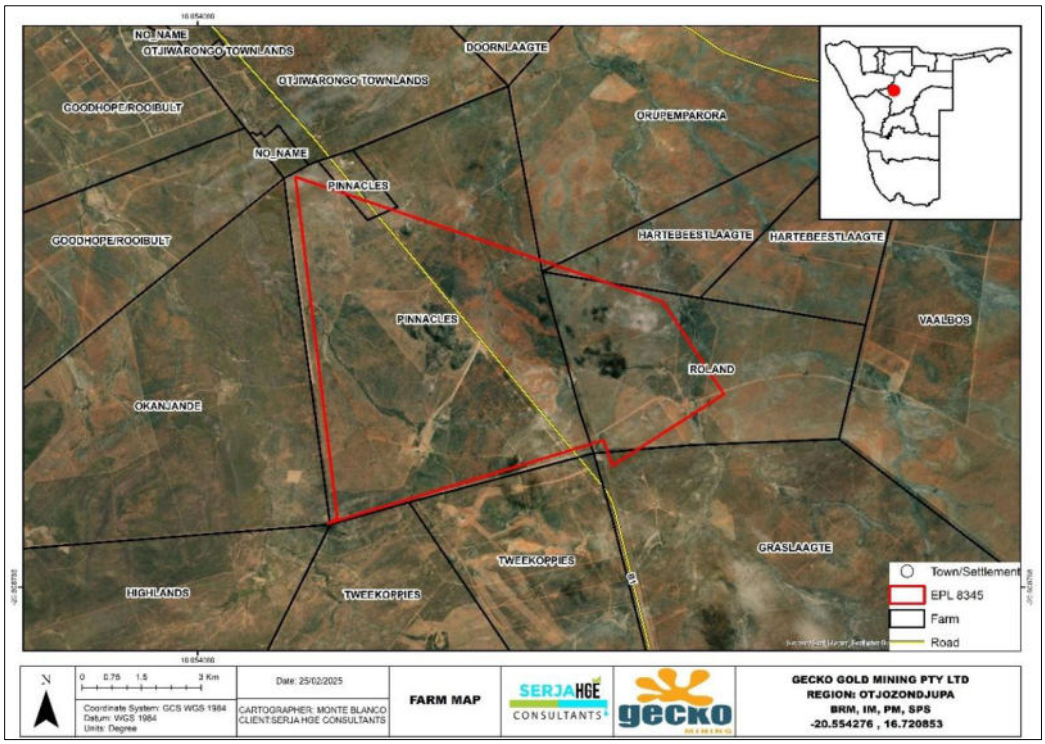

Figure 1-3: Land use (farm) map of EPL-8345

The GPS coordinates of the EPL corners are presented in Table 1-1.

Table 1-1: The GPS coordinates of EPL-8345 corners

EPL Boundary Point	GPS Coordinates
1	-20.593889, 16.750833
2	-20.575000, 16.746389
3	-20.580278, 16.748611
4	-20.565278, 16.768611
5	-20.543611, 16.759722
6	-20.515833, 16.676389
7	-20.593056, 16.697222

1.2 The Need and Desirability of the Proposed Project

Gecko Gold Mining is committed to contributing to the socio-economic development of Namibia through the mining industry. Mining is Namibia's leading economic sector, and roughly accounts for 10% of Namibia's gross domestic product (GDP) every year, which increased to 14.4% in 2023, from 9% in 2021 and 11.9 % in 2022 (Chamber of Mines of Namibia, 2024)[1]. The proposed prospecting and exploration activities on the EPL have great potential to enhance and contribute to the development of other sectors and its activities provide temporary employment opportunities (during exploration and long-term if found to be feasible for mining), mineral rights levies and taxes to the government, as well as procurement opportunities to local small and medium enterprises. 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 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 national prosperity. Thus, a need for continued exploration activities in Namibia.

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

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

[1]Chamber of Mines of Namibia. (2024). Mining Industry Review for 2023: President's Report. Windhoek. Chamber of Mines of Namibia.

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

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

1.4 Appointed Independent Environmental Consultant

To comply with the EMA and its Regulations and ensure environmental management, protection, and sustainability, Gecko Gold Mining 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 Environmental Assessment Report and Management Plan (EMP) – Appendix A.

The EIA process (stakeholder / public consultation and engagement, including consultation meeting facilitation) and environmental mapping were conducted and done 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 and experienced 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 (ECC)

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-05469),
- 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 attached hereto) is submitted to the MEFT. The MEFT's date-stamped copy of the ECC application is uploaded on the ECC Portal as proof of application and payment.
- Conducting the EIA process, which entails a Baseline Assessment of the biophysical and social environments as well as public consultation and engagement. The findings of the ESA process are then incorporated into an EIA Scoping 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 issuing the ECC.

1.6 When will the ECC and EPL Certificate (Rights) be issued before Exploration starts?

After the EIA documents (Scoping Report and EMP as well as associated documents) are submitted to the DEAF for evaluation, it can take between 3 to 6 months or more before the decision on the ECC is made by the Environmental Commissioner.

Added to that, should the ECC be issued to the Proponent, the registered interested & affected parties (I&APs) will be notified. The ECC copy will be submitted to the MIME for consideration of the EPL certificates (mineral exploration rights). Once the EPL certificate is issued to the Proponent, the Proponent will timely arrange one-on-one meetings with individual affected landowners (farmers) to discuss land access agreements and conditions thereto before any equipment or work can be mobilized and done on the EPL, respectively.

1.7 Scope of Work and Report Contents

This EIA 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 consideration of issuing EPL rights.

This Report has been compiled as a required output of an environmental assessment process after the ECC application has been submitted to and registered with the DEAF. The Scoping 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 - 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 and implementation responsibilities are given in the EMP.
- The recommendations and conclusions of the environmental assessment are presented in Chapter 8. The data sources (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.

2.1 Pre-Exploration (Proponent Mandatory) Responsibility

Should the ECC and EPL certificate (rights) be issued by MEFT and MIME, respectively, and before mobilizing to the site and undertaking any groundwork for the proposed activities at the site (on the EPL), the Proponent will engage with individual affected landowners (Pinnacles farms, and Farm Roland) as provided for by Section 52 (1) (a) of the Minerals (Prospecting and Mining) Act No. 33 of 1992 to obtain access to their properties. This is aimed at one-on-one Proponent meetings with individual affected farmers/landowners to set up agreements in terms of conditions of land access and use agreements before any work can be carried out on the EPL.

Exploration activities will not be conducted within a 1.5km radius of farm houses, tourism facilities, and other facilities on farms. A buffer zone of 100m radius from archaeologically sensitive areas/sites on the farms will be established and maintained during exploration. Therefore, no exploration activities will be undertaken within these buffer zones.

2.2 Duration of Mineral Exploration

The exploration programs 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-borne surveys, ground geophysical surveys, and soil sampling programs, for instance, may last from one week to a month at a time over specific areas, until the exploration targets are delineated. Drilling programs may initially range from two weeks to a month at a time, depending on the planned program or based on the results of the program. The Proponent undertakes to work with all relevant stakeholders to keep them informed of exploration progress to facilitate site visits and works. In general terms, the minerals exploration activities can take up to three years and a maximum of seven years, with different projects at various stages of the exploration phase.

The Proponent intends to adopt a systematic and standard prospecting and exploration approach for these commodities: Base & Rare Metals, Industrial Minerals, Precious Metals, and Semi-Precious Stones that are potentially occurring on the EPL.

The exploration methods are presented in the subsections below.

2.3 Exploration Techniques

Initial exploration activities on the licence will comprise of drone survey over the entire EPL to delineate exploration targets. Ground truthing will be confirmed by geological mapping, ground geophysical surveys, and regional soil sampling programs on selected areas in the EPL. Geophysical data will be processed and interpreted by specialists to define drilling targets. All soil samples collected will initially undergo pXRF analysis for multi-elements; thereafter, a selected number of soil samples will be sent to accredited laboratories for analysis. The above activities will then be followed up with exploration drilling (either reverse Circulation (RC) or diamond drilling-core drilling) and possibly trenching in areas to get detailed data or confirmation at depths.

2.3.1 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) will be conducted to verify desktop work. These works do not require physical disturbance.

Upon issuance of the ECC, prospecting during the advanced exploration phase will require the Proponent to assess the EPL area through detailed geological mapping and geophysical surveys.

2.3.1.1 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 will be conducted to ascertain the mineralization.

Ground geophysical surveys shall be conducted, where necessary, using vehicle-mounted sensors or handheld by staff members, while in the case of air surveys, the sensors will be mounted to an aircraft, which then flies over the target area. These surveys (mapping and as supported by geophysics) are crucial in defining targets for test pitting, trenching, and drilling. The exploration program will then commence with ground geophysical surveys.

2.3.2 Planned Exploration Methods (Invasive Techniques)

This stage (detailed field evaluation), following the Non-Invasive techniques, will be carried out by simply collecting soil and rock samples from the target EPL areas to verify desktop/non-invasive information. These detailed techniques will include activities as described in the next subsections, and details are presented in Exploration Resources, Services, Infrastructure, and Associated Parameters

The summary of services, infrastructure, and parameters for the project activities (anticipated per exploration stage) is provided in **Error! Not a valid bookmark self-reference.**.

Table 2-1:

- Drone-borne/heli-borne and ground geophysical surveys – to delineate exploration targets and define drilling targets,
- Soil and rock sampling – samples collected and taken for trace element analysis to be conducted by analytical chemistry laboratories to determine if enough minerals of interest are present,
- Trenching – trenches are dug until bedrock, to further investigate the mineral potential, and
- Exploration drilling (Reverse Circulation (RC) and diamond drilling) - This is done following the positive analyses by the laboratory, which led to the holes drilled and the drill samples collected for further analysis. This aids in determining the depth of the potential mineralization.

  A typical drilling site consists of a drill rig, drill core, geological samples store, and a drill equipment parking and maintenance yard (including a fuel and lubricants storage facility).

2.3.2.1 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 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 labeling activity sites), adopting a manual or excavator to further investigate the mineral potential.

Soil sampling consists of small pits (±20cm wide X 30cm deep) being dug where 1kg samples can be extracted and sieved to collect a minimum of 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 and other relevant stakeholders will be engaged to obtain authorization where necessary. A typical example of soil sampling in the field for exploration is shown in Figure 2-1.

Figure 2-1: Typical soil sample collection and equipment (Resilient Environmental Solutions, 2019)

2.3.2.2 Detailed Exploration Drilling

Should analyses by an analytical laboratory be positive, holes are drilled, and drill samples 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; these are either Reverse Circulation (RC) drilling/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 program, 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). Some drilling activities on active EPLs in the Omaheke Region and Erongo Region are shown in the photos in Figure 2-2 and Figure 2-3, respectively.

Figure 2-2: A-typical drill rig on an EPL, and B-drill rig on an active EPL precious metals exploration site 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])

[2]Resilient Environmental Solutions. (2022). Environmental Monitoring Report for EPL-7415 in the Omaheke Region: Bi-Annual Monitoring of March 2022-Novemeber 2022. Windhoek. Unpublished.

2.4 Exploration Resources, Services, Infrastructure, and Associated Parameters

The summary of services, infrastructure, and parameters for the project activities (anticipated per exploration stage) is provided in **Error! Not a valid bookmark self-reference.**.

