

Environmental Scoping Assessment Study Report:

The Proposed Exploration Activities on Exclusive Prospecting License (EPL) No. 9159 near Aussenkehr Settlement in the IlKharas Region, Namibia - An Application for Environmental Clearance Certificate (ECC): Prospecting and Exploration only



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New Hope Mining CC

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Declaration of authorship

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Project Title:

EIA Study for the proposed Exploration Activities
on EPL-9159 near Ausenkehr Settlement in the Hkheras
Region, Namibia

I..... (full name of Environmental Assessment Practitioner - EAP) understand and agree that the information I have furnished in this submission will be reviewed by the Office of the Environmental Commissioner (OEC). I accept that the Environmental Commissioner, will hold me accountable in terms of Section 43(1)(b) of the Environmental Management Act, Act No. 7 of 2007 for any inaccurate or misleading information knowingly provided in the following documentation.

Tick the box (es) applicable to your submission:

- Pro Forma Environmental Contract for Mining Claim(s)
- Environmental Questionnaire For Mining
- Scoping report
- Environmental Impact Assessment (EIA)
- Environmental Management Plan (EMP),
- Consent from Relevant Authority

I certify, and, acknowledge that the provision of such information will impede the lawful carrying out of the duties, responsibilities and functions of the Environmental Commissioner. I declare that the information submitted is my own work. All direct or indirect sources used are acknowledged as references.

Consultancy Name: Serra HGE Consultants cc

EAP Signature: [Signature]

Date: 12/03/2025

NB- To be submitted jointly with Scoping Report, EIA, EMP documents to the Office of the Environmental Commissioner

SERJA' STATEMENT OF INDEPENDENCE

As the Appointed Environmental Consultant to undertake the Environmental Scoping Assessment (ESA) Study for the proposed prospecting and exploration activities on EPL-9159 near Aussenkehr Settlement in the Ilkharas Region, Serja Hydrogeo-Environmental Consultants cc declares that we:

- do not have, to our knowledge, any information or relationship with New Hope Mining CC (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: 12 March 2025

EXECUTIVE SUMMARY

New Hope Mining CC (hereinafter referred to as the Proponent), on the 16th of November 2022, applied to the Ministry of Mines and Energy (MME) for Exclusive Prospecting Licence (EPL) No. 9159 and obtain the rights to prospect and explore on the EPL. 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". The EPL has potential for mineral commodities such as base & rare metals, industrial minerals, precious metals, and precious stones.

Upon granting of the EPL by MME, the Proponent intends to prospect and explore within EPL-9159 with a primary focus on precious stones (diamonds), and then a secondary focus on base & rare metals (e.g., copper, zinc), and precious metals (gold). 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). Thus, this environmental assessment is for exploration activities only, but not for mining purposes.

The EPL is located about 5km east of Aussenkehr Settlement, lies within the Aussenkehr Farm No. 147, and covers an area of 10,941.847 hectares (ha) in the Karasburg Constituency of the IlKharas Region.

Proposed Project Activities

Once the ECC and EPL certificate (rights) are issued by MEFT and MME, respectively, and before mobilizing to the site and undertaking any groundwork for the proposed exploration activities in the area (on the EPL), the Proponent will engage with the local landowners (Farm Aussenkehr No. 147) as provided for by Section 52 (1) (a) of the Minerals (Prospecting and Mining) Act No. 33 of 1992. This is aimed at holding one-on-one Proponent meetings with individual affected farmers 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: The exploration program will commence with a review of any geological maps and historical drilling/exploration data of the area.
- 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 hand-delivered to the Ministry of Environment, Forestry and Tourism (MEFT) accompanying the ECC application, and uploaded on the MEFT (ECC) Portal for project registration and shared with registered Interested and Affected parties (I&APs).
- Project Environmental Assessment notices were published in the *New Era* and *Windhoek Observer* newspapers on the 30th of October 2024 and 05th of November 2024. The consultation period ran from the 30th of October 2024 to the 03rd of December 2024.
- EIA posters were pasted in Aussenkehr Settlement in early November 2024.
- A consultation meeting was scheduled and held with available I&APs in Aussenkehr on the 20th of November 2024. The meeting was attended by five people. The low meeting attendance was due to the unavailability of most members of the public and some landowners who were busy with grape harvesting in Aussenkehr at the time. The consultation meeting minutes were taken.

Impacts 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 whereby mitigation measures have been provided in the Draft EMP (in the form of action measure) 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, and their contractors to avoid and/or minimize their significance on the environmental and social components. The effective implementation of the recommended 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).

Recommendations and Conclusions

The environmental scoping assessment was carried out for the proposed exploration activities on EPL-9159 near Aussenkehr. 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 thereof 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 three newspapers (*New Era* and *Windhoek Observer*) on 30 October 2024 and 05 November 2024. The consultation period ran from 30 October 2024 to 03 December 2024. A consultation meeting was held and comments on the proposed project activities were recorded for incorporation.

The Scoping Assessment was deemed sufficient and concluded that no further detailed assessments for exploration activities are required for the ECC application to prospect and explore. Thus, Serja Consultants is confident that the potential negative impacts associated with the proposed project activities can be managed and mitigated by the effective implementation of the recommended management and mitigation measures and with more effort and commitment put into monitoring the implementation of these measures.

It is, therefore, recommended that the proposed 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 services 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), the Aussenkehr community, 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 Reports. These reports are to be submitted to the Environmental Commissioner at the DEAF.

In conclusion, to maintain the desirable rating and 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 to also ensure that all potential impacts that might arise during implementation are properly identified in time and addressed immediately.

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LIST OF ABBREVIATIONS

Abbreviation	Meaning
AHIA	Archaeological & Heritage Impact Assessment
BID	Background Information Document
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
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
IFC	International Finance Corporation

Abbreviation	Meaning
MAWLR	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
MME	Ministry of Mines and Energy
NHC	National Heritage Council (NHC) of Namibia
PPE	Personal Protective Equipment
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.
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.

Term	Definition
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.
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

New Hope Mining CC (hereinafter referred to as the Proponent), on the 16th of November 2022, applied to the Ministry of Mines and Energy (MME) for Exclusive Prospecting Licence (EPL) No. 9159 and obtain the rights to prospect and explore on the EPL. 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.. The EPL has potential for mineral commodities such as base & rare metals, industrial minerals, precious metals, and precious stones.

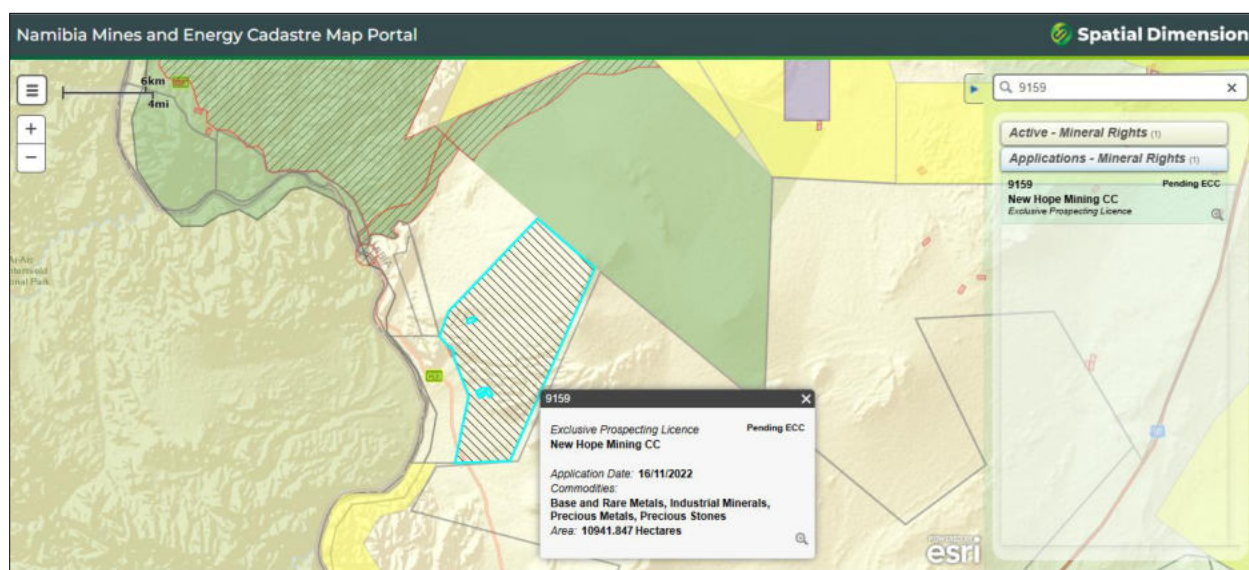


Figure 1-1: The status of EPL-9159 on the Namibia Mines and Energy Cadastre Map Portal (<https://portals.landfolio.com/namibia/>)

Upon granting of the EPL by MME, the Proponent intends to prospect and explore within EPL-9159 with a primary focus on precious stones (diamonds), and then a secondary focus on base & rare metals (e.g., copper, zinc), and precious metals (gold). 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 (works).

The EPL is located about 5km east of Aussenkehr Settlement (Figure 1-2), lies within the Aussenkehr Farm No. 147 (Figure 1-3), until the borders of Farm Aussenkehr and Farm Uithoek and covers an area of 10,941.847 hectares (ha) in the Karasburg Constituency of the Ilkharas Region.

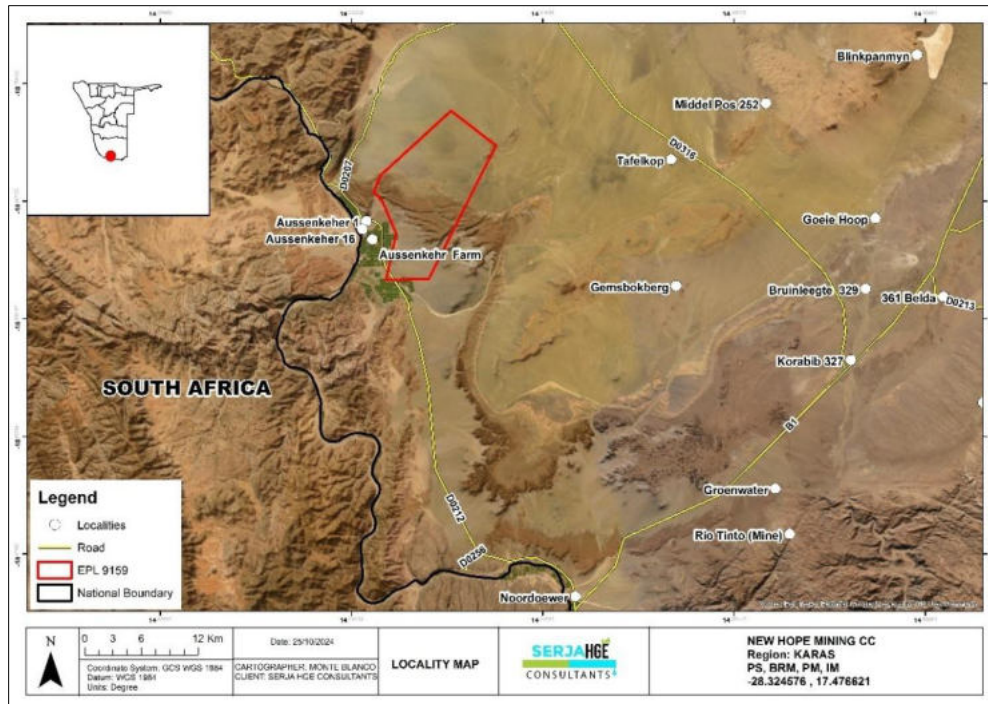


Figure 1-2: Locality Map of EPL-9159 near Aussenkehr

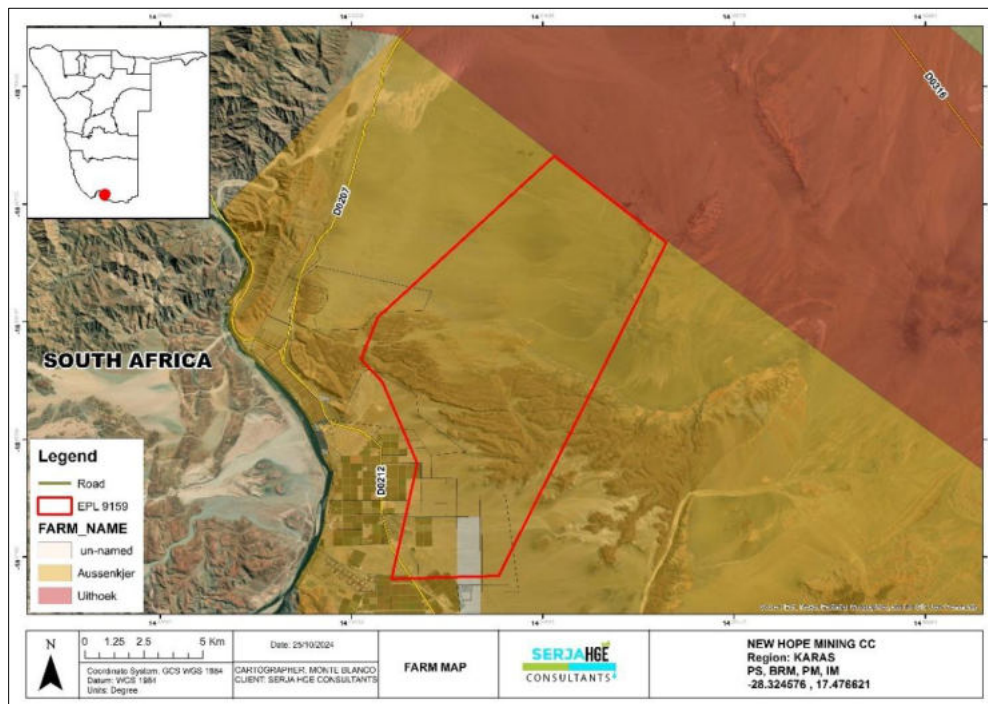


Figure 1-3: Land use (farm) map of EPL-9159

Corner GPS coordinates of EPL-9159 are provided in Table 1-1.

Table 1-1: GPS corner coordinates of EPL-9159

EPL Boundary Point	GPS Coordinates
1	-28.2572 17.4985
2	-28.2898 17.5406
3	-28.4169 17.4767
4	-28.4173 17.4363
5	-28.374 17.4457
6	-28.3422 17.4321
7	-28.3344 17.4243
8	-28.3183 17.4309

1.2 The Need and Desirability of the Proposed Project

The Proponent 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 exploration activities.

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

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

¹Chamber 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 ESA 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, New Hope 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 ESA process, including public consultation and engagement as well as the compilation of the associated documents, was conducted and compiled by Ms. Fredrika Shagama. Ms. Shagama is a qualified and experienced Hydrogeologist and Environmental Assessment Practitioner (EAP) with training and experienced with 10 years of experience in Environmental Management and Groundwater Consulting. Ms. Shagama's CV is 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-04868),
- Completion of the 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 Environmental Scoping Assessment (ESA) 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 ESA Report and a Draft EMP is also developed for the mitigation of potential adverse impacts anticipated from the proposed project activities.

The two documents and associated documents (appendices) are then submitted to the Environmental Commissioner at MEFT's Department of Environmental Affairs and Forestry (DEAF) for evaluation and consideration of 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 Ministry of Mines & Energy (MME) 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) and settlement authority 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 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 MME 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 ESA Report, together with the EMP and all its appendices will be submitted to the DEAF. The document (Report) covers the following chapters or sections, in addition to the introductory chapter:

- Project description and associated activities - (Chapter 2).
- Project alternatives considered - Chapter 3).

- The Legal requirements governing the proposed project and its related activities, i.e., the legislations 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 to 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 ESA 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

Once the ECC and EPL certificate (rights) are issued by MEFT and MME, 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 local landowners (Farm Aussenkehr No. 147) 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.

Exploration activities will be conducted at least 100m from tourism facilities and homes, i.e., a 100m buffer zone from environmentally and socially (including archaeological) sensitive areas will be 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). Soil sampling programs, for instance, may last from one week to a month at a time over specific areas, until the explored area is fully sampled as desired. 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 a maximum of seven years, with different projects at various stages of the exploration phase. A simplified mineral exploration cycle is shown in Figure 2-1.

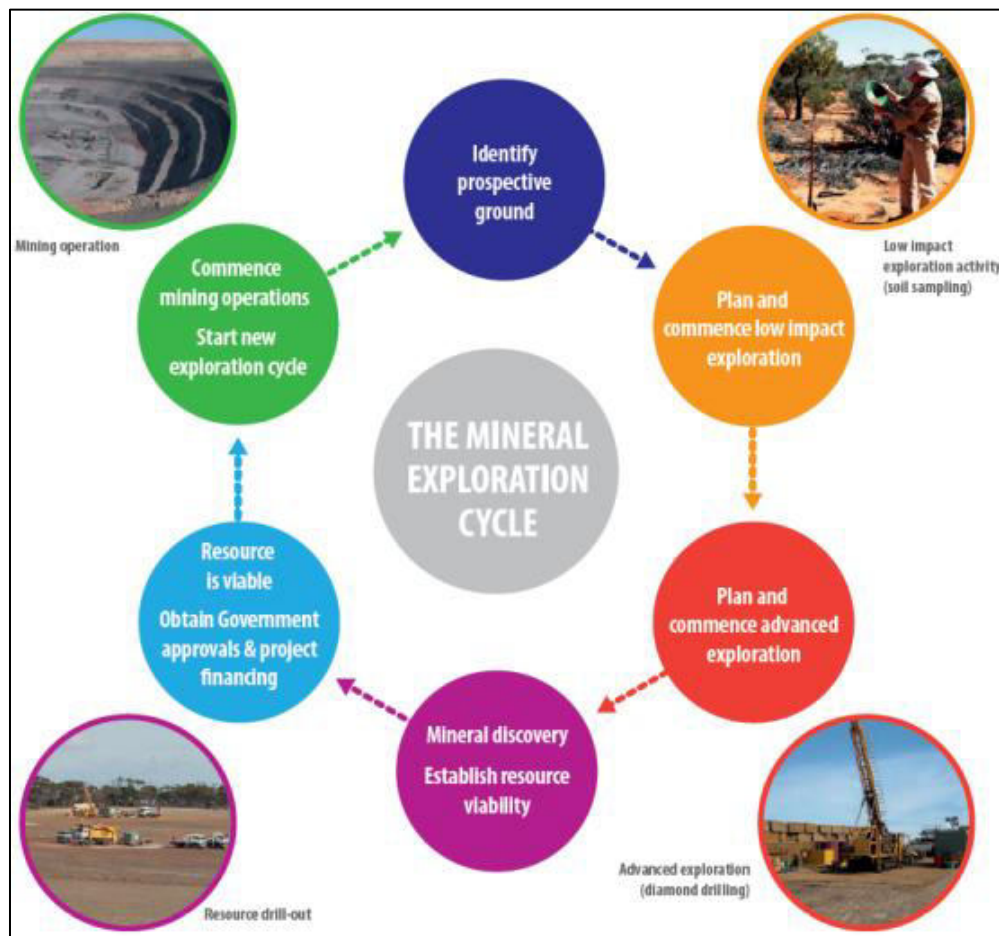


Figure 2-1: The Mineral Exploration Cycle (Excel Dynamic Solutions, 2021)

The Proponent intends to adopt a systematic and standard prospecting and exploration approach for the primary commodities (precious stones (diamonds), and a secondary focus on base & rare metals (e.g., copper, zinc), and precious metals (gold)) potentially occurring on the EPL.

According to the geological desktop information, the suspected diamond hosting site areas in Aussenkehr and particularly in the EPL-9159 as associated with the local rock units are shown in Figure 2-2.