Table 2-1: The project resources (human), services, infrastructures, and associated parameters required per project stage of activities on the EPL

	Mapping (Desktop)	Soil and Rock Sampling	Trenching	Exploration Drilling
Invasive / Intrusive (Yes/No)	No	Yes, but shallow (20-30cm)	Yes. Excavated to the refusal depth of the excavator and depending on the ground conditions/geology or depth to the bedrock, usually ranging from 1 to 2m, and the length varies between 70 and 170m.	Yes. Usually until 200m deep, but this will depend on the area.
Duration (months)	0.5 to 0.70 (2-3 weeks)	1 to 2 weeks (0.23- 0.5 months)	0.5-0.70 months (2-3 weeks)	More than 1 month, depending on the speed of the drill rig and ground conditions/geology
Sample weight (in kilograms (kg))	None	0.2-0.5kg (from small pits). Sample collection depends on the commodity being explored, as this helps in determining how the mineral would be mined (when and if it happens).	1 to 2kg per distinct layer observed in the trenches.	1 to 2kg, which would be stored in 50kg bags, because the geologist would need to sample each meter of drilling for maybe 200m of each exploration hole
***Estimated number of workers on site**	2 – 3 people	2 – 4 people	4 – 8 people	8 – 15 people**

	Mapping (Desktop)	Soil and Rock Sampling	Trenching	Exploration Drilling
Accommodation required on-site? (Yes/No). If yes, where?	No	No, the sampling team (mainly geologists and assistants) will be accommodated at established accommodation facilities in Otjiwarongo (rental or guesthouses)	No, onsite accommodation required. The workforce will be accommodated at established accommodation facilities in Otjiwarongo (rental or guesthouses)	No, onsite accommodation required. The workforce will be accommodated at established accommodation facilities in Otjiwarongo (rental or guesthouses)
Number of vehicles (4x4 bakkies)	1x 4x4 bakkie, rarely 2	One - two 4x4 bakkies	Two 4x4 bakkies	Two to four 4x4 bakkies
Number of Heavy Trucks and/or Excavators	None	None	1 Excavator	1 Heavy truck (for the drill rig and associated equipment such as air compressors, biodegradable drilling mud, etc.)
Number of Fuel Tanks for generators and machinery	None	None	One (5,000-10,000 liters) on a trailer mounted and bunded with a bowser	One (5,000-10,000 liters) on a trailer mounted and bunded with a bowser
Other types of supporting equipment	GPS, mapping equipment/accessories	GPS, PPE, sampling bags, probes or augers, measuring tapes, etc.	GPS, appropriate PPE, sampling bags, bowsers, probes or augers, measuring tapes, etc.	GPS, appropriate PPE, sampling bags, drill core logging equipment, bowsers, etc.
Is field water required? (Yes/No). If yes, what will it be used for?	Yes, for drinking, the Proponent will bring in their water.	Yes, for drinking, the Proponent will bring in their water.	Yes. Drinking, washing, and toilets. The Proponent will bring in their water.	Yes. Drinking, washing, toilets, and actual drilling. The Proponent will bring in their water.

	Mapping (Desktop)	Soil and Rock Sampling	Trenching	Exploration Drilling
Water volume per day and source of supply	In the field, about 50 liters in containers (for drinking only) Gecko Gold Mining (the Proponent) will provide drinking water for its personnel from outside the farms.	In the field, about 100 liters in containers (for drinking only) Gecko Gold Mining will provide drinking water for its personnel from outside the farms.	About 1,500 liters of water will be stored in standard storage tanks. The water will be supplied by the Otjiwarongo Municipality upon reaching a supply agreement to supply the water required or part of it. In the case that the Municipality cannot supply the total volume of water required for exploration activities, the Proponent will explore the nearest reliable water supplier and reach an agreement to cart water to the site. Therefore, no abstraction of water for the project from the site or farms.	About 2,500 liters and 10,000-25,000 liters of water are to be stored in standard storage tanks. The water will be supplied by the Otjiwarongo Municipality upon reaching a supply agreement to supply the water required or part of it. In the case that the Municipality cannot supply the total volume of water required for exploration activities, the Proponent will explore the nearest reliable water supplier and reach an agreement to cart water to the site. No abstraction of water for the project from the site or farms.
Field power supply (equipment/machinery)	None	None	1 generator	2 generators
Field power supply (cooking)	None	None	10kg liquid gas cylinder cooker or as per the mode of cooking at an already established hired accommodation facility (if self-catering) in Otjiwarongo, or arrangements made with the accommodation facility to prepare meals for the exploration team.	A 10kg liquid gas cylinder cooker, or, according to the cooking method, at an already established hired accommodation facility (if self-catering) in Otjiwarongo, or arrangements made with the accommodation facility to prepare meals for the exploration team.

**Note: The anticipated people will not be onsite at the same time as their presence will entirely depend on the stage of exploration, i.e., soil and rock sampling may only need two or three people, trenching five to six and then during drilling, the number may increase to fifteen (15) or slightly more people; ***The number is bound to increase during this stage because there will be a need for drill rig/machine operator, supervisor, 1 or 2 logging geologists, geophysicist, exploration manager, exploration equipment operator, geotechnician, sampling assistants, drill rig truck driver, etc.* Equipment and vehicles will be stored at a designated storage site established within the EPL.

2.4.1 Accessibility (Roads)

The B1 road runs across the EPL from the south to the north, thus, the general EPL can be accessed from the B1 via farm access roads. If needed, further tracks that may be required to access certain areas on the EPL for exploration will be created, upon approval and in consultation with the landowner for consent, before the creation of new tracks.

2.4.2 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 during drilling or trenching activities.
- General and domestic waste: Solid waste containers will be made available at both exploration sites and the accommodation facility for waste storage, sorting, and later disposal at the Otjiwarongo dumpsite (upon reaching an agreement with the Municipality to dispose of this waste).
- 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 (at the Kupferberg Landfill).

2.4.3 Health and Safety

The following measures will be implemented on-site 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 campsites to attend to potential minor injuries, while major injuries will need to be attended to further by transporting the injured to the Otjiwarongo Health Centres for further and comprehensive treatment. At least two to three personnel will be trained in administering first aid.
- Potential Accidental Fire Outbreaks: As a control measure for accidental fire outbreaks, basic firefighting equipment, i.e., a fire extinguisher, will be readily available in vehicles and at the working sites. The site personnel will be trained on and provided with firefighting skills.
- For safety reasons, the exploration sites will be equipped with two-way radios and satellite phones for communication.

- Open exploration trenches and holes: The trenches dug for sampling will be temporarily fenced off to prevent potential injuries to mainly wildlife in the area. Once sampling is completed, the trenches will be progressively backfilled and leveled, and the fencing removed for storage or donation to the local community, where possible. Similarly, exploration holes that are no longer required after rock samples will be backfilled and closed off. Warning signage at hazardous site areas, such as incomplete or active open trenches/holes, will be erected and rehabilitation done (Figure 2-4).

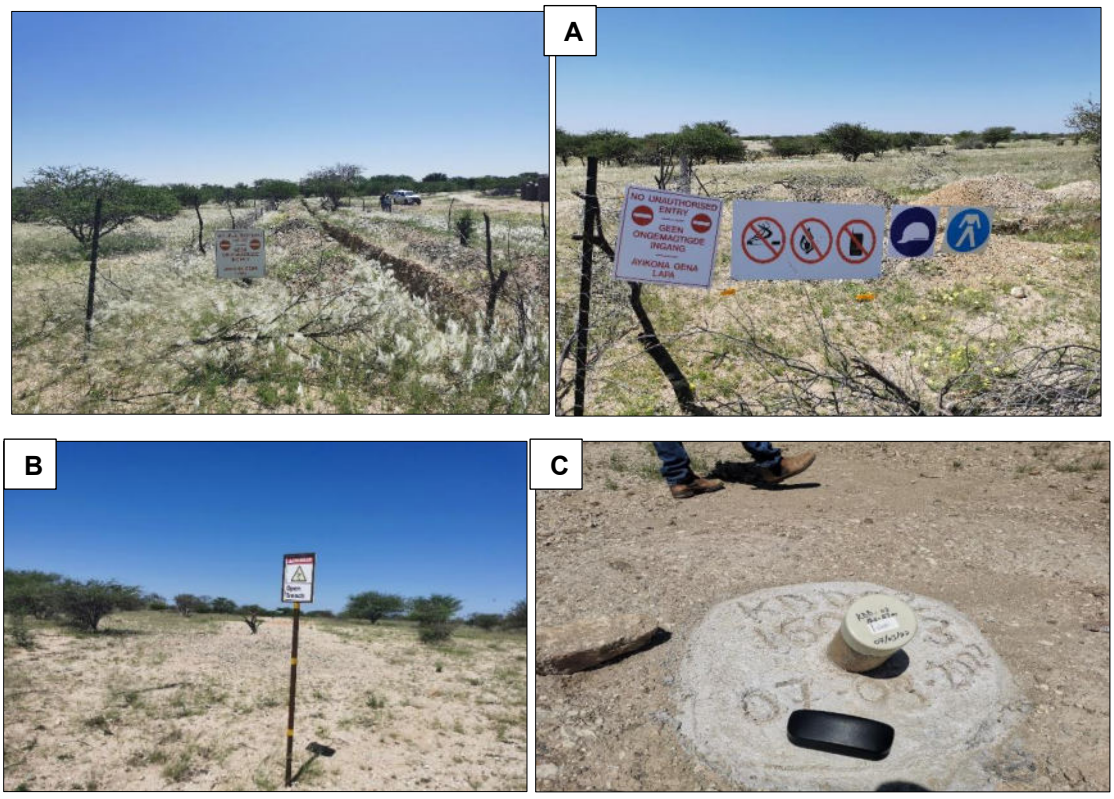

Figure 2-4: A- An example of fenced-off exploration trenches awaiting backfilling upon completion of sampling, B–backfilled trench, and C-capped exploration hole at an active exploration site visited by the Author in 2022

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 end of the exploration timeline.

As part of site rehabilitation, ensure the project activities are ceased in an environmentally friendly manner and the site is rehabilitated through carrying out the following:

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

Further decommissioning and rehabilitation practices on site will include:

- Backfilling of pits and trenches used for sampling,
- Closing and capping of exploration holes 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

If the exploration turns out to be a success, the EPL would be converted into a Mining License by submitting exploration results and an application to the MIME to convert the EPL (if found economically feasible) into a Mining License. The stakeholders will be notified of the findings and the planned way forward. Upon pre-approval of the application by MIME, a feasibility study and a full EIA Study would be done to apply for an ECC for mining activities.

The approved ECC for mining will then be used by the MIME to decide on issuing a Mining License (mining rights) to the proponent. The approved mining area would be prepared for mine development, actual mining, and subsequent mine closure.

In the case that there are no economically feasible commodities after exploration, the area will be rehabilitated and abandoned. A notification will be given to the MIME, MEFT, landowners, as well as other stakeholders that exploration did not yield good results to substantiate further actions on the EPL (application of a Mining License), thus, there will be no further works on the EPL (area).

The next chapter is the presentation of 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 this planned exploration activity 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 different applicants and Proponents applied for and are interested in (specific minerals) on EPL-8345.

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-8345 and other licenses is available on the Namibian Mines and Energy 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, it 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 alternatives considered in this regard are presented in Table 3-1.

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	-To minimize rehabilitation costs, portable facilities were selected as the best option.
Water supply	-Bring water from elsewhere -Abstract from local existing or new boreholes	-The project water will be sourced from the Municipality and other nearby reliable water suppliers (s) (for drilling and dust suppression). Drinking water will be supplied from shops in Otjiwarongo or purchased from the farms.
Fuel storage	-Trailer-mounted diesel tank -Fixed bunded fuel tank	-During exploration use a trailer-mounted diesel tank for fuel storage due to great mobility requirements during exploration.
Power supply	-Diesel generator set, and if considered, solar power. -Powerline (grid) supply	-Diesel and or solar power are the most practical & economically viable options for exploration (in case of unfavorable results of exploration).
Site administration office	-Erect dismountable 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, tented campsites within the EPL -Commuting from Otjiwarongo, which is about 10km from the EPL boundaries.	-Commute from Otjiwarongo by renting an already established accommodation facility for out-of-area workers (specialized workers). Otjiwarongo workers will commute from their homes. Therefore, no arranged accommodation for them.