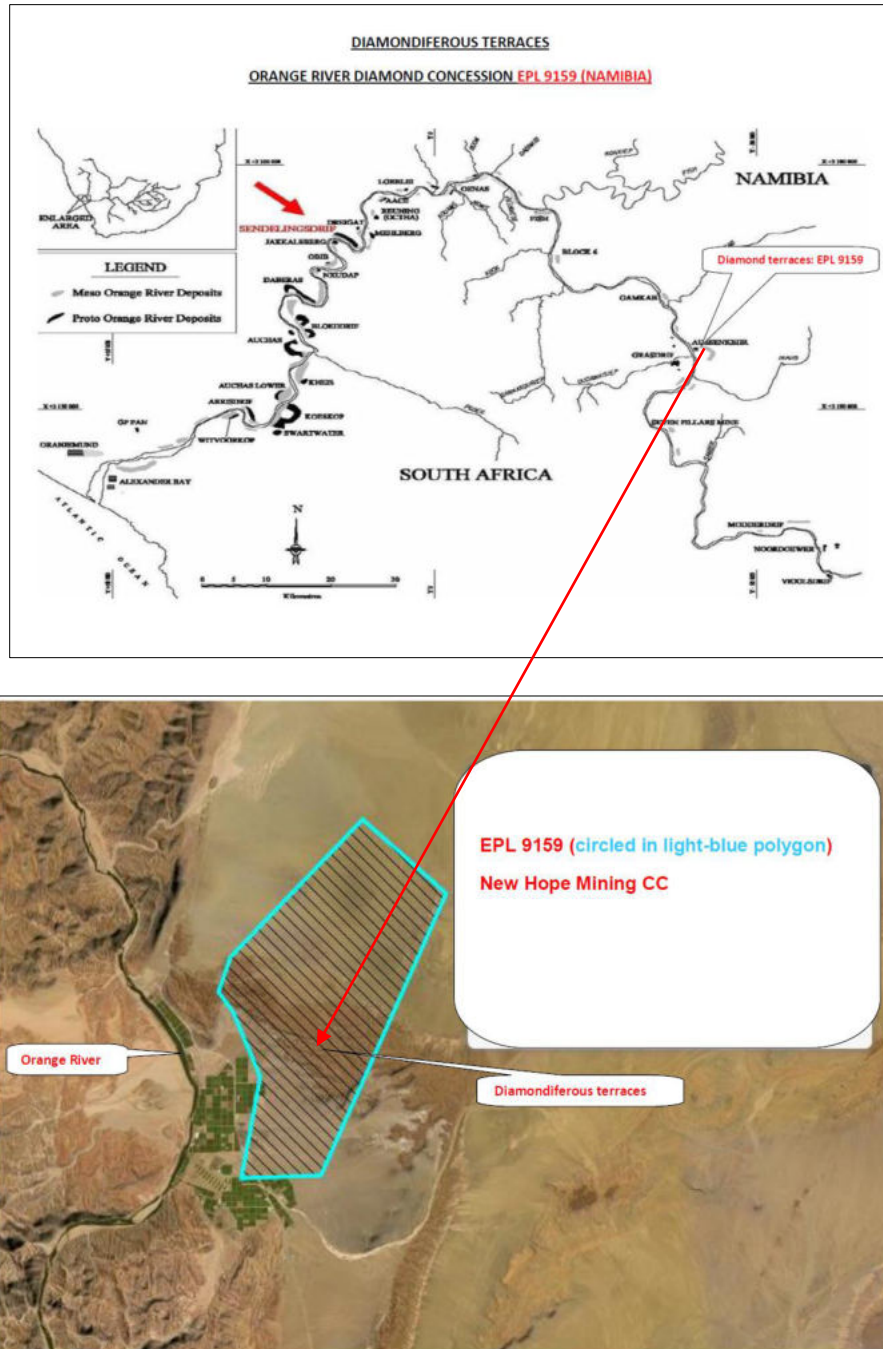


Figure 2-2: The diamondiferous terraces in the middle of EPL-9159 (Source: Proponent, 2024)

The exploration methods are presented in the subsections below.

2.3 Exploration Techniques

Exploration activities are undertaken in a funnel-like system to narrow down exploration areas by sampling selected areas in the EPL that are taken to the laboratory for analyses, then followed up with trenching at sampled sites that showed good results. Samples collected during trenching at different layers of the trenches are taken to the laboratory for further analysis. The trenching works are then followed up with exploration drilling (commonly diamond drilling) 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 are 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 Table 2-1:

- 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 ($\pm 20\text{cm} \times 20\text{cm} \times 30\text{cm}$) 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 2-3.



Figure 2-3: 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 and/or diamond-core drilling. RC drilling uses a pneumatic hammer, which drives a rotating tungsten-steel bit. The technique produces an uncontaminated large-volume sample, which is comprised of rock chips. It is relatively quicker and cheaper when compared to other techniques like Diamond Drilling. However, diamond drilling may also be considered for this exploration 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). Drilling activities on some active EPLs in the Omaheke and Erongo Regions are shown in Figure 2-4 and Figure 2-5.



Figure 2-4: 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 2-5: A drill rig on an EPL in the Omaheke Region (Resilient Environmental Solutions, 2022²)

2.4 Exploration Resources, Services, Infrastructure, and Associated Parameters

The summary of services, infrastructure, and parameters for the project activities (anticipated per exploration stage) are provided in Table 2-1.

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

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 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 (0.23-0.5months)	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**
Accommodation required onsite? (Yes/No). If yes, where?	No	Yes, but not in exploration camps yet (accommodation would be arranged in existing facilities)	Yes. Exploration camps from temporary / dismantable structures will be established on-site. The approval will be obtained from the landowners in collaboration. Alternatively, accommodation camps will be established in Aussenkehr Settlement.	Yes. Exploration camps from temporary / dismantable structures will be established on-site. The approval will be obtained from the landowners in collaboration. Alternatively, accommodation camps will be established in Aussenkehr Settlement.
Number of vehicles (4x4 bakkies)	1x 4x4 bakkie, rarely 2	One - two 4x4 bakkies	Two 4x4 bakkies	Two to four 4x4 bakkies

	Mapping (Desktop)	Soil and Rock Sampling	Trenching	Exploration Drilling
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 liter) on a trailer mounted and banded with a bowser	One (5,000-10,000 liter) on a trailer mounted and banded 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	Yes, for drinking	Yes. Drinking, washing, and toilets.	Yes. Drinking, washing, toilets, and actual drilling
Water volume per day and source of supply	In the field, about 50 liters in containers (for drinking only)	In the field, about 100 liters in containers (for drinking only)	About 1,500 liters of water will be stored in standard storage tanks. The water will be supplied from the area (Orange River) for drilling activities and dust suppression, while water for domestic use will be supplied from the Aussenkehr Settlement water supplier (through a water supply agreement). A permit will be applied for and obtained from the Department of Water Affairs to abstract exploration water from the Orange River.	About 2,500 liters and 10,000-25,000 liters of water are to be stored in standard storage tanks. The water (for drilling activities and dust suppression) will be supplied from the Orange River. Water for domestic use will be supplied from the Aussenkehr Settlement water supplier (through a water supply agreement).
Field power supply (equipment/machinery)	None	None	1 generator	2 generators

	Mapping (Desktop)	Soil and Rock Sampling	Trenching	Exploration Drilling
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 in Aussenkehr.	10kg liquid gas cylinder cooker or as per the mode of cooking at an already established hired accommodation facility in Aussenkehr.

**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 area near the accommodation site (campsite), or a storage site established within the EPL.

2.4.1 Accessibility (Roads)

The EPL area can be accessed by the C13 or D0212 roads connecting from B1 via D0256 and D0207, passing near the EPL. If needed, further tracks that may be required to access certain areas on the EPL for exploration will be created to access certain target sites for exploration, and enable the movement of vehicles and the drill rig. However, approval will be obtained from landowners before creating new tracks.

2.4.2 Waste Management

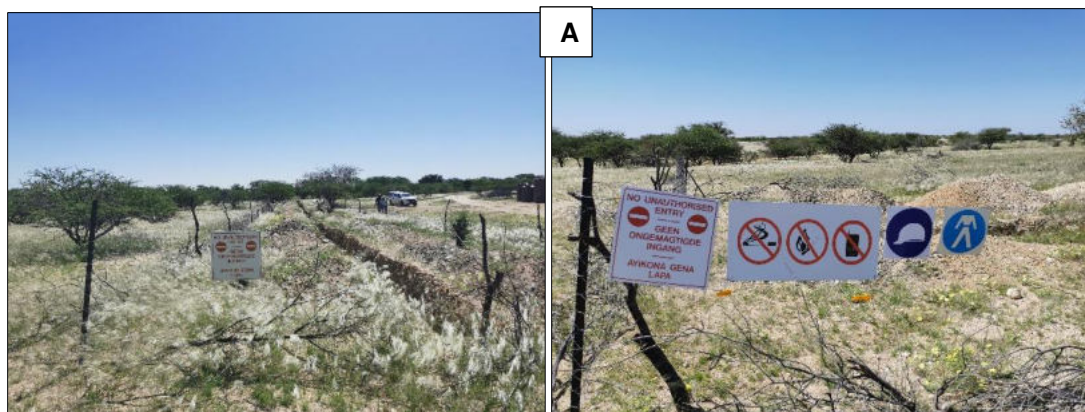
The onsite waste types will be managed as follows:

- Sewage: Two portable ablution facilities with septic tanks will be provided on-site and emptied according to manufacturers' instructions
- General and domestic waste: Sufficient solid waste containers will be made available at both exploration sites and accommodation facilities for waste storage, sorting, and later disposal at the nearest designated waste sites in the Region.
- Hazardous waste: All vehicles, machinery, and fuel-consuming equipment will be provided with drip trays to capture potential fuel spills and waste oils. Waste fuel/oils will be carefully stored in a standardized container to be disposed of at the nearest approved hazardous waste management facility in Windhoek.

2.4.3 Health and Safety

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

- Adequate and appropriate Personal Protective Equipment (PPE) will be provided to all project personnel while on and working at the site, including site visitors. Two fully equipped first aid kits will be readily available onsite.
- 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 nearest health center for treatment. At least two to three personnel will be trained in first aid administering.
- 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, at the working sites, and campsite (accommodation units). 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 of 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 2-6).



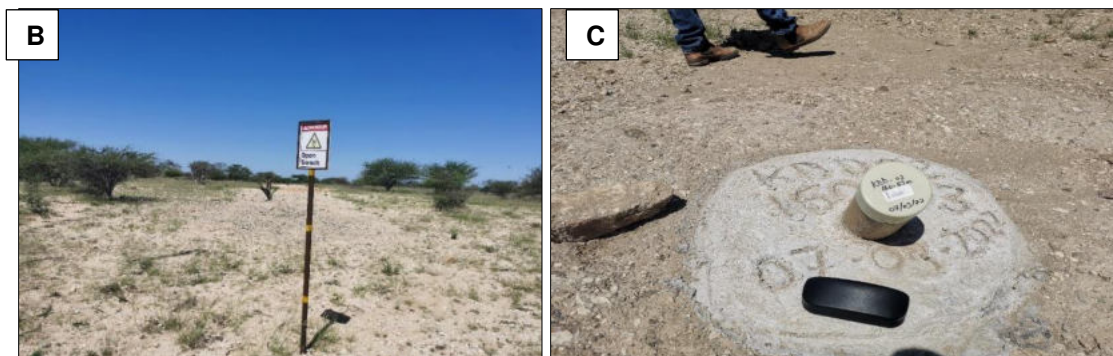


Figure 2-6: A-fenced-off exploration trench awaiting backfilling upon completion of sampling, B-backfilled trench, and C-capped exploration hole at an active exploration site visited by the Author in 2022

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 close to their original state as much as possible.

2.6 Post-Exploration Activities

After a successful exploration activity, the EPL would be converted into a Mining License by submitting exploration results and an application to the MME to convert the EPL (if found economically feasible) into a Mining License. Upon pre-approval of the application by MME, 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 MME to decide on issuing a Mining License (mining rights). 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 MME, 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) such as the estimated diamondiferous terraces on EPL-9159.

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-9159 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 fixed facility with septic tank -Portable facilities with septic tank	-To minimize rehabilitation costs, portable facilities were selected as the best option
Water supply	-Bring water from elsewhere -Abstract from the Orange River	-The project water will be sourced from the Orange River (for drilling and dust suppression). Drinking water will be supplied from the local water supplier.
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).
Offices, accommodation	-Erect dis-mountable 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 Aussenkehr Settlement, which is less than 5km from the EPL boundaries.	-Commute from Aussenkehr Settlement by either setting up a temporary exploration campsite or renting an already established accommodation facility for out-of-area workers (specialized workers). Aussenkehr-based 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 or 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	<p>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:</p> <p>“...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...”</p> <p>Article 95(l) commits the state to actively promoting and maintaining the welfare of the people by adopting policies aimed at the:</p> <p>“...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.”</p>	<p>By implementing the environmental management plan, the establishment will be conformant to the constitution in terms of environmental management and sustainability.</p> <p>Ecological sustainability will be the main priority for the proposed development.</p>
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.	<p>The Proponent should enter into a written agreement with landowners before exploring their land.</p> <p>The Proponent should assess the impact on the receiving environment.</p>

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
	<p>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.</p> <p>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.</p> <p>Section 91 requires that rehabilitation measures should be included in an application for a mineral license.</p>	<p>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.</p> <p>The Proponent may not carry out exploration activities within the areas limited by Section 52 (1) of this Act.</p>
Nature Conservation Amendment Act, No. 3 of 2017	<p>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.</p> <p>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 prohibits certain acts therein as well as the purposes for which permission to enter game parks and nature reserves may be granted.</p>	<p>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.</p>
The Parks and Wildlife Management Bill of 2008	<p>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.</p>	
Mine Health & Safety Regulations, 10 th Draft	<p>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.</p>	<p>The Proponent should comply with all these regulations concerning their employees.</p>

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
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 MME 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 Ilkharas Regional Council; therefore, they should be consulted.
Water Resources Management Act (No 11 of 2013) and 2023 Water Regulations	<p>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.</p> <p>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.</p> <p>-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.</p>	<p>The protection (both quality and quantity/abstraction) of water resources should be a priority.</p> <p>Relevant permits to discharge effluent should be applied for and obtained from the Water Affairs Department at the Ministry of Agriculture, Water & Land Reform (MAWLR)</p>
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.	<p>The Proponent should ensure compliance with these Act's requirements.</p> <p>The necessary management measures and related permitting requirements must be taken. This is done by consulting with the National Heritage Council of Namibia.</p>
The National Monuments Act (No. 28 of 1969)	The Act enables the proclamation of national monuments and protects archaeological sites.	

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
		A Chance Finds Procedure provided to the Draft EMP should be implemented upon discovery of archaeological and heritage resources.
Soil Conservation Act (No 76 of 1969)	The Act makes provision for the prevention and control of soil erosion and the protection, improvement, and conservation of soil, vegetation, and water supply sources and resources, through directives declared by the Minister.	Duty of care must be applied to soil conservation and management measures must be included in the EMP.
Forestry Act (Act No. 12 of 2001)	The Act provides for the management and use of forests and forest products. Section 22. (1) provides: "Unless otherwise 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."	The proponent will apply for the relevant permit under this Act if it becomes necessary.
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.	

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
Atmospheric Pollution Prevention Ordinance (1976)	This ordinance provides for the prevention of air pollution and is affected by the Health Act 21 of 1988. Under this ordinance, the entire area of Namibia, apart from East Caprivi, is proclaimed as a controlled area for section 4(1) (a) of the ordinance.	The proposed project and related activities should be undertaken in such a way that they do not pollute or compromise the surrounding air quality. Mitigation measures should be put in place and implemented.
Hazardous Substance Ordinance, No. 14 of 1974	The ordinance provides for the control of toxic substances. It covers manufacture, sale, use, disposal, and dumping as well as import and export. Although the environmental aspects are not explicitly stated, the ordinance provides for the importing, storage, and handling.	The Proponent should handle and manage the storage and use of hazardous substances on site so that they do not harm or compromise the site environment.
Road Traffic and Transport Act, No. 22 of 1999	The Act provides for the establishment of the Transportation Commission of Namibia; for the control of traffic on public roads, the licensing of drivers, the registration and licensing of vehicles, the control and regulation of road transport across Namibia's borders; and for matters incidental thereto.	Mitigation measures should be provided for, if the roads and traffic impact cannot be avoided, the relevant permits must be applied for.
Labour Act (No. 6 of 1992)	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 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.
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 compensations, 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, soils, 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 partly communal but mainly private land. Once the EPL certificates are issued by MME. 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	Although the area has minimal vegetation (owing to the desert environment), the ESA Study 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.

IFC PS	Relevant Provisions of the IFC PS	Implications for the Project / Actions Taken
PS8	Cultural Heritage	An Archaeological & Cultural Heritage Impact Assessment (AHIA) has been undertaken for the ESA Study 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 Statues (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	Addresses 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 such that they contribute to desertification.
Convention on Biological Diversity 1992	Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, to ensure their conservation and sustainable use. Promote the protection of ecosystems, and 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.

Statute	Relevant Provisions	Implications for the Project / Requirements
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. 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 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 20th of November 2024), online sources ranging from old reports, books, publishing, 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 site falls within the Nama Karoo Biome of Namibia, which is recorded to have a grass cover of between 2 and 10 %. However, the area borders the Succulent Karoo Biome, which has less than 0.1% grass cover, which is a more accurate description of the site and surroundings, which does not have any grass cover. This corresponds with the Average Green Vegetation Biomass Production Atlas for Namibia, which classifies the area as a category 2: Bare ground (Geo Pollution Technologies (Pty) Ltd, 2016 as cited TARO Consultants, 2024).

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 mainly a settlement and grape farms. Therefore, there are no animals, apart from some wildlife that may occur in nature reserves and further in national parks. According to some locals, there are seldomly spotted jackals, leopards, and springboks near the settlement. There are domestic animals in the settlement and livestock (sheep and some horses).

In terms of flora, the vegetation structure of the EPL area is mainly characterized by sparse shrubland as shown on the vegetation map in Figure 5-1.

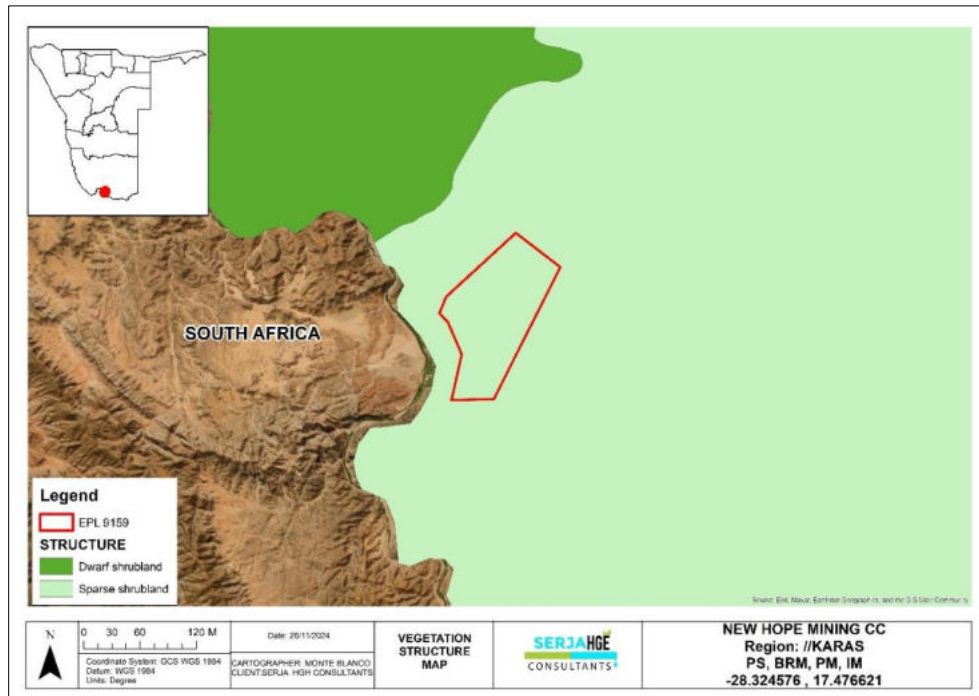


Figure 5-1: The vegetation structure map within and around the EPL

The area is poorly vegetated by dwarf shrubs, thus, the vegetation is scattered as observed during the site visit and shown in Figure 5-3 and Figure 5-3:



Figure 5-2: Some vegetation (*Cullen plicatum* and *Anabasis salsa*) around the EPL area



Figure 5-3: The Smelly Shepherd's Tree (*Boscia foetida*) within the EPL area

5.2 Physical Environment

5.2.1 Climate

There is no documented climate information on Aussenkehr, and the nearest area is Vioolsdrif (South Africa's Northern Cape) which is 57km away. Therefore, the information on the nearest area is used for Aussenkehr.

According to World Weather Online (2025), the 14-year period of Vioolsdrif weather, indicates that the area experiences low rainfall of about 18mm per year around April to June with an average of 12mm per year as shown in Figure 5-4A. The area experiences maximum and minimum temperatures of 25°C around April and 10°C around August, respectively. The average low and high temperatures are shown in Figure 5-4B.

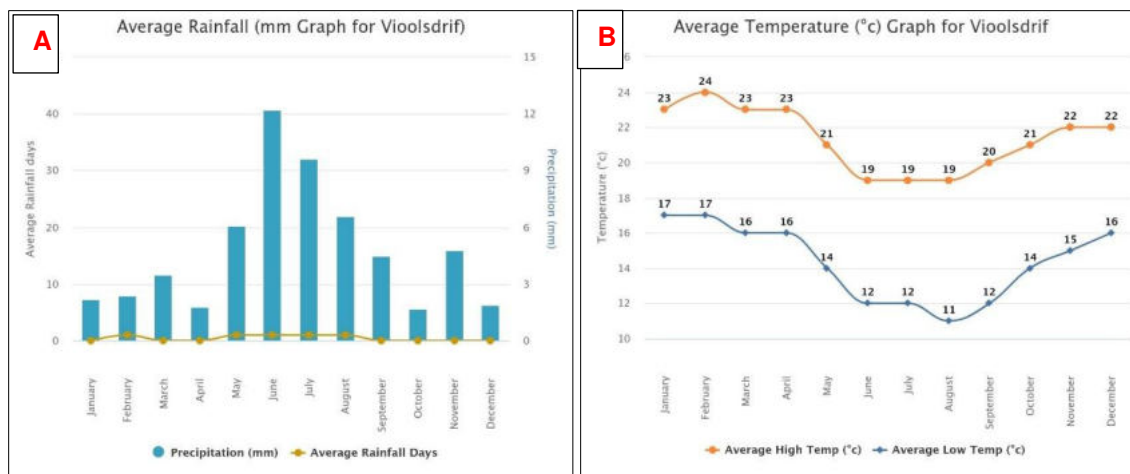


Figure 5-4: The annual average rainfall and temperature charts for the project area (World Weather Online, 2025)

5.2.2 Air and Wind

In terms of wind, the wind rose for the Aussenkehr 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).