Chapter 4 presents the project's applicable and relevant national and international legal requirements.

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 these legislations and legal requirements. These legal requirements are either 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; and 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 to promote 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'' – Listed activity 3.*

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

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-utilization of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia…"	By implementing the environmental management plan, the establishment will be compliant with the constitution in terms of environmental management and sustainability. Ecological sustainability will be the main priority for the proposed development.

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
	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."	
Minerals (Prospecting and Mining) Act (No. 33 of 1992)	Section 52(1) (a) requires mineral license holders to enter into a written agreement with affected landowners before exercising rights conferred upon the license holder. 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 an EPL shall contain the particulars of the condition of, and any existing damage to, the environment in the area to which the application relates and an estimate of the effect that the proposed 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.	The Proponent should enter into a written agreement with landowners before exploring their land. 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 mineral exploration activities. The Proponent may not carry out exploration activities within the areas limited by Section 52 (1) of this Act.
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 concerning the permission to enter a state-protected area, as well as requirements for individuals damaging objects (geological, ethnological, archaeological, and historical) within a protected area. Although the Ordinance does not specifically refer to mining as an activity within a protected area (PA) or recreational area (RA), it does restrict access to PAs and prohibit certain acts therein, as well as the purposes for which permission to enter game parks and nature reserves may be granted.	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.

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
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 contribute to national development.	
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 concerning 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 the authority of a license or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 liters or less in any container kept at a place outside a local authority area"	The Proponent should obtain the necessary authorization from the Petroleum Affairs Directorate at the MIME for the storage of fuel on-site in volumes of 600 liters or more.
The Regional Councils Act (No. 22 of 1992)	This Act sets out the conditions under which Regional Councils must be elected and administer each delineated region. From a land use and project planning point of view, their duties include, as described in section 28 "to undertake the planning of the development of the region for which it has been established with a view to physical, social and economic characteristics, urbanization patterns, natural resources, economic development potential, infrastructure, land utilization pattern and sensitivity of the natural environment.	The relevant Regional Councils are I&APs and must be consulted during the Environmental Assessment (EA) process. The project site falls under the Otjozondjupa Regional Council; therefore, they should be consulted.

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
Water Resources Management Act (No 11 of 2013) and 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 fundamental principles set out in Part 6: Section 59: Protection of aquifers states that the operator of an artificial recharge scheme must ensure that at all times the aquifer is protected against any form of pollution, including pollution caused due to operational activities during aquifer recharge. -Part 8: water pollution control, specifically Section 66: Application for license to discharge effluent or construct or operate wastewater treatment facility or waste disposal site.	The protection (both quality and quantity/abstraction) of water resources should be a priority. Relevant permits to discharge effluent should be applied for and obtained from the Water Affairs Department at the Ministry of Agriculture, Fisheries, Water & Land Reform (MAFWLR)
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 Act's 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.	The proponent will apply for the relevant permit under this Act if it becomes necessary from the **MEFT's Directorate of Forestry in Otjiwarongo at 21 Germania Street**.

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
	Section 22. (1) provides: "Unless otherwise authorized by this Act, or by a license issued under subsection (3), no person shall on any land which is not part of a surveyed erven of a local authority area as defined in section 1 of the Local Authorities Act, 1992 (Act No. 23 of 1992) cut, destroy or remove - (a) vegetation which is on a dune or drifting sand or a gully unless the cutting, destruction or removal is done to stabilize the sand or gully; or (b) any living tree, bush or shrub growing within 100 m of a river, stream or watercourse."	
Public Health Act (No. 36 of 1919)	Section 119 states that "no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health."	The Proponent and all its employees should ensure compliance with the provisions of these legal instruments.
Public and Environmental Health Act No. 1 of 2015	The Act serves to protect the public from nuisance and states that no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.	
Health and Safety Regulations GN 156/1997 (GG 1617)	Details various requirements regarding the health and safety of laborers.	
Atmospheric Pollution Prevention Ordinance (1976)	This ordinance provides for the prevention of air pollution and is affected by the Health Act 21 of 1988. Under this ordinance, the entire area of Namibia, apart from East Caprivi, is proclaimed as a controlled area for section 4(1) (a) of the ordinance.	The proposed project and related activities should be undertaken in such a way that they do not pollute or compromise the surrounding air quality. Mitigation measures should be put in place and implemented.
Hazardous Substance Ordinance, No. 14 of 1974	The ordinance provides for the control of toxic substances. It covers manufacture, sale, use, disposal, and dumping as well as import and export. Although the environmental aspects are not explicitly stated, the ordinance provides for the importing, storage, and handling.	The Proponent should handle and manage the storage and use of hazardous substances on site so that they do not harm or compromise the site environment.

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
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 Labour, Industrial Relations and Employment Creation is aimed at ensuring harmonious labor relations through promoting social justice, occupational health and safety, and enhanced labor market services for the benefit of all Namibians. This ministry ensures the effective implementation of the Labour Act No. 6 of 1992.	The Proponent should ensure that the prospecting and exploration activities do not compromise the safety and welfare of workers.

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

4.2.1 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.

Given the fact that the proposed project is likely to be funded by international investors, 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 Draft EMP for the project.

IFC PS	Relevant Provisions of the IFC PS	Implications for the Project / Actions Taken
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 labor working conditions, including compensation, i.e., no compromising of the labor 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.
PS5	Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement	The proposed EPL area is on private 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 thereto in the EMP.
PS7	Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	There is no confirmed presence of indigenous people (Himba and San communities) within the EPL boundaries during the EIA, during the consultation process. Therefore, the PS is not 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 will be 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.

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

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

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 convention's objective is to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in affected areas to support poverty reduction and environmental sustainability, United Nations Convention.	The project activities should not be undertaken in such that contributes to desertification.
Convention on Biological Diversity 1992	Regulate or manage biological resources important for the conservation of biological diversity, whether within or outside protected areas, to ensure their conservation and sustainable use. Promote the protection of ecosystems, natural habitats, and the maintenance of viable populations of species in 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:

- Convention on International Trade and Endangered Species of Wild Fauna and Flora (CITES), 1973.
- Convention on Biological Diversity, 1992, and 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 ENVIRONMENTAL 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 a site visit done on the 16th of April 2025 and on the 07th of May 2025, online sources ranging from old reports, books, publications, as well as other relevant research information in the broader area. The project baseline that is deemed necessary for the project activities is as follows.

5.1 Biological Environment

The description of the biological (faunal and floral) environment of the area is presented below.

5.1.1 Fauna and Flora

The area covered by the EPL is commercial land where livestock farming is practised alongside wildlife for eco-tourism. According to local information, some of the known wildlife in the area are ostriches, impalas, giraffes, nyala, oryx, kudus, and rhinos on some farms, etc. A giraffe seen onsite during farm visits is shown in Figure 5-1.

Figure 5-1: A giraffe encountered a nearby water-holding earth dam and ephemeral pond within the EPL

In terms of flora, the vegetation structure of the EPL area is mainly characterized by dense shrubland, as shown on the vegetation map in Figure 5-2. The dominant vegetation in the EPL area is the Thornbush Shrubland Biome of Mendelsohn et al (2002), who describe the vegetation type as Acacia-Tree-shrub Savanna.

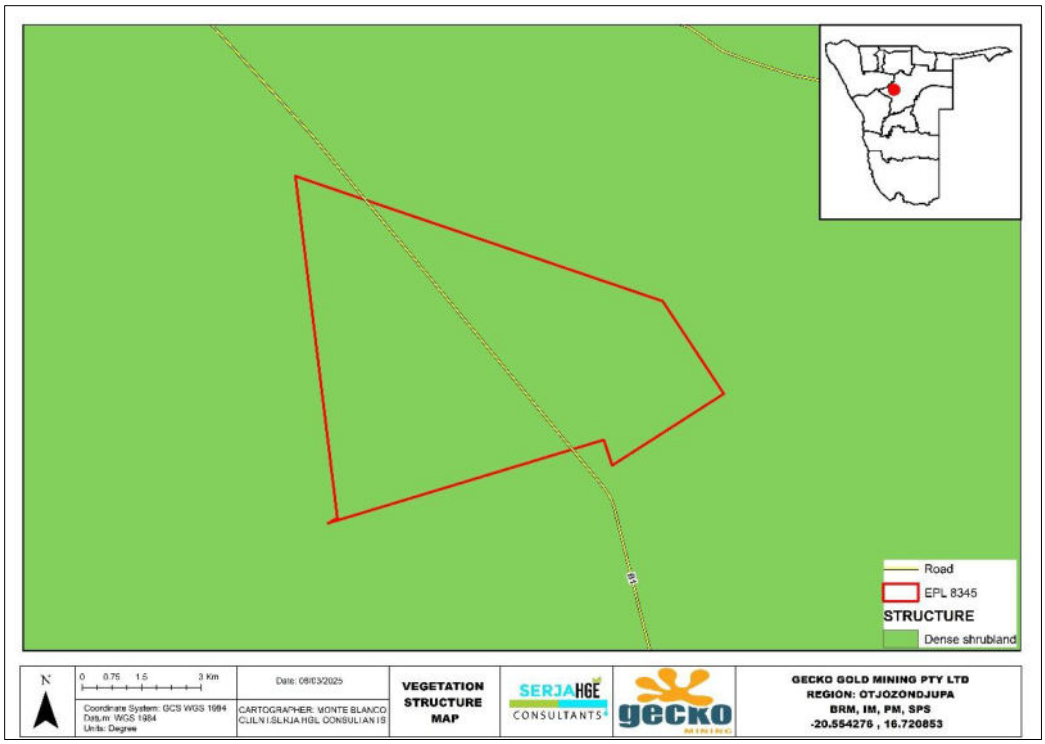

Figure 5-2: The vegetation structure map within and around the EPL

The project site area is heavily encroached mainly by thorn trees, bushes, and a lot of tall grass cover. The *Senegalia mellifera* and *Vachellia reficiens* are the dominant species, followed by *Vachellia erioloba,* which appears to be common. Other observed species are *Senegalia flekii*, *Dychrostachys cinerea,* and *Boscia albintrunca,* which also appear common to rare. Most trees in this area grow up to 3 to 4m high. There are other trees which are occurring but very rare/ less frequently, such as *Ziziphus mucronata* and Vachellia *tortilis,* while dominated by grass and predominantly bushy growth of *Grewia flavescens.* Another very rare species is the nelsii *Philenoptera nelsii and Abizia anthelmintica.* Some of the affected farms have protected species such as camelthorns (*Vachellia*), Leadwood (*Combretum imberbe* or known in Otjiherero as *omborombongo*), and others; therefore, a permit to remove the vegetation (only if necessary) will be applied for and obtained from the Otjiwarongo Forestry Office. Some observed vegetation onsite is shown in Figure 5-3.

Figure 5-3: Some of the vegetation observed within and around the EPL (on Farm Pinnacles), including the Leadwood, some shrubs of *Vachellia reficiens* (red thorn) and others

5.2 Physical Environment

5.2.1 Climate

According to World Weather Online (2025), the 14-year period of Otjiwarongo area weather indicates that the area experiences good rainfall of about 300mm per year between January and March, with an average of 130mm per year, as shown in Figure 5-4A. The area experiences maximum and minimum temperatures of 34°C around October and 8°C around June, respectively. The average low and high temperatures are shown in Figure 5-4B (10°C and 32°C, respectively).