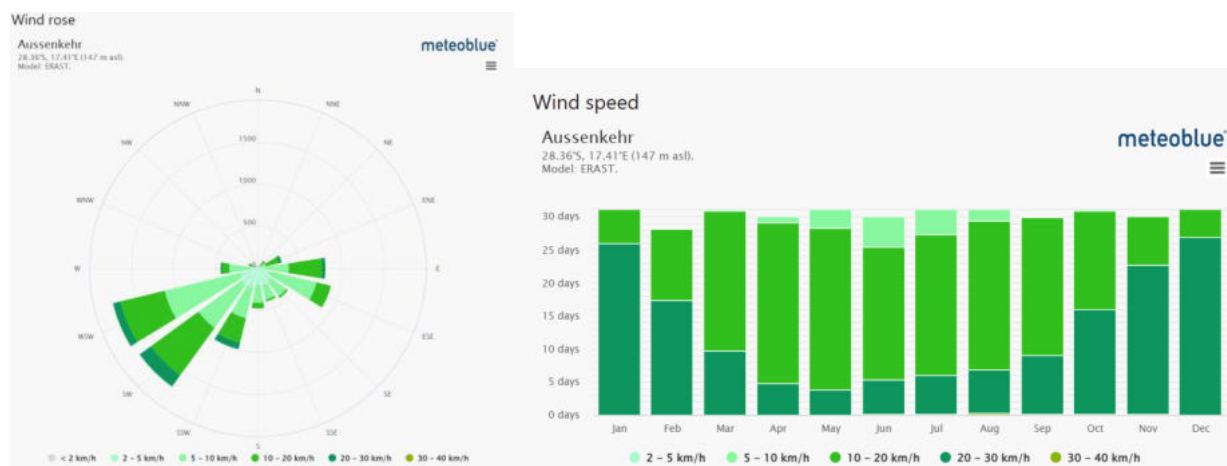


Figure 5-5: The wind rose and chart speed for the Aussenkehr area (Meteoblue, 2025)

5.2.3 Landscape and Topography

The EPL area is characterized by the Gamkab Basin Landscape - Figure 5-6. This landscape was formed by rivers eroding the terrain to the north of the Orange River. These rivers flow and erode the landscape only sporadically after heavy falls of rain. The landscape is dominated by large, open valleys of gently sloping ground covered with a sparse layer of grass. There are many prominent dolerite sills in the Basin (Mendelsohn et al., 2002).

The EPL is on a relatively flat area to the south with elevations from 0 to 547 meters above sea level (MASL) to slightly hilly and mountainous towards the northeast (with elevations ranging between 547 and 951 MASL) as shown on the topographic map in Figure 5-6. Added to that, the EPL area is characterized by rugged landscapes, mountains, and river channels as per some photos in Figure 5-7.

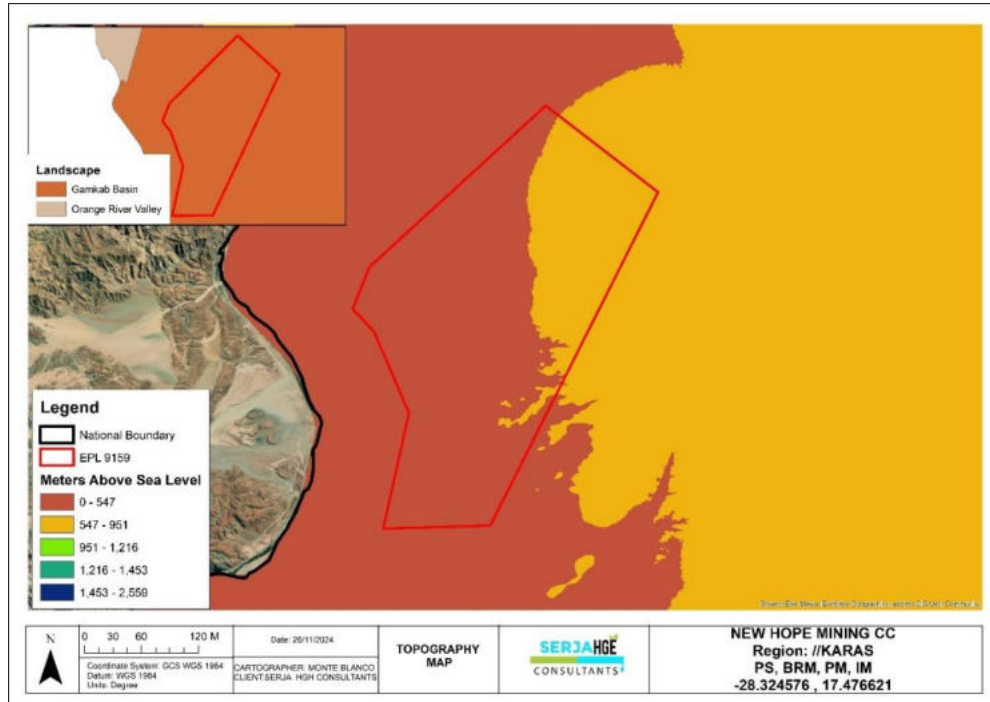


Figure 5-6: The topography and landscape of the area



Figure 5-7: The localized rugged and mountainous landscape of the area

5.2.4 Geology

The EPL area project area is mostly underlain by formations of the Dwyka and Ecca Group rocks of the Karoo Supergroup. The EPL overlies the rock units of shale, mudstone to the south, dolerite sills and dykes in the central (suspected hosting diamondiferous terraces – as per the geological desktop study), and rock units comprising shale, limestone, and siltstone to the north - Figure 5-8.

The schematic section of Property meso- and proto-terrace paleochannel gravels of the EPL is shown in Figure 5-9. Thus, the geological settings of the area (the rock units and their nature to potentially host ores of the sought commodities) triggered the need to prospect and explore the EPL.

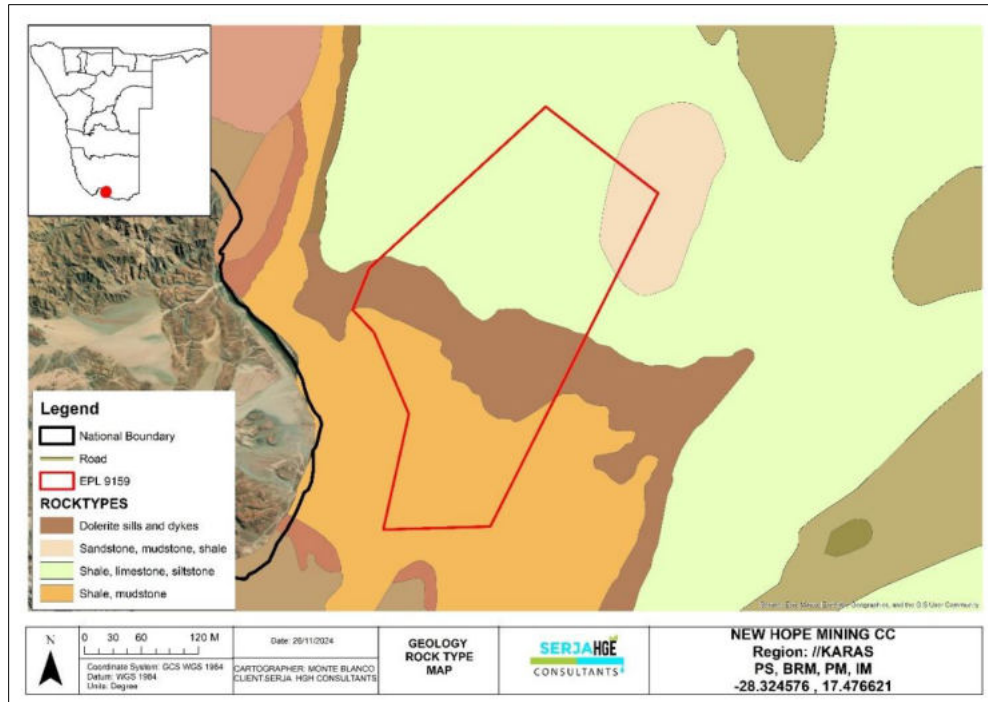


Figure 5-8: The geology of the EPL and surrounding project area

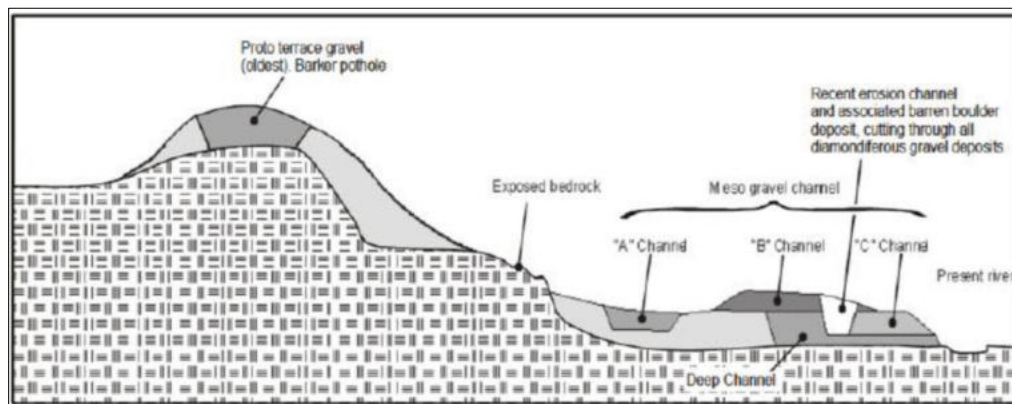


Figure 5-9: The schematic section of Property meso- and proto-terrace paleochannel gravels (Source: Proponent, 2024)

5.2.5 Site Soils

The EPL is mainly covered by eutric leptosols and slightly by rock outcrops in the middle of the EPL as shown on the soil map in Figure 5-10. According to Mendelsohn et al., (2002), the prefix name (eutric) means these soils are fertile with high base saturation.

The leptosol component of the soil name indicates that these soils typically form actively from erosion landscapes, especially in hilly or undulating areas that cover much of southern and northwestern Namibia. The coarse-textured soils are characterized by their limited depth caused by the high presence of a continuous hard rock (Mendelsohn et al., 2002).

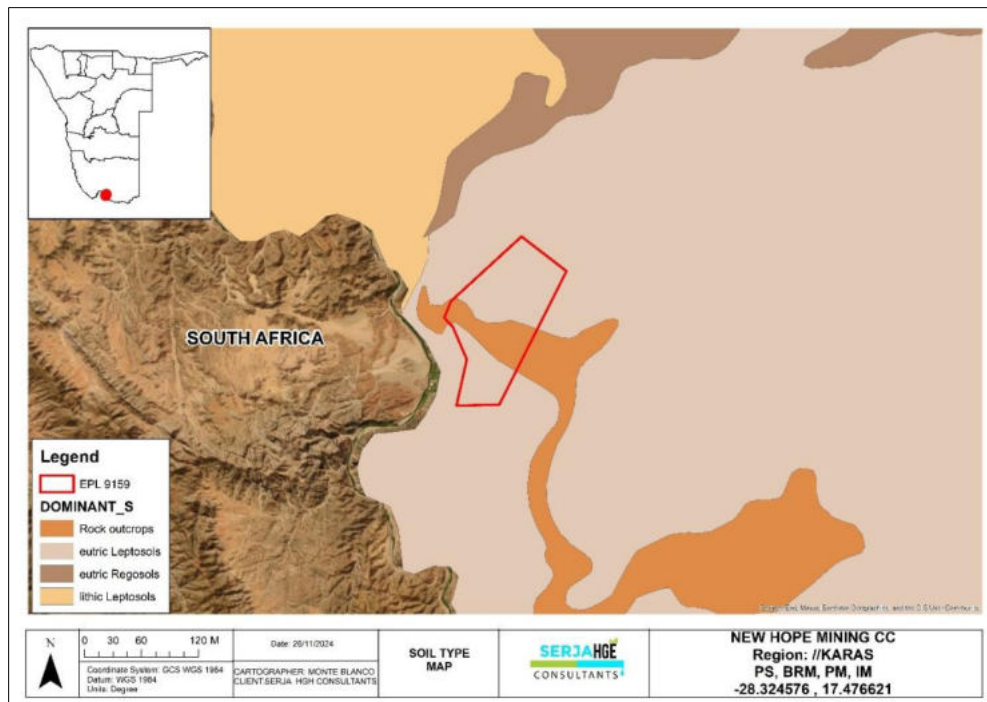


Figure 5-10: The dominant soil types found within the EPL

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

The project area is bordered to its south by the Orange River, a perennial river with a catchment area of 1,000,000km² and an annual volume of 3,400 million m³ per year (Mendelsohn et al, 2002). Some visible ephemeral rivers are crossing through the EPL site and they are shown in the map below.

Regarding groundwater (hydrogeology), the area has rock bodies with little to no groundwater potential. Similarly, this is proven by the local surface water and groundwater map shown in Figure 5-11, shows that the EPL is underlain by rock bodies with little groundwater potential. Porous aquifers in the area can only be found along the perennial Orange Rivers as well as small ephemeral rivers inland.

The little groundwater potential in some parts of the EPL and nearby areas 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.

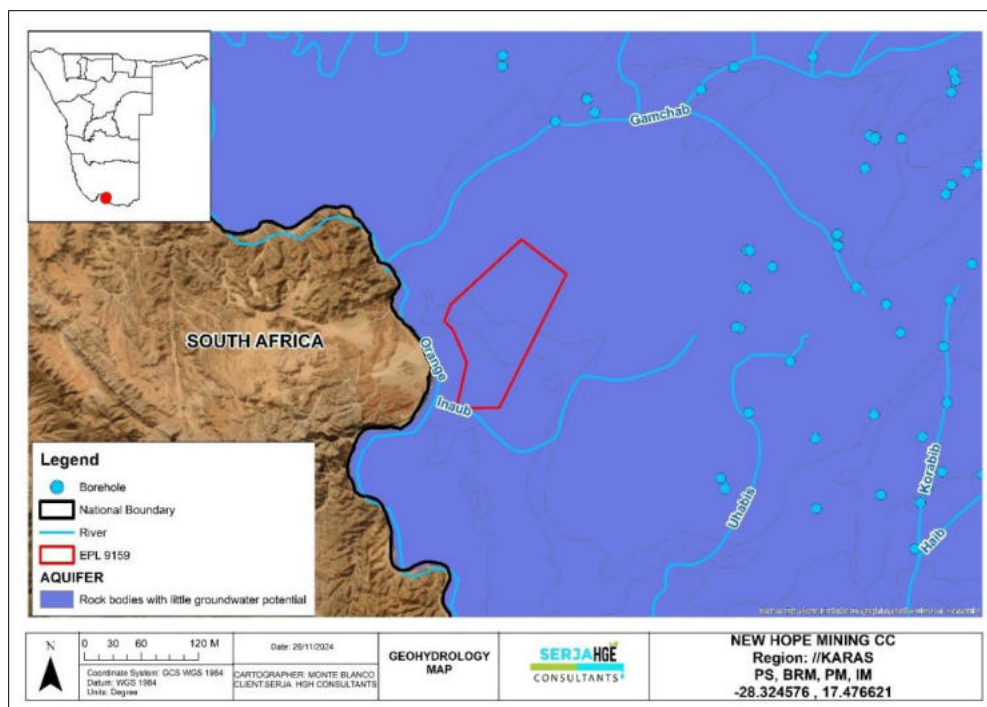


Figure 5-11: The surface and groundwater (geohydrology) map of the area overlain by the EPL

5.3 Social and Economic Environment

5.3.1 Demography

Based on the 2023 Population and Housing Census results, the IlKharas Region has a population of 109,893 people (55,670 males and 54,223 females) and a population density of 13.4 people/km². The project site falls within the Karasburg West Constituency with a population of 17,741 (8,365 males and 9,376 females) and a population density of 1.3 people/km² (Namibia Statistics Agency, 2024a).

5.3.2 Economic Activities and Employment

According to the Namibia Statistics Agency (2024b), the main sources of household income within the IlKharas Region are wages & salaries (68.5%), old age pension (8.9%), business, non-farming (3.9%) and farming at 2.3%.

According to the 2023 Labour Force Report, out of the 109,983 people in the IlKharas Region, the number of people working is 75,940 (38,517 males and 37,423 females), which means 69% of the 15 years and above people in the Region are employed (Namibia Statistics Agency (2024c). The labor force participation rate (LFPR) for the population (age 15 years and above) by area and sex in the 14 regions is presented in Table 5-1.

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))

Table 3.4: Labour force participation rate (LFPR) for population (Age 15 year and above) by Area and Sex

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 Agriculture and Farming

The Aussenkehr Settlement is well-known for its grape farming in the country as it is along the banks of the Orange River for easy access to water supply. The project area is in the driest part of the country and unsuitable for any agricultural activity but highly suitable for eco-tourism or as conservation or wilderness areas (Irish et al., 2008), which explains the operations of establishments such as the Lodges and Nature Reserves.

5.3.2.2 Exploration and Mining

The //Kharas Region has some good opportunities for mineral exploration due to its rock and mountainous formations, which are pivotal for regional economic growth and development. Common minerals mined in the Region include diamonds, tantalum, zinc, semi-precious stones, and others. Apart from EPL-9159, there are also other mineral licenses (EPLs, mining licenses, and 5 mining claims inside EPL-9159) owned by different proponents in the area, some within proximity of EPL-9159 are shown on the map in Figure 5-12.

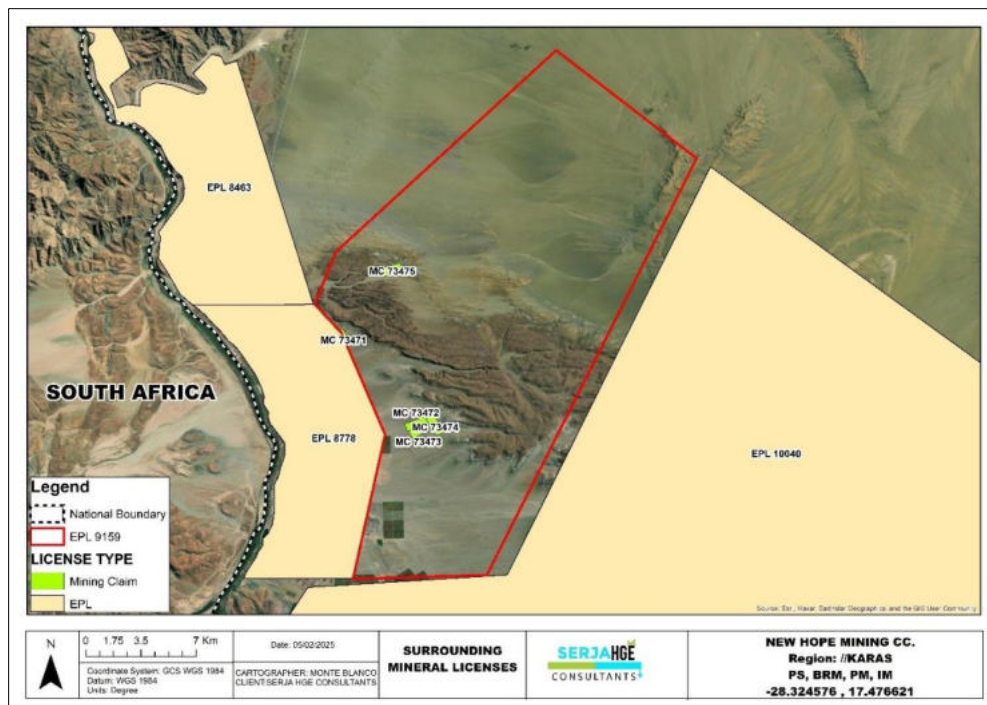


Figure 5-12: The mineral licenses within and around EPL-9159

5.3.2.3 Tourism

The ||Kharas Region has some sensitive areas, which are the proclaimed National Parks and Game Parks, that also serve as some of the tourist destinations in the Region. These national and game parks as identified by the ||Kharas Integrated Regional Land Use Plan (2011) are the /Ai-/Ais Hot Springs Game Park and surroundings such as the Fish River Canyon Complex; Area between /Ai-/Ais Hot Springs Game Park and Rosh Pinah, including farms Namuskluft, Zebrafontein, Witputs, Trekpoort, and Spitzkop. Furthermore, these areas include all-natural springs in the ||Kharas Region; Warmbad plains; the main ephemeral river courses, notably Fish, Konkiep, Gamchab, Löwen, Holoog/Gaap; the entire length of the Orange River and the Tributary valleys flowing into it; Tiras Mountains and escarpment; Brukkaros Mountain; Groot Karas Mountains; All ephemeral pans; Huib-Hock Plateau; Sperrgebiet Corridor and entire Sperrgebiet area; Namib-Naukluft area; Luderitz peninsula (||Kharas Regional Council, 2024).

From a local perspective, there is a King Canyon site (Figure 5-13) near Aussenkehr, which is one of the tourist attraction sites in the area. There is a camping site in the King Canyon offering accommodation for campers. Furthermore, the King Canyon site is also used for hiking, climbing, and cycling. The spectacular geologic formation features around King Canyon can be used for scientific endeavors and other educational research purposes.



Figure 5-13: The notice at the entrance of the King Canyon site and prominent features near this site

5.4 Environmentally and Socially Sensitive Areas

During the consultation meeting, some areas within and near the EPL boundaries were requested to be excluded from the EPL activities. These are regarded as environmentally and socially sensitive in terms of additional activities such as exploration works. These areas include but are not limited to the King Canyon tourist site, proposed settlement expansion, and the area close to the boundaries of vineyards. Thus, no-go areas or buffer zones (100m) were created around these areas, to ensure that no prospecting and exploration will be conducted within these zones. The buffer zones map is shown under Figure 5-14, thus, a part of the area with suspected diamondiferous terraces will also need to exclude the King Canyon site.