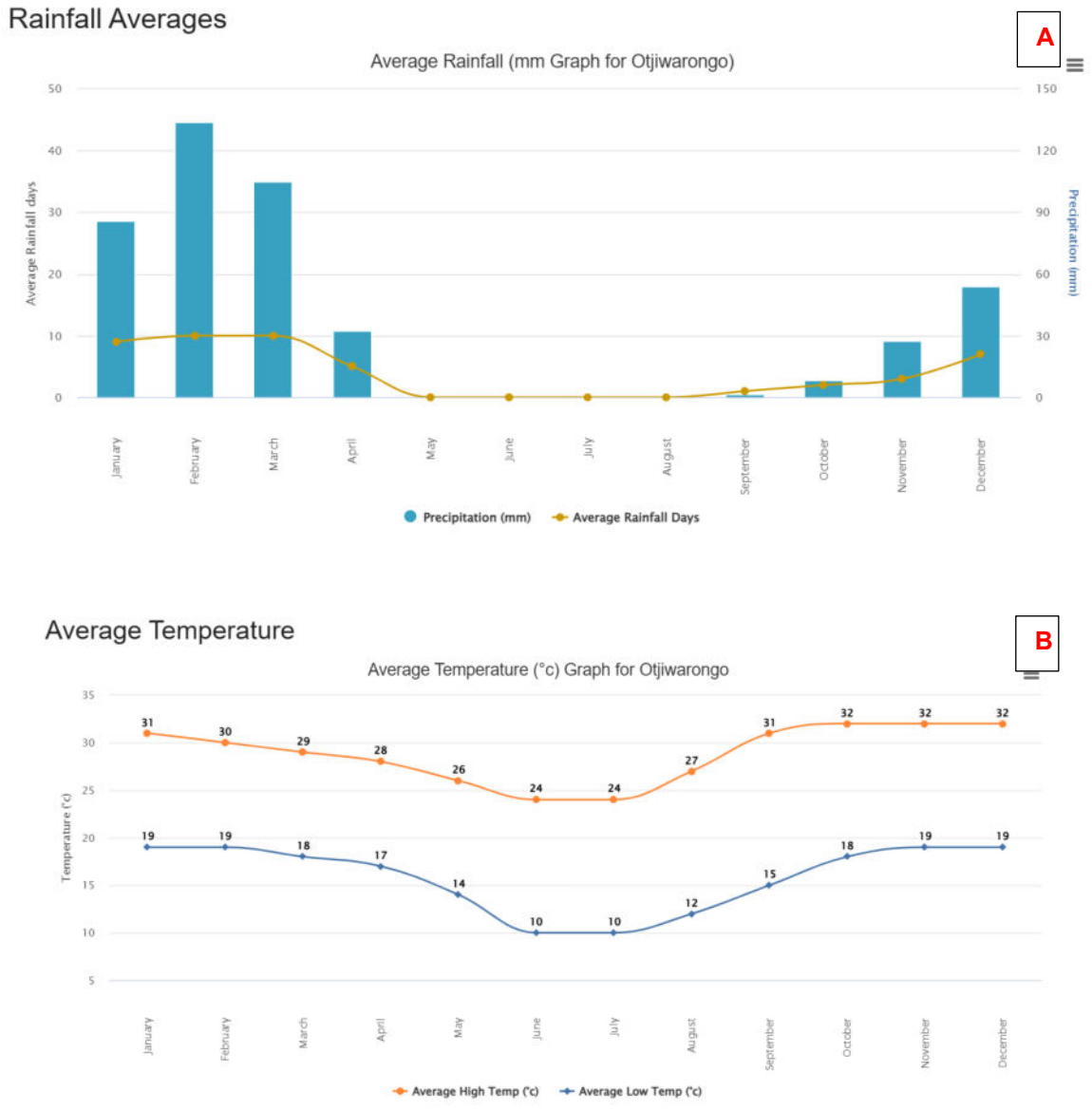

Figure 5-4: The annual average rainfall and temperature charts for the Otjiwarongo area (World Weather Online, 2025)

5.2.2 Air and Wind

In terms of wind, the wind rose for the Otjiwarongo area from the Meteoblue modelled climate, as shown in Figure 5-5 shows that the wind is dominantly blowing from southwest (SW) to northeast (NE). The wind speed chart shows that the wind blows all year round with a speed ranging between 10 and 30km/hour for 50 to 20 days, as shown on the wind chart below (Meteoblue, 2025).

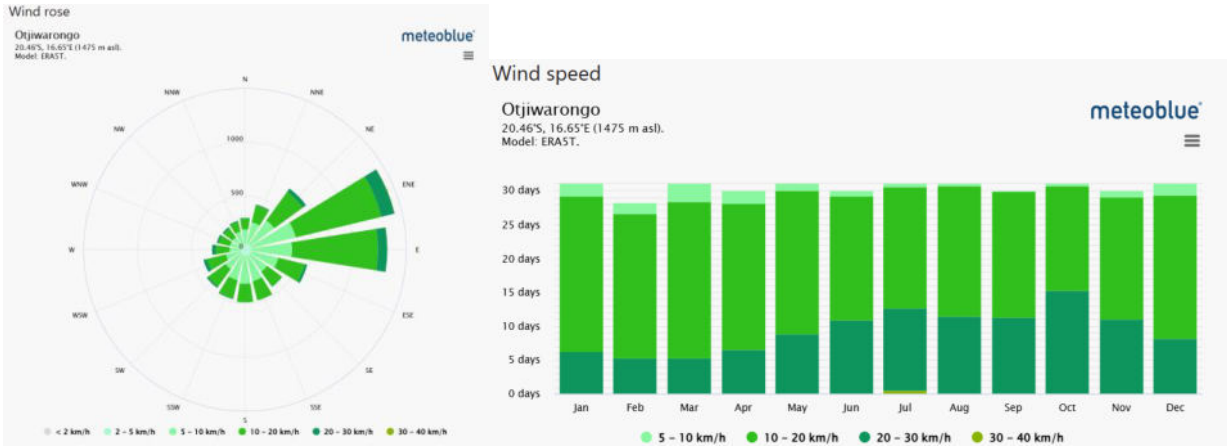

Figure 5-5: The wind rose, and the chart speed for the Otjiwarongo area (Meteoblue, 2025)

5.2.3 Landscape and Topography

The project site is within the Central Western Plain Landscape - Figure 5-7. This landscape consists of areas of dissection and erosional cutbacks. According to Mendelsohn et al (2002), this landscape stretches from the coast, and this broad area of plains extends inland for about 450km in places. The plains were largely formed by erosion cutting back into higher ground and carving out the catchment areas of several major rivers such as the Khan, Omaruru, Swakop, and Ugab Rivers. The project area is flat in some areas, but mainly mountainous (Figure 5-6) with elevations in the range of 1,453 and 2,559 meters above sea level (MASL) as shown on the landscape map in Figure 5-7.

Figure 5-6: The topography of some parts of the EPL (Farm Pinnacles)

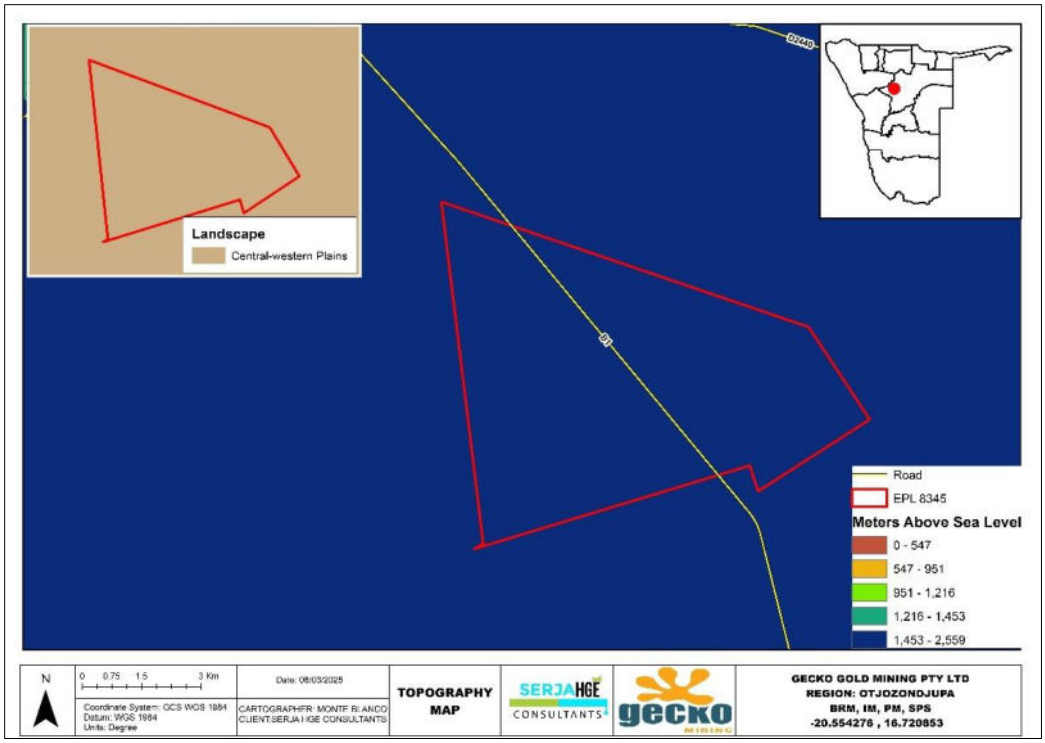

Figure 5-7: The topography and landscape of the area

5.2.4 Geology

The geology of the area is characterized by the Damara Supergroup and the Gariep Complex, comprising rock units such as granites, marbles, schists, and quartzites. The characteristic feature of the zone is the basement zone structures, which elongate in a north-eastern direction and possess numerous post-tectonic granite plutons. A series of regional-scale antiforms and synforms that trend in a northeast direction dominate the project area. The Damara Sequence is dominated by the Swakop and Nossib groups, with the Swakop group being the dominant type within the area of the project. The Chuos and Karibib formations of the Swakop group, creating a composition of mixture and pebbly quartzite as well as marble and quartz-biotite schist (Speiser, 2012).

The project site geology is shown in Figure 5-8 indicates that the larger area of the EPL is underlain by granite, followed by the rock units of marble, schist, quartzite, and calc-silicate. There are small patches of rock units comprising post-tectonic granite, alaskite, pegmatite, and minor quartz diorite.

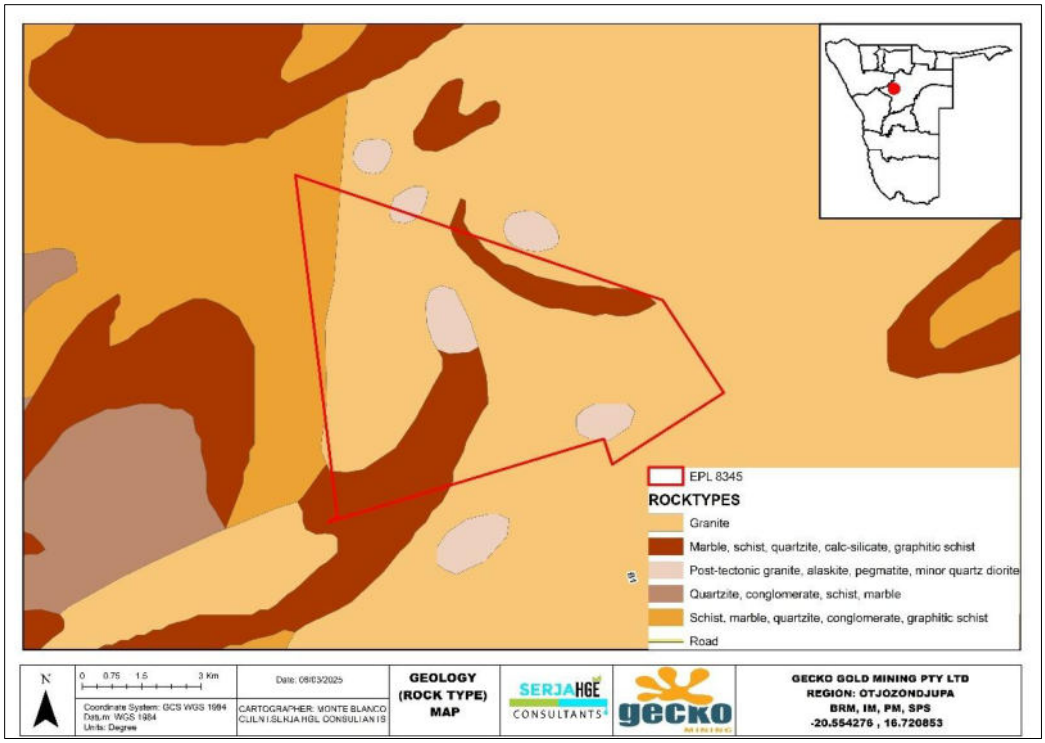

Figure 5-8: The geology of the EPL and the surrounding project area

Some of the rock units (granite) observed on the visited parts of the EPL are shown in Figure 5-9.

Figure 5-9: Seemingly weathered granite rock units mainly covering the EPL

5.2.5 Site Soils

The dominant soils overlying the project site are regosols - Figure 5-10. These soils are medium or fine-textured soils of actively eroding landscapes, the thin layers lying directly above the rock surfaces from which they were formed. These soils never reach a depth of more than 50cm (Mendelsohn et al., 2002). In terms of local soils, the site is overlain by a thin layer of sediments (sand and gravel) and rock outcrops.

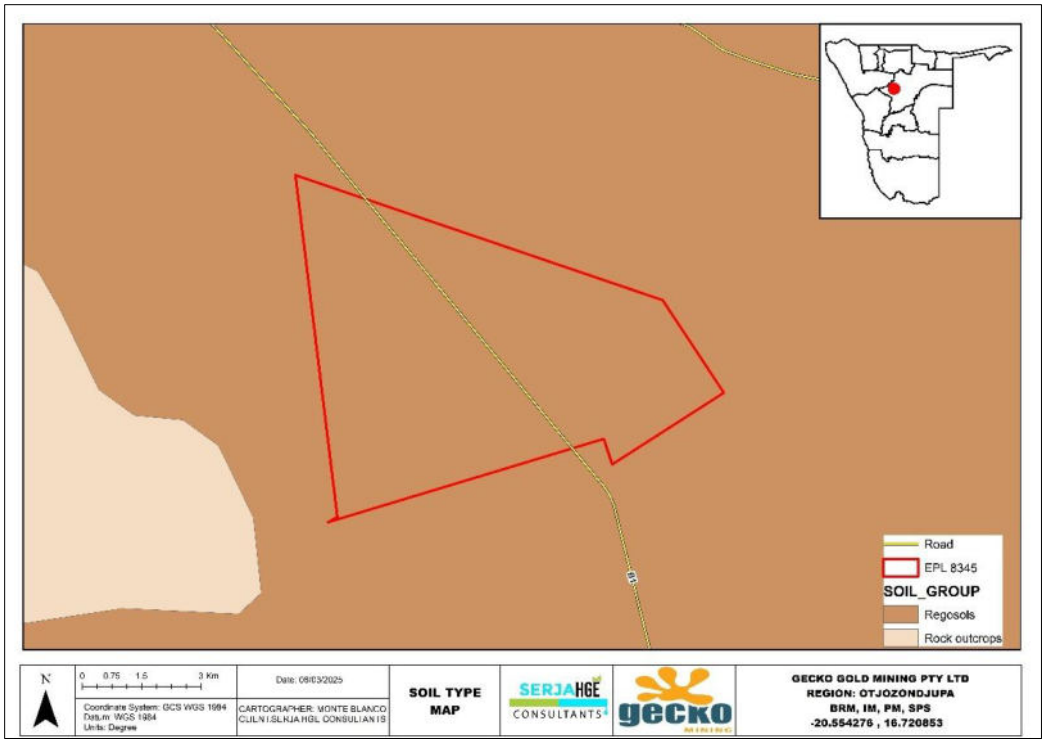

Figure 5-10: The dominant soil types found within the EPL

The site soils are characterized by brown, gravely sand, as shown in Figure 5-11.

Figure 5-11: The brown gravel sand soils observed within some areas of the EPL

5.2.6 Water Resources: Groundwater (Hydrogeology) and Surface water (Hydrology)

The project site and general area are characterized by aquifers with little groundwater potential, as shown in Figure 5-12. The low potential of groundwater could be attributed to the type of rock units underlying these site areas and their non-fractured/faulted nature that limits the storage, transmission, and flow of groundwater.

There are seven recorded boreholes based on the groundwater database of Namibia. However, some of these boreholes may be or may not be in operation, as some may have been drilled over 50 years ago and have dried up. These borehole yields can be considered sufficient to supply water for the farms, however, they cannot supply any other development, such as an exploration project.

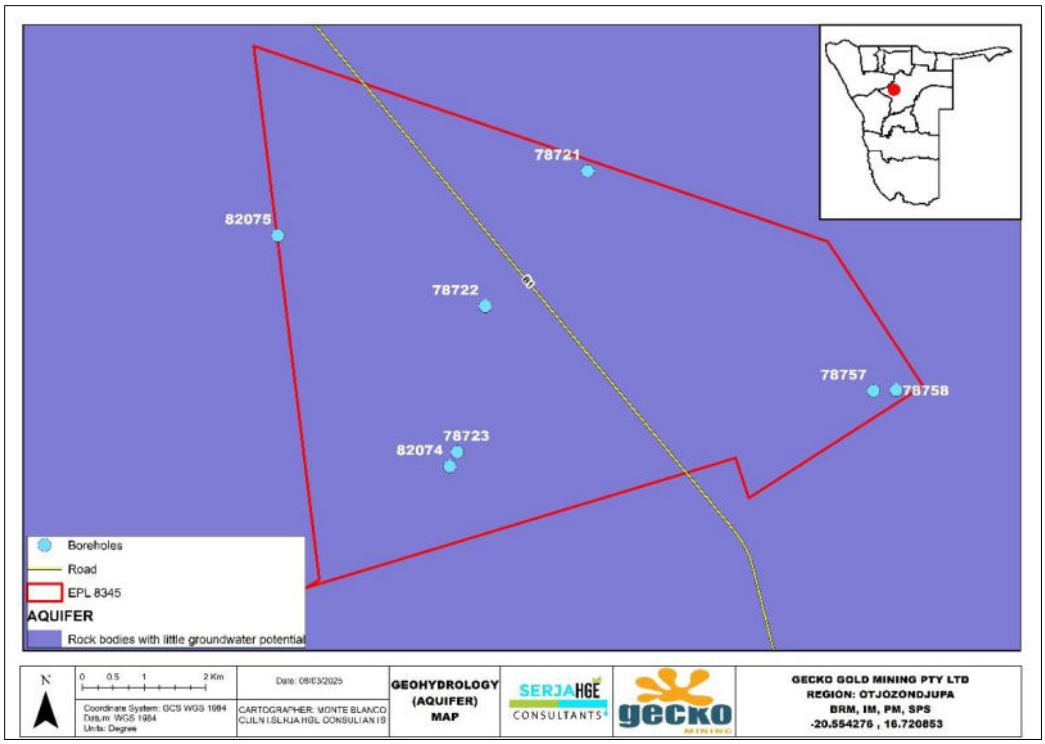

Figure 5-12: The surface and groundwater (geohydrology) map of the area overlain by the EPL

5.3 Social and Economic Environment

5.3.1 Demography

Based on the 2023 Population and Housing Census results, the Otjozondjupa Region has a population of 220,811 people (113,280 males and 107,531 females) and a population density of 2.1 people/km^2 (Namibia Statistics Agency, 2024a). The project site falls within the Otjiwarongo Constituency with a population of 54,983 (23,217 males and 25,805 females) and a population density of 8.6 people/km^2 (Namibia Statistics Agency, 2024b).

5.3.2 Economic Activities and Employment

The economy of the Otjozondjupa Region depends on three components, namely, mining, farming, agriculture, and tourism. The mining sector in the Otjozondjupa Region has been characterized by the establishment of large-scale mines that employ many Otjiwarongo residents, such as B2Gold, Ohorongo

Cement, and Cheetah Cement. The Region accommodates the mining of commodities such as gold, marble, and semi-precious stones.

The farming industry is one of the significant sectors that contributes directly to the Gross Domestic Product (GDP). The region provides good grazing land for cattle farming; thus, farming for cattle sale commercially and communally becomes a source of income for most residents in the region. The Otjozondjupa Region offers some of the most spectacular and popular tourist destinations as well as a variety of eco-, wildlife, cultural, and adventure tourism opportunities (Otjozondjupa Regional Council, 2023). The key economic activities in the Region are agriculture, entrepreneurship, construction, arts & crafts, small-scale service industry, hospitality, manufacturing, as well as logistics and transportation (Otjozondjupa Regional Council, 2023).

Furthermore, according to the Namibia Statistics Agency (2024a), the main sources of household income within the Otjozondjupa Region are wages & salaries (57.8%), old age pension (10.4%), business, non-farming (7.5%), and farming at 4.7%.

According to the 2023 Labour Force Report, only 76,583 people are working in the Otjozondjupa Region (Namibia Statistics Agency, 2024c), as shown in Table 5-1 (the labor force participation rate (LFPR) for the population (age 15 years and above) by area and sex in the 14 regions).

Table 5-1: The labor force participation rate (LFPR) for population (age 15 years and above) by area and sex in the 14 regions (source: Namibia Statistics Agency (2024c)

Area	Total			Male			Female		
	Labour Force	Working Age	LFPR %	Labour Force	Working Age	LFPR %	Labour Force	Working Age	LFPR %
Namibia	**867,247**	**1,876,122**	**46.2**	**459,723**	**899,589**	**51.1**	**407,524**	**976,533**	**41.7**
Urban	578,102	1,026,484	56.3	289,953	486,007	59.7	288,149	540,477	53.3
Rural	289,145	876,544	33.0	169,770	431,584	39.3	119,375	444,960	26.8
//Kharas	48,044	75,940	63.3	26,356	38,517	68.4	21,688	37,423	58.0
Erongo	106,518	165,450	64.4	58,560	84,697	69.1	47,958	80,753	59.4
Hardap	35,748	69,422	51.5	20,535	35,240	58.3	15,213	34,182	44.5
Kavango East	41,860	122,475	34.2	20,139	54,045	37.3	21,721	68,430	31.7
Kavango West	16,571	66,633	24.9	8,940	30,735	29.1	7,631	35,898	21.3
Khomas	225,223	352,147	64.0	114,866	170,855	67.2	110,357	181,292	60.9
Kunene	24,343	69,245	35.2	14,570	34,763	41.9	9,773	34,482	28.3
Ohangwena	55,052	183,391	30.0	26,637	82,833	32.2	28,415	100,558	28.3
Omaheke	31,436	64,355	48.8	19,735	34,735	56.8	11,701	29,620	39.5
Omusati	54,829	182,247	30.1	26,758	80,332	33.3	28,071	101,915	27.5
Oshana	65,430	147,794	44.3	30,988	65,153	47.6	34,442	82,641	41.7
Oshikoto	54,166	152,807	35.4	29,443	74,689	39.4	24,723	78,118	31.6
Otjozondjupa	76,583	139,623	54.8	44,716	72,317	61.8	31,867	67,306	47.3
Zambezi	31,444	84,593	37.2	17,480	40,678	43.0	13,964	43,915	31.8

5.3.2.1 Exploration and Mining

The Otjozondjupa Region has some good potential for mineral exploration due to its rock and mountainous formations, which are pivotal for regional economic growth and development. Apart from EPL-8345, there are also other mineral licenses (EPLs, mining licenses, and mining claims) owned by different proponents in the area, some within proximity of EPL-8345 to the north, east, and south, as shown in Figure 5-13.