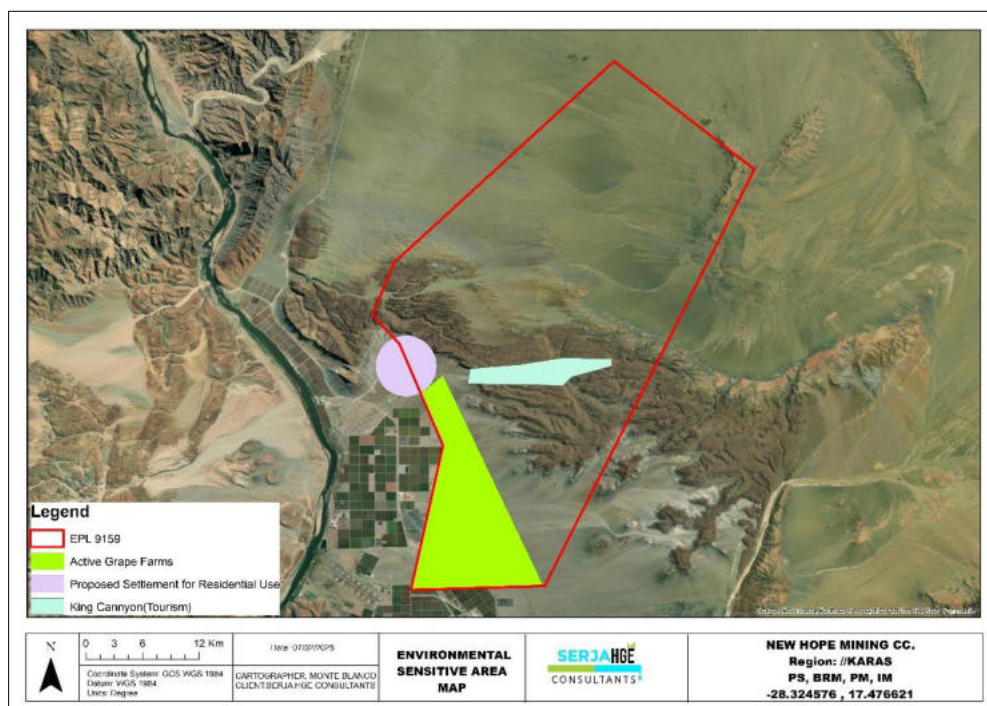


Figure 5-14: Existing environmental and socially sensitive (withdrawn) sites/areas within the EPL

5.5 Infrastructure and Services

The //Karas 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. The power is supplied either through NamPower in the central areas of the Region or in the far south towns like Oranjemund, Eskom of South Africa supplies the electricity.

There is also a good water reticulation system in both towns/villages/settlements and rural (farm) areas. The water is mainly supplied through water supply schemes operated by NamWater either through boreholes (direct boreholes or treated water) or from man-made dams such as Naute and Neckartal Dams. Most of the people down south of the Region in towns such as Oranjemund are supplied with water from the Orange River. The summary of current services infrastructure in and around the EPL area includes:

- Water supply: The settlement is supplied by NamWater from the Orange River which is stored in a reservoir before distribution to the residents and businesses. Grape farms directly abstract from the Orange River for their operations.
- Electricity: The settlement is supplied by NamPower.
- Telecommunication services: Aussenkehr has good network coverage. The main providers of this service in the area are Telecom Namibia and MTC Namibia.
- Roads (accessibility): the EPL is accessible by the C13 or D0212 roads connecting from B1 via D0256 and D0207, passing near the EPL.

5.6 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, 2024). The site-wide area assessment was conducted and a baseline assessment was compiled and contained herein under this section. The AHIA Report has been submitted to the National Heritage Council (NHC) for evaluation and consideration of the Heritage Consent for EPL-9159. Archaeological management and precautionary measures will be implemented onsite to ensure continued protection of the resources during the prospecting and exploration activities on the EPL.

5.6.1 Regional Context

Archaeological sites scattered along the coast confirm that the !Kharas coast has a long history of human occupation, with the earliest firm evidence being from about 800,000 years ago. People were then most likely nomadic, moving from one water source or good hunting area to another. While conditions along the Orange have probably been conducive to human habitation for much of the time because of the availability of fresh water, early inhabitants were also attracted to rich supplies of food from the sea. These early inhabitants are likely to have been nomadic along the very arid coastline moving from one water source or good hunting area to another. Several sites along the coast itself, including Elizabeth Bay, provide indications that people were living along stretches of the coast between 10,000 and 2,000 years ago. The remains of livestock at sites on the coast, such as Chameis Bay, indicate that nomadic pastoralists lived here hundreds of years ago¹. More recently, the coast served as a contact point with the rest of the world when early explorers made their first contact with coastal inhabitants (TARO Consultants, 2024).

According to the National Heritage Council of Namibia, !Kharas Region has about 29 known heritage sites that are listed as national monuments (Declared Sites/Lists of National Heritage). The nearest recorded archaeological sites by the NHC near EPL-9159 are shown in Figure 5-15.

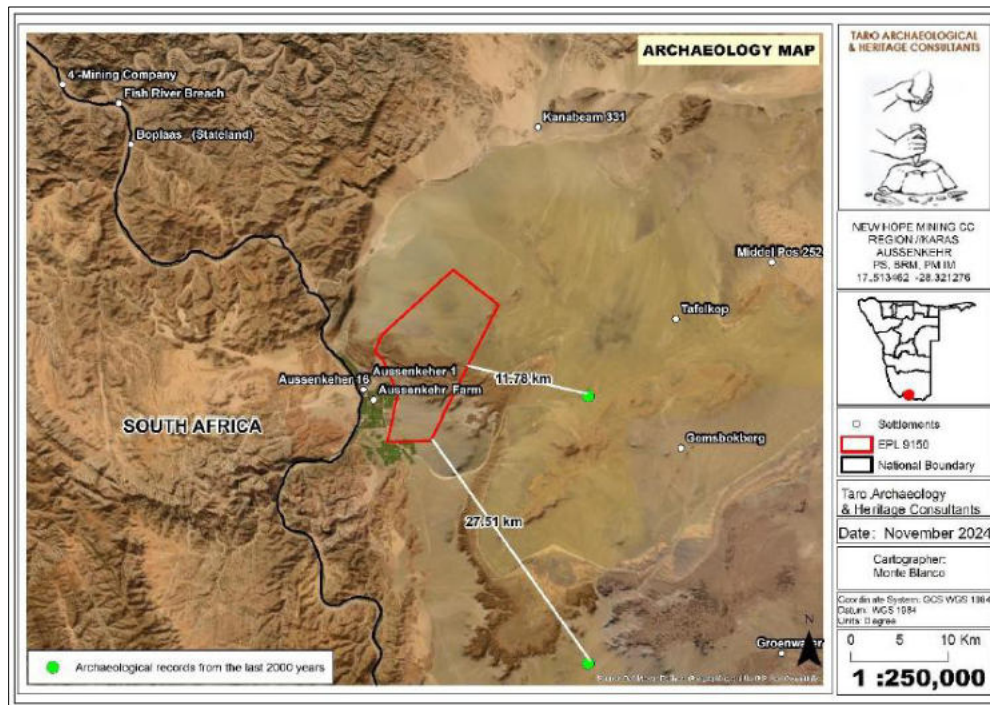


Figure 5-15: Archaeological findings map from the traversed areas within the area of EPL-9159 and heritage sites recorded by the NHC (TARO Consultants, 2024)

5.6.2 Local Perspective and Findings

As far as prospecting and exploration are concerned in this license, there are no targeted sites yet for this particular EPL. However, it was revealed during the consultation meeting that this EPL also covers some sensitive areas, such as King Canyon which is an important tourist attraction in Aussenkehr, and the specific site is used for hiking, climbing, and cycling activities but the spectacular geologic formation features around King Canyon can be used for scientific endeavor and other educational research purposes. Therefore, this part of geological and tourism significance is considered to be off-limit for any exploration endeavors.

From a local context, and according to the information provided in the consultation meetings, there are some known archaeological and heritage resources within the EPL and these are provided in Table 5-2. Therefore, these areas and others will be excluded from exploration activities.

Table 5-2: Archaeological and Cultural Heritage Resources within the Landscape (TARO Consultants, 2024)

Heritage resource type	Observation and recording made
Landscapes and Natural Features	Rugged landscapes, Mountains, Hills, the Orange River, and Grape farms (man-made features).
Holy places	None was/were recorded.
Rock shelters and Caves	Yes
Archaeological/Geologic sites	King Throne Canyon
Graves and burial places	Stone cairns, which can be a grave site, were recorded toward the route to King Canyon, the 2nd grave was recorded on top of the mountain, the western direction outside the EPL boundary. The 3rd grave site is situated south-east of the EPL at Uhabis River and is about 18km away, these are the German graves as a result of conflict between the Germans and the Nama people (Outside the EPL 9159).
Historical Settlements and Buildings	There are ruins near the German graves at Uhabis River.
Places associated with oral traditions or living heritage	None
Monuments	None were recorded
Movable objects	Dense stone tools were recorded in several places within the EPL.

5.6.2.1 Archaeological and culturally sensitive areas

The archaeological sensitivity map was created after the thorough site surveys, which took place on the 20th of November 2024. The findings include the open site of surface scatter which occurs in places such as at the foothills of the mountains and on hill slopes, one suspected grave was noted within the project footprints, and other graves of historical significance are way far from the proposed project but they included in this report as part of the larger cultural landscapes (Figure 5-16). As reported in the AHIA Report on sensitive areas that are recommended to be excluded from the proposed exploration activities, these areas are King Canyon where tourism activities such as hiking, climbing, and cycling take place, and the proposed area for a new settlement – see maps in Figure 5-14 and Figure 5-16.

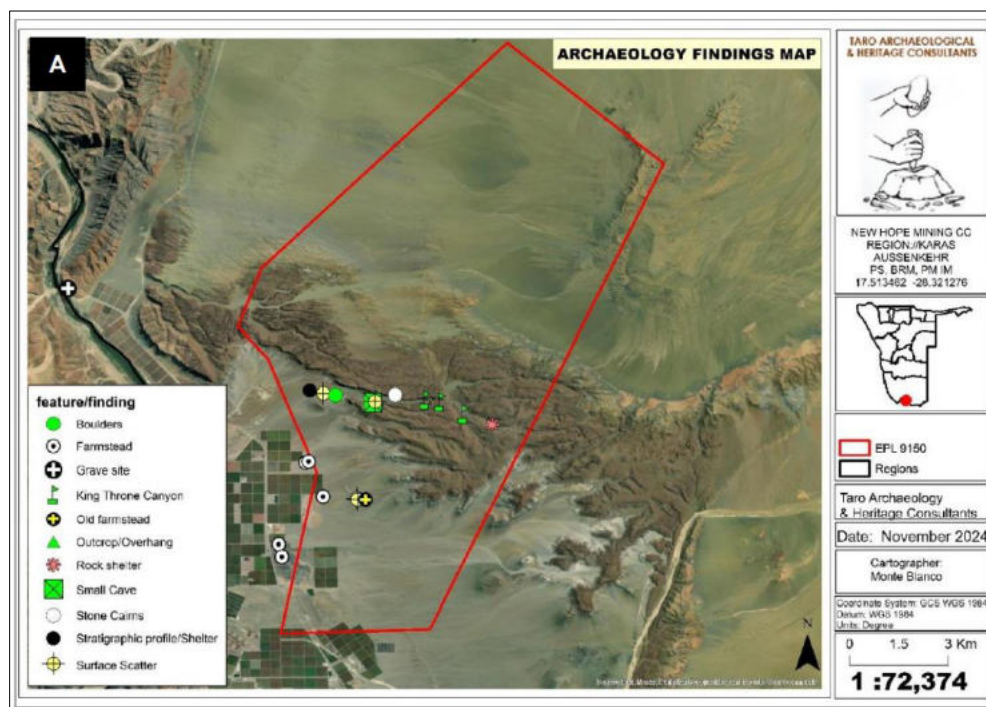


Figure 5-16: Archaeological cultural sensitivity of EPL-9159 (TARO Consultants, 2024)

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 hand-delivered to the Ministry of Environment, Forestry and Tourism (MEFT) accompanying the ECC application, and uploaded on the MEFT (ECC) Portal for project registration and shared with registered Interested and Affected parties (I&APs).
- Project Environmental Assessment notices were published in the *New Era* and *Windhoek Observer* newspapers on the 30th of October 2024 and 05th of November 2024 – Appendix C. The consultation period ran from the 30th of October 2024 to the 03rd of December 2024.
- EIA posters were pasted in Aussenkehr in early November 2024 (before the consultation meeting) as shown in Figure 6-1, and attached hereto as Appendix D.