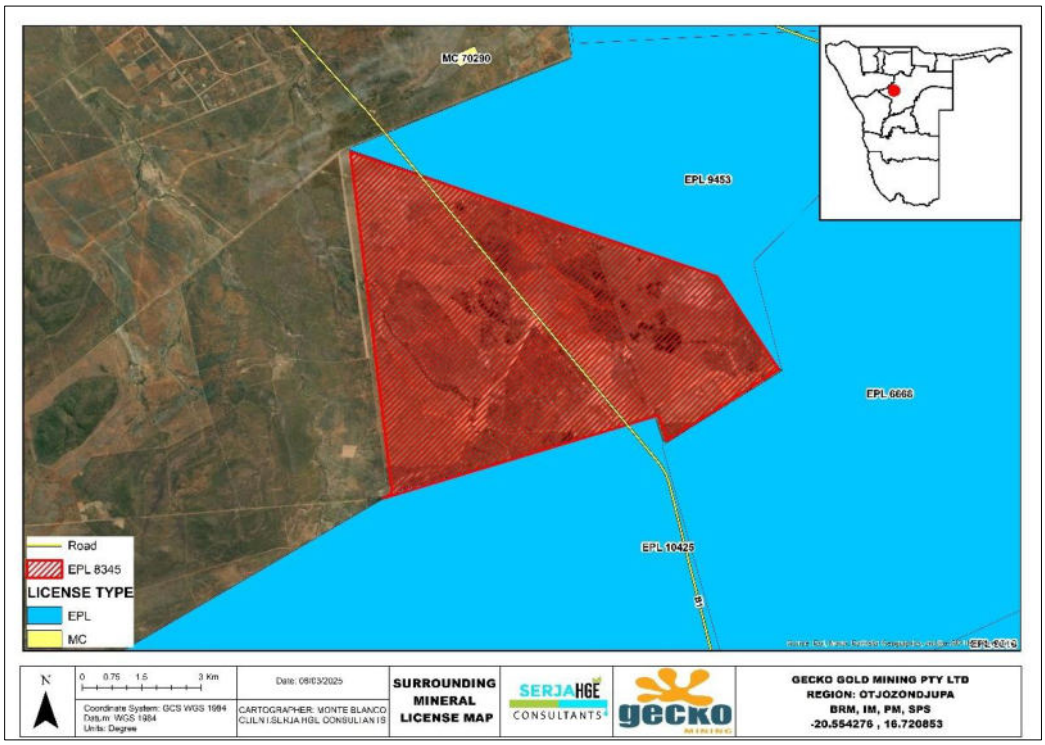

Figure 5-13: The mineral licenses within and around EPL-8345

5.4 Infrastructure and Services

The Otjozondjupa Region has good coverage of services and infrastructure. This includes a good road network from the central areas of the country and many access roads, tarred and untarred.

- Water supply: From a broader perspective, the Otjiwarongo Town is supplied by its Municipality, which further distributes water to its residents and businesses. Farmers obtain water from their boreholes to supply domestic and livestock.
- Sewage: Most of the town's formal homes and businesses are connected to the municipal sewer system.
- Solid waste: The Municipality of Otjiwarongo has its own solid waste dump site, while surrounding farms may still practice solid waste dumping at self-contained designated waste management sites on farms.

- Electricity: The EPL area is supplied with power by CENORED with a combination of solar energy in some places.
- Telecommunication services: The EPL site is close to Otjiwarongo Town, which has good network coverage; thus, the site area is well covered. The main providers of this service in the area are Telecom Namibia and MTC Namibia.
- Roads (accessibility): The EPL is accessible via the B1, passing through the EPL and then the farm access roads.

5.5 Archaeology and Heritage Aspect

An Archaeological & Heritage Impact Assessment (AHIA) was carried out for the EPL by a qualified and experienced Archaeologist from TARO Archaeological & Heritage Consultants (TARO Consultants, 2025). The site-wide area assessment was conducted, and a baseline assessment was compiled and is summarized herein under this section, while the full details of the assessment are contained in an AHIA Report to be submitted to the National Heritage Council (NHC) for evaluation and consideration of the Heritage Consent for EPL-8345. Archaeological management measures will be implemented onsite to ensure continued protection of the resources during the prospecting and exploration activities on the EPL.

5.5.1 Regional Context

According to the National Heritage Council of Namibia, Otjozondjupa Region has about 14 known heritage sites which are listed as national monuments (Declared Sites/Lists of National Heritage) with overall regional archaeological recordings shown in Figure 5-14.

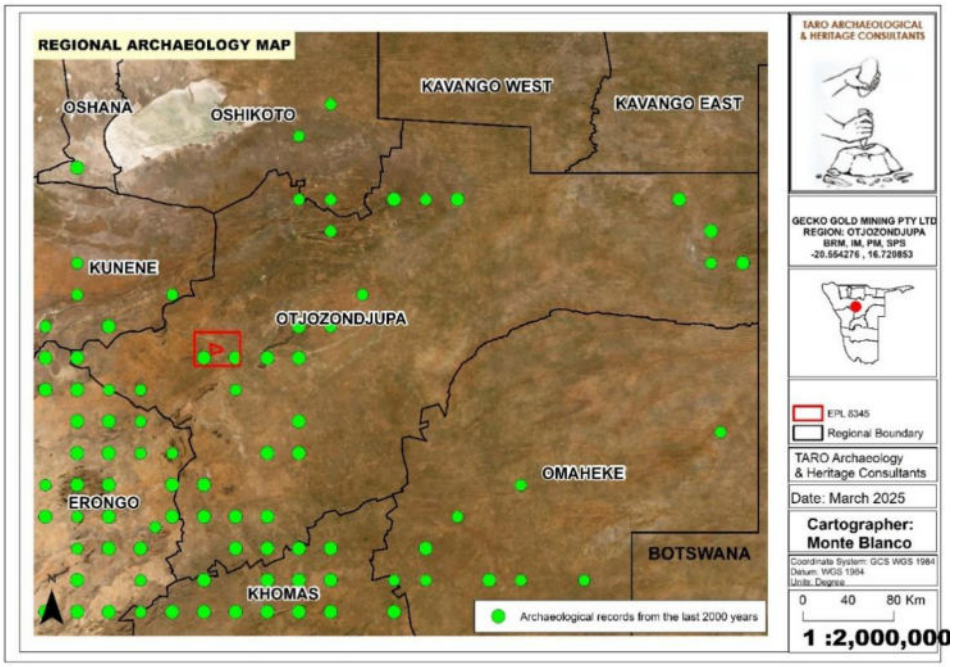

Figure 5-14: Regional archaeological sensitivity map from the NHC (TARO Consultants, 2025)

5.5.2 Local Perspective and Findings

Heritage sites are fixed features in the environment, occurring within specific spatial confines. Any impact upon them is permanent and non-reversible. Namibia's unique and non-renewable archaeological and paleontological heritage sites are protected in terms of the National Heritage Act No. 27 of 2004 and may not be disturbed at all without a permit from the NHC (TARO Consultants, 2025).

5.5.3 Archaeological and culturally sensitive areas: Sensitivity of the Receiving Environs

The proposed project is situated on the plateau of the few koppies, outcrops, as well as the flat terrain covered by heavy grasses and bushes. Archaeologically speaking, there was nothing of high sensitivity recorded within Farms Pinnacles No. 310 and Pinnacles, only features which were of interest are the few rock shelters, outcrops, and boulders of which are overall archaeologically negligible. The only site of high sensitivity is the single grave recorded at Farm Roland No. 419. Moreover, by using GIS to assess and visualize spatial information on the archaeological and cultural heritage sites of the landscape, the map below shows only two identified sites of archaeological significance which respectively occurs at 7km SW of Farm Pinnacles No. 310 and 12km SE of Farm Roland No. 419 away from the EPL-8345 (Figure 5-15).

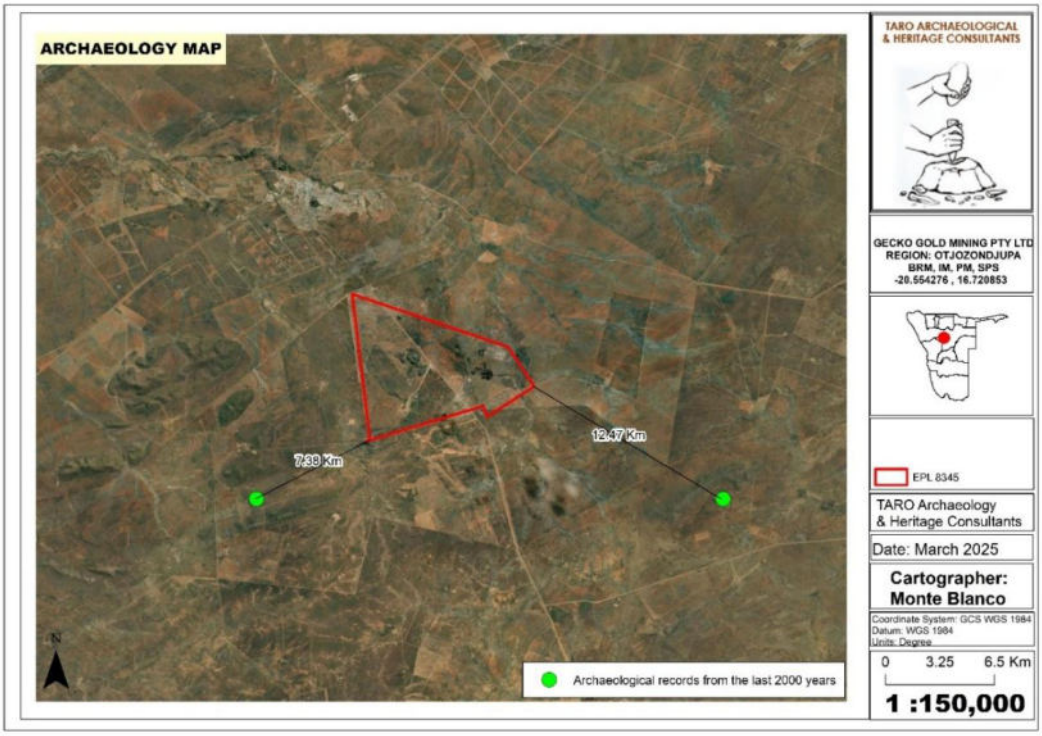

Figure 5-15: Landscape Archaeology near EPL-8345 (TARO Consultants, 2025)

5.5.4 Observations made during the Site Survey of the Subject land

According to TARO Consultants (2025), the area within EPL-8345 has LOW Archaeological significance, based on the surface walk-over conducted, which recorded only a few rock shelters features, rock outcrops/boulders, and natural springs, especially within Farm Pinnacles No. 310. However, there is a grave within Farm Roland No. 419, which is a sensitive cultural heritage site, and some recommendations are made in thereto (in the EMP). The archaeological findings from the traversed areas within the area of EPL-8345 is shown in Figure 5-16.

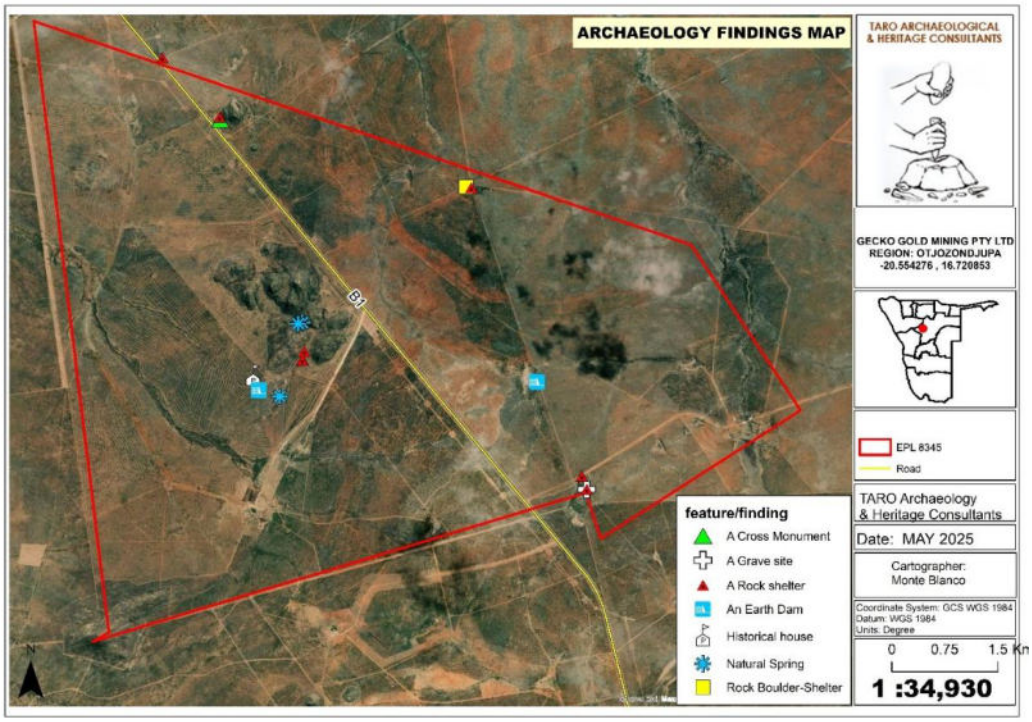

Figure 5-16: Archaeological findings map from the traversed areas within the area of EPL-8345 (TARO Consultants, 2024)

The public consultation and engagement process and means employed for the 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 Environmental Consultant to thoroughly identify and record 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 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 activities 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 uploaded onto the 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 on the 07th of March (in both newspapers), the 10th &17th of March 2025 (2nd & 3rd runs in the *Windhoek Observer*), and 01st of April 2025 (for the 2nd advert in the *New Era – due to mishaps from the New Era on the requested and required date of the 12 March 2024 (proof of this is provided)*) - Appendix C. The consultation period ran from the 07th of March 2025 to the 04th of April 2025.
- EIA posters were pasted at four strategic places in Otjiwarongo (Figure 6-1) before the consultation meeting (on the 11th of March 2025). The original EIA poster is attached hereto as Appendix D.

Figure 6-1: A3 EIA Study Poster in Otjiwarogo at the A- Otjozondjupa Regional Council, B-Otjiwarongo Municipality (head Office), C-Otjiwarongo Municipality Orwetoveni, and D-Super Spar

- A consultation meeting was scheduled and held with available stakeholders (I&APs) in Otjiwarongo on the 18th of March 2025 - Figure 6-2. The meeting was attended by 10 people. The consultation meeting minutes were taken and are attached hereto as Appendix E, alongside the signed attendance register.

Figure 6-2: EIA Consultation meeting at the Otjozondjupa Regional Council in Otjiwarongo on the 18th of March 2025

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

Some key issues were raised by I&APs during the consultation period, and these issues have been recorded and incorporated in the Scoping Report and EMP. The summarized key issues are presented in **Error! Reference source not found.**. The issues and comments are presented in detail under the meeting minutes (Appendix E). Furthermore, comments were received via email from one I&AP (farmer) on the 09th of April 2025 as presented in Appendix F1 and addressed under Appendix F2.

Table 6-1: Summary of main issues and comments raised in the consultation meeting

Key aspect	Summary of key issues or concerns/comments	Response
Comments and issues raised in the consultation meeting		
Water availability	There is a water problem in the area owing to low groundwater potential in the EPL area.	This is well noted and known that the area has low groundwater potential, as also shown on the geohydrological map of the area under (section 5.2.6, Figure 5-12).
Local labourers and poaching (illegal hunting)	Local casual labourers are not allowed on farms (as part of the exploration workforce) as they may be too familiar with the area, and farmers have experienced theft and poaching locally.	This is well noted for consideration in the EMP.

Key aspect	Summary of key issues or concerns/comments	Response
Security of the farm during exploration	A suggestion to have a security guard whereby the farmer pays 50% and Gecko Gold Mining pays 50% for the service. The farm gates should be locked at specific times (open at 08:00 and close at 17:00).	This is well noted and has been included in the EMP.
Maintaining water quality	Farmers suggest water quality and levels testing before and after exploration work is done.	This is well noted and has been included in the EMP.
Non-compliance with the set rules (by farmers) and in the project EMP	Enquiry on the consequences of breaking the farm rules and EMP measures by project workers, e.g., oil spill	The rules and conditions contained in individual farm access agreements for exploration and the EMP will be adhered to, and if not, work will cease until non-compliance is corrected. There will be bi-annual environmental monitoring of the sites by an independent consultant and submit such findings to the Environment Commissioner, who would order cessation of work until compliance is restored.
Timely planning for farm visits	Farmers requested to be informed of site visits well in advance.	This is well noted and has been included in the EMP.
Protection of vegetation species	Some farms have *omborombongo* (leadwood) and camelthorn that are protected under the Forestry Act. They need to be protected, especially from use as firewood by the project personnel on-site.	Well noted and has been included in the EMP.

The EIA consultation started from the 07th of March 2025 to the 04th of April 2025. Key comments were submitted to Serja Consultant during the consultation meeting as well as through some follow-up emails, as summarized above and also indicated in the meeting minutes. The comments period was further extended to the 27th of May 2025 to allow for the review of the draft Scoping Report and EMP and submission of further comments (see section 6.4 below).

6.4 Feedback on the Draft Scoping Assessment Report Review

For review and further comments, the draft Scoping Report, Environmental Management Plan (EMP), as well as the associated appendices, were circulated to the registered stakeholders/I&APs from the 14th of May 2025 to the 27th of May 2025 – Figure 6-3. There were no comments received on the circulated documents.

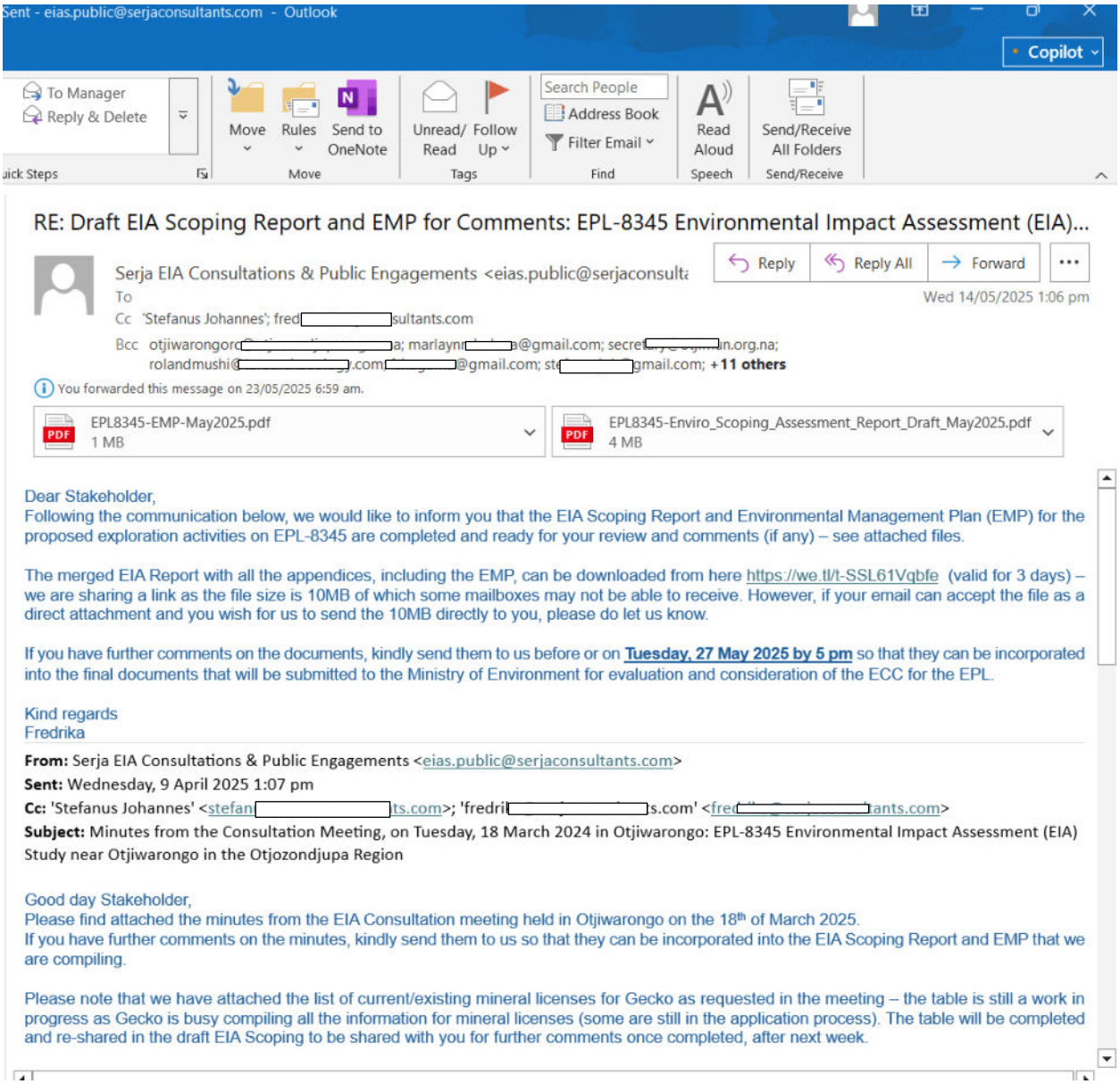

Figure 6-3: Email communication for the circulation of the draft Scoping Report, EMP, and appendices on 14 May 2025

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

7 IMPACTS IDENTIFICATION, METHODOLOGY, AND ASSESSMENT

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 hosting environmental 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 (although temporary):

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

Potential negative (adverse) impacts:

- Physical soil disturbance resulting in compaction and erosion
- Impact on local biodiversity (fauna and flora) and habitat disturbance
- The potential impact of illegal hunting/poaching of wildlife in the area, being close to protected areas
- Potential impact on water resources and soils (over-abstraction and pollution)
- Impact on air quality owing to dust generation (compromises the surrounding air quality)
- Visual impacts due to unrehabilitated disturbed site areas as a result of trenching and drilling activities
- Potential occupational health and safety risks, and to the locals (open and unattended trenches and drilled holes may pose a risk to people), and to animals (wildlife)
- Potential conflicts over land use between locals' current activities and 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 and 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 following Namibia's Environmental Management Act (No. 7 of 2007) and its Regulations of 2012, as well as the International Finance Corporation (IFC) Performance Standards.

The identified impacts were assessed in terms of scale/extent (spatial scale), duration (temporal scale), magnitude (severity), and probability (likelihood of occurring), as presented in Table 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.				
The extent or (spatial scale) - extent is an indication of the physical and spatial scale of the impact.				
Low (1)	**Low/Medium (2)**	**Medium (3)**	**Medium/High (4)**	**High (5)**
The impact is localized within the site boundary: Site only	The impact is beyond the site boundary: Local	Impacts felt within adjacent biophysical and social environments: Regional	Impact widespread far beyond the site boundary: Regional	Impact extends to the National or over international boundaries
Duration- Duration refers to the timeframe over which the impact is expected to occur, measured over the lifetime of the project				
Low (1)	**Low/Medium (2)**	**Medium (3)**	**Medium/High (4)**	**High (5)**

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

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

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

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

7.4 Description and Assessment of Potential Impacts

The potential impacts of the proposed project activities are described and assessed in Table 7-3. The management and mitigation measures in the form of management action plans are provided in the Draft EMP.

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

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	road driving. These would leave the site soils exposed to erosion (areas with no to little vegetation cover to the soils in place). The movement of heavy vehicles and equipment may lead to compaction of the soils during exploration. This will, however, be a short-term and localized impact.										
Impact on the sensitive Biodiversity: Wild Fauna and Flora Illegal hunting (poaching)	Fauna: If activities such as trenching and drilling are not carefully conducted, this would result in land degradation. The degradation would lead to habitat loss for a diversity of fauna and flora onsite. However, 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 in the area. There is also a potential illegal hunting (poaching) of local wildlife by project-related workers. This could lead to a loss	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
	or a reduction of specific faunal species, which also impacts tourism in the community (area). Flora: The vegetation in the area would be impacted through land clearing to create exploration access roads, setting up project equipment and infrastructure, and detailed exploration activities such as trenching and drilling. The clearing of vegetation, where deemed necessary, will be limited to the specific route and minimal and avoiding protected tree species such as camelthorns (*Vachellia*) and Leadwood (*Combretum imberbe* or known in Otjiherero as *omborombongo*). The impact will be localized, site-specific, and therefore manageable.										
Conflict between the Proponent and existing land uses	The fact that there are existing land uses such as farming and tourist activities on some farms, there might be a conflict in terms of land uses, if one significantly infringes another's activities. Therefore, a good understanding should be made between the	M: -3	M: -3	M / L: -4	M / H: 4	M: -40	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	proponent and the farmers on certain areas of the farms. Without any mitigation measures, the significance will be medium to high, but upon implementing the measures, the significance will be reduced to low.										
Air Quality: Dust Generation	There is a potential impact of dust emanating from exploration activities such as trenching or drilling. There is also a potential dust issue from site access roads when transporting exploration equipment and supplies to and from the site. The impact is considered short-term and localized as exploration activities are carried out over specified durations at selected sites only. Hence, the impact is manageable with mitigation measures.	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, such as exploring site areas (trenches and holes) as well as project heavy vehicles, equipment, and machinery close to or along roads, may potentially become a	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
	visual nuisance (impacting scenic views), especially for farm tourists and other road users in the vicinity. This impact is considered minimal as excavations and drilling will only be conducted on certain areas of the EPL for analysis as part of exploration, and the duration will be short.										
Water Resources Demand and Use	There will be a need for water for drilling and dust suppression. The mineral exploration technique, such as diamond drilling, requires more water (about 10,000 to 25,000 liters (10 to 25m^3) per day per hole) compared to other techniques like reverse circulation. However, water for the project will not be abstracted from the farm or local boreholes, owing to the low groundwater potential of the area. Thus, water supply will be arranged with the Otjiwarongo Municipality and any nearby water supplier without water supply concerns. The Proponent will store the	M - 3	M - 3	M - 6	M / H - 4	M – 48	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	water in industry-standard water reservoirs/tanks onsite and refill as required. Therefore, the impact of the project activities on the local water resources would be very low to none. Moreover, the required water would also be dependent on the duration of the exploration works and the number of exploration holes required to make a reliable results interpretation.										
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, if not handled properly. The anticipated potential source of pollution to water resources from the project activities would be hydrocarbons (oil) from project vehicles, machinery, equipment, and potential wastewater/effluent from exploration-related activities. The spills (depending on volumes spilled on the soils)	M: -3	M: -3	M: -6	M / H: 4	M: -48	L / M: -2	L / M: -2	L / M: -4	L / M: 2	L: -16

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

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	soil and groundwater contamination in the case of spills and leakages.										
Occupational and Community Health and Safety Risks	Project personnel (workers) involved in the exploration activities may be exposed to health and safety risks. Other potential risks to both people and wildlife within the EPL are unfenced or unsecured exploration trenches (or not backfilled) after completing the sampling. Unsecured exploration trenches and even uncapped holes could pose a risk of people and or wildlife 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 (farm) roads and the B1 are the main transportation routes for all vehicular movement in the EPL area.	M - 3	M / H - 4	L / M - 4	M / H - 4	M - 44	L / M - 2	L / M - 2	L - 2	L / M - 2	L - 12

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	There would be a potential slight increase in traffic flow, especially during exploration drilling stages, due to the delivery of supplies, goods, and services to the site at some point. However, there will only be a single heavy truck, 1 to 2 medium vehicles, and 2 to 3 small vehicles frequenting the area to and from exploration sites on the EPL, especially during trenching and drilling stages. 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 and not intense or frequent.										
Noise and vibration from drilling	There is a potential for noise from certain activities (drilling and trenching), which may be a nuisance to the farm community. The excessive noise and vibrations without any protective measures in place can also be a health risk to workers on site as well as a nuisance to farm	M - 3	M - 3	M - 6	M / H - 4	M – 48	L - 1	L / M - 2	L - 2	L / M -2	L - 10

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	animals. The exploration equipment used for drilling on site is of medium size, and the noise level is bound to be limited to the site only. Thus, the impact likelihood is minimal.										
Archaeological and Heritage Resources	The EPL covers three farms (Farm Pinnacles No. 310 and Farm Roland No. 419), with a negligible portion on Farm Graslaagte No. 313. The area within the EPL has LOW Archaeological significance, and this is based on the surface walk-over conducted, which recorded only a few rock shelter features, rock outcrops/boulders, and natural springs, especially within Farm Pinnacles No. 310. However, there is a grave within Farm Roland No. 419, a sensitive cultural heritage site. No other significant archaeological or cultural heritage resources were noted. Thus, no adverse impact on heritage resources is expected within the surveyed farms.	M / H - 4	M - 3	M - 6	M - 3	M – 39	L - 1	L / M - 2	L - 2	L / M -2	L - 10

7.5 Cumulative Impacts Associated with the Proposed Exploration

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:

- Illegal hunting (poaching of wild animals) on the farms: During the EIA consultation process, it was pointed out by farmers that poaching is an ongoing threat to wildlife in the area, and they have experienced a lot of poaching that involved some locals. Wild animals are and will still roam on the farms even at the time when exploration starts. The poaching would be currently linked to some locals and likely to continue with the introduction of additional people (related to projects) in the area, and or people from outside the area during exploration. However, the implementation of biodiversity mitigation measures as listed in the Draft EMP combined with conservation awareness to the project team would reduce the exploration-related impact significance to low, and eventually negligible.
- Impact on road infrastructure: The proposed exploration activities will contribute cumulatively to various existing activities, such as traveling associated with tourism, as well as present and future mineral license operations 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.
- Impact on Archaeological and Heritage resources: some archaeological materials, such as old unmarked graves (if any), and stone artefacts, are likely to be lost during the clearance of land or the erection of other facilities necessary for exploration works. Similarly, the focus of mitigation measures for archaeological and cultural heritage is to recommend the layout of the project activities to avoid all known significant heritage or cultural sites and burial places, and thus make a negligible contribution to cumulative impacts. The cumulative impacts are deemed to be of low significance in this case. However, with the implementation of project-specific mitigation measures as listed in the Draft EMP, this would reduce the impact significance to low after mitigation, and eventually negligible.

The recommendations and conclusions made for the environmental assessment of the EPL are presented in the next chapter.

8 RECOMMENDATIONS AND CONCLUSIONS

The environmental scoping assessment was carried out for the proposed exploration activities on EPL-8345 near Otjiwarongo. Some key potential positive and negative impacts were identified. The key negative impacts were described and 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 newspapers, namely, the *New Era* and *Windhoek Observer* newspapers on the 07th of March (in both newspapers), the 10th &17th of March 2025 (2nd & 3rd runs in the *Windhoek Observer*), and 01st of April 2025 (for the 2nd advert in the *New Era – due to mishaps from the New Era on the requested and required date of the 12 March 2024 (proof of this is provided)*). The consultation period ran from the 07th of March 2025 to the 04th of April 2025. The consultation period ran from the 07th of March 2025 to the 04th of April 2025. The comments period was further extended to the 27th of May 2025 to allow for the review of the draft Scoping Report and EMP and submission of further comments.

A consultation meeting was held, and comments on the proposed project activities were recorded for consideration.

Impact identification: Some key potential positive and negative impacts were identified by the Environmental Consultant and based on issues raised by I&APs during the consultation period. The issues raised by the I&APs were addressed and incorporated into this Report, and mitigation measures have been provided in the Draft EMP (in the form of action measures) for implementation to avoid and/or minimize their significance on the environmental and social components.

Impact Assessment: The key negative 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).

The Scoping assessment study was deemed sufficient and concluded that no further detailed assessments for exploration activities are required for the ECC application to prospect and explore.

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 on the EPL be granted an Environmental Clearance Certificate, provided that:

- All the management and mitigation measures provided herein are effectively and progressively implemented.
- All required permits, licenses, and approvals for the proposed activities should be obtained as required. These include permits and licenses for land use agreements, and service provision agreements (water provision) to explore and ensure compliance with these specific legal requirements.
- Transparency in communication and continued engagement with landowners (for land access before and during exploration), as well as other stakeholders, should be maintained before and throughout the project.
- The Proponent, their project workers, or contractors comply with the legal requirements governing their project and its associated activities and ensure that project permits and or approvals required to undertake specific site activities are obtained and renewed as stipulated by the issuing authorities.
- Respecting no-go zone areas and exploring beyond buffer zones should be effectively implemented.
- 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.
- The EMP implementation onsite should be checked and done by the responsible team member onsite (Environmental Control Officer), and audited by an Independent Environmental Consultant on a bi-annual basis to compile Environmental Monitoring (Audit) Reports. These reports are to be submitted to the Environmental Commissioner at the DEAF. This will be required by the Environmental Commissioner (as part of the ECC conditions).

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

9 LIST OF REFERENCES

1. Mendelsohn J., Jarvis A., Roberts C., and Robertson T. (2002). Atlas of Namibia: A Portrait of the Land and Its People. Cape Town: David Philip Publishers.
2. Meteoblue. (2025). Weather: Simulated historical climate & weather data for Otjiwarongo. Available from https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/otjiwarongo_namibia_3353811.
3. Namibia Statistics Agency. (2024a). Namibia 2023 Population and Housing Census Main Report. Windhoek. Namibia Statistics Agency.
4. Namibia Statistics Agency. (2024b). 2023 Population and Housing Census: Otjozondjupa Regional Profile. Available from https://nsa.org.na/census/otjozondjupa-region/
5. Namibia Statistics Agency. (2024c). Namibia 2023 Population and Housing Census Labour Force Report. Windhoek. Namibia Statistics Agency.
6. Resilient Environmental Solutions. (2019). Scoping Report for the Environmental Assessment Report for EPL-7264 near Talismanis in the Omaheke Region. Windhoek. Ministry of Environment, Forestry and Tourism.
7. TARO Archaeological & Heritage Consultants. (2025). Archaeological & Heritage Impact Assessment for the Proposed Prospecting and Exploration Activities on Exclusive Prospecting License (EPL) No. 8345 near Otjiwarongo in the Otjozondjupa Region, Namibia. Windhoek: Unpublished.
8. World Weather Online. (2025). Otjiwarongo, Namibia Weather. Available from https://www.worldweatheronline.com/otjiwarongo-weather-averages/otjozondjupa/na.aspx.