Figure 6-1: A3 ESA Study Poster at NamPost in Aussenkehr

- A consultation meeting was scheduled and held with available I&APs in Aussenkehr on the 20th of November 2024 - Figure 6-2. The meeting was attended by five people. The low meeting attendance was due to the unavailability of most members of the public and some landowners who were busy with grape harvesting in Aussenkehr at the time. The consultation meeting minutes were taken and are attached hereto as Appendix E.



Figure 6-2: EIA Consultation meeting at the Child Care Community Center in Aussenkehr on 20 November 2024

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 ESA Report and EMP. The summarized key issues are presented in Table 6-1.

Table 6-1: Summary of main issues and comments raised

Aspect	Summary of impact or concern	Response
Impact on tourism	There is a canyon, a beautiful site for visitors, and a site where locals do rock climbing and hiking. Therefore, once mining activities occur in this area, it will negatively affect the area and the loss of tourism.	Environmentally and socially sensitive areas on the EPL have been mapped out and indicated as such herein (section 5.4). It is important to note that this EIA Study is not for mining but exploration only, which is short-term and does not guarantee mining in the future. Prospecting and exploration will also only be limited to soil and rock sampling in bags of 2kgs to 50kgs at selected areas within the EPL (not necessarily the whole EPL area) then followed up with trenching and then eventually drilling (if progressive results from soil/rock sampling and trenches encourage further activities such as drilling (with 1 drill rig) at selected site areas on the EPL). These activities are also done in phases over time and not at once.
Noise and dust concerns	There is house management in the area and the proposed activities will also affect us in terms of noise and dust generated from these activities.	The issue has been addressed herein under 7.4 and in the EMP (for mitigation measures to minimize the potential impacts of dust and noise).
Emphasis on strategic measures to mitigate dust on grape farms	A need for good and strategic measures to mitigate dust on grapes, which have cost implications for the grape market.	
Planned expansion of the settlement area	An area within the EPL is scheduled to be a settlement area, which entails the facilitation of necessary infrastructure, water pipelines, street lights, and roads. Thus, the necessary exclusion of this area from the EPL.	This is well noted. Although the settlement layouts are not yet available, the estimated area has been mapped out – see section 5.4).
Water usage and permitting	A concern about water usage, and we urge that necessary permits be obtained before extracting water from the Orange River, and avoid over-abstraction of water that will affect the water supply for grape farms.	Yes, as per the Water Resources Management Act No. 11 of 2013 and its 2023 Water Regulations, water abstraction & use for commercial and industrial purposes requires a permit. Water use is also an associated activity under the 2012 EIA Regulations (Listed Activity 8.1 & 8.3) whereby a permit to utilize water for such activities (industrial) will be applied for from the Department of Water Affairs at the Ministry of Agriculture, Water and Land Reform (MAWLR) before any water abstraction related to the proposed exploration activities.

Aspect	Summary of impact or concern	Response
		Moreover, permitting/licensing requirements are usually also provided in the EMP as a guide for project developers/proponents. Therefore, this will not be an exemption for New Hope Mining because they will also be required to apply for and obtain a water abstraction permit before commencing exploration activities when the time comes.

The EIA consultation started from the 30th of October 2024 to the 03rd of December 2024. Key comments were submitted to Serja Consultant during consultation meetings as summarized above as also indicated in the meeting minutes.

6.4 Feedback on the Draft Scoping Assessment Report Review

For review and further comments, the Draft ESA Report, Environmental Management Plan (EMP) as well as the associated appendices were circulated to the registered stakeholders (through their representative) on the 07th of February 2025 for 14 days for comments before finalizing for submission to the MEFT for evaluation - Figure 6-3. Due to other commitments from the I&APs which coincided with the mourning period of the Founding President between 08 February until the funeral service on the 01st of March 2025, the draft report review period was extended to 11 March 2025.

RE: 'EPL-9159 Environmental Impact Assessment (EIA) Study near Aussenkehr in the ||Kharas Region: Draft ...



eias.public@serjaconsultants.com
To: 'Quzette Bosman'

Reply Reply All Forward

Fri 07/02/2025 11:18 am

You forwarded this message on 25/02/2025 7:20 am.



EPL9159-Enviro_Scoping_Assessment_Report_Draft_for_Review.pdf
4 MB



EPL9159-EMP-Jan2025_v003.pdf
1 MB

Good day Quzette,

Thank you for taking my call earlier today.

As communication, please find attached the Draft Scoping Report and its EMP for your review and comments.

I am allowing at least 14 days for review before we submit the documents to the Ministry of Environment for evaluation. However, if we can get comments back in less than that, then that will be great, too. We will then incorporate and finalize for submission. The final documents will also be shared with you.

For your information, I have uploaded the Archaeological & Heritage Impact Assessment Report here <https://we.tl/t-hdojsZxmYr> – the file is 9MB. Hence, I am sharing it as a link for you to download in case your mail server may not receive more than 15MB of attachments at once.

Kind regards,
Fredrika

From: Serja EIAs and Public Engagements <eias.public@serjaconsultants.com>

Sent: Thursday, November 14, 2024 11:05 AM

To: 'Quzette Bosman' <quzettebosman@serjaconsultants.com>

Subject: RE: 'EPL-9159 Environmental Impact Assessment (EIA) Study near Aussenkehr in the ||Kharas Region: BID and Invitation to the Consultation Meeting, on Wednesday, 20 November 2024 in Aussenkehr

Dear Quzette,

Thank you very much for your email and call earlier this morning.

Your email contents have been well received and recorded. We have also added you (on behalf of the affected people you are representing) to the list of I&APs.

Thank you for all bring to our attention that most of the affected parties/farmers are not available to attend the consultation meetings on 19 November due to the harvesting season of the year.

We would appreciate it if you could perhaps ask them to propose for a more suitable date that can be arranged to a date when most of them or their representatives would be available to attend the meeting- because there it is definitely not possible to have everyone available at once.

Kind regards,
Fredrika

Figure 6-3: Circulation of the draft EIA Scoping report, EMP and Archaeology Report to the I&AP representative on 07 February 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 an 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 in Aussenkehr) and temporary storage of exploration samples in the area
- Procurement of local goods and services for exploration by small and medium businesses to promote 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
- Impact on tourism
- The potential impact of illegal hunting/poaching of wildlife in the area is close to the protected areas
- Potential impact on water resources and soils (over-abstraction and pollution)
- Dust generation (from excavation and drilling) potentially compromises local air quality and grapes in vineyards
- Visual impacts due to unrehabilitated disturbed site areas as a result of trenching and drilling activities
- Potential occupational health and safety risks to the locals (open and unattended trenches and drill holes may pose a risk to people) and animals (wildlife)
- Potential conflicts over land use between locals' current activities and exploration activities

- Noise associated with exploration drilling and 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 Criteria used to assess the potential negative impacts.				
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)
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:

$$\text{SP} = (\text{magnitude} + \text{duration} + \text{scale}) \times \text{probability}$$

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 for some locals 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 space rental (for accommodation and material storage) to the landowners 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)	<p><u>Fauna</u>: if activities such as trenching and drilling activities 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.</p> <p>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</p>	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
	<p>or a number reduction of specific faunal species, which also impacts tourism in the community (area).</p> <p><u>Flora:</u> The already scarce flora (vegetation) in the area would be impacted through land clearing to create exploration access roads, setting up project equipment and infrastructures, and detailed exploration activities such as trenching and drilling. The clearing of vegetation, where deemed necessary, will be limited to the specific route and minimal, therefore, the impact will be localized, site-specific, and therefore manageable.</p>										
Conflict between the Proponent and existing land uses	<p>The fact that there are existing land uses such as grape farms and tourist sites, there might be a conflict in terms of land uses if one significantly infringes on another's activities. Therefore, a good understanding should be made between the proponents and the grape farmers and the tourist areas.</p>	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
	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 dust can potentially affect grapes in vineyards, which could be costly for the market. The impact is considered short-term and localized as exploration activities are carried over specified durations at selected sites only. The local predominant wind direction is from the southwest to the northeastern direction, which is away from the Aussenkehr community/settlement when activities are concentrated in the mid-southern part of the EPL upwards. Hence, the impact is	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
	manageable with mitigation measures.										
Visual impact: Scenic view of the area for Tourism	<p>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 visual nuisance (impacting scenic views), especially for tourists and other road users in the vicinity.</p> <p>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.</p>	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
Water Resources Demand and Use	There will be abstraction of surface water from the Orange River for drilling and associated site activities (such as cooling of equipment and dust suppression). The impact of the project activities on the resources would be dependent on the water volumes required by each project activity. Commonly exploration activities	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
	use a lot of water, mainly diamond drilling, which is more water-consuming compared to other techniques like reverse circulation. The amount of water required for diamond drilling would be 10,000 to 25,000 liters (10 to 25 m ³) per day per hole. The Proponent will be sourcing water from the river and storing it in industry-standard water reservoirs/tanks onsite and refilling as required. The required water would also be dependent on the duration of the exploration works and the number of exploration holes required to make reliable results interpretation. Therefore, the impact will only last for the duration of the exploration activities and cease upon their completion.										
Soil and Water Resources Pollution	The proposed exploration activities are associated with a variety of potential pollution sources (i.e., lubricants, fuel, and wastewater) that may contaminate/pollute soils and eventually groundwater and	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
	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) from these 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	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
	<p>paper and plastics are 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.</p> <p>Improper handling, storage, and disposal of hydrocarbon products and hazardous materials at the site may lead to soil and groundwater contamination, in case of spills and leakages.</p>										
Occupational and Community Health and Safety Risks	<p>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.</p>	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
	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.										
Vehicular Traffic Safety	<p>The local roads, such as the C13 or D0212 roads connecting from B1 via D0256 and D0207, are the main transportation routes for all vehicular movement in the EPL area. There would be a potential increase in traffic flow, especially during the exploration 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 medium vehicle, and 2 to 3 small vehicles frequenting the area to and from exploration sites on the EPL, especially during trenching and drilling stages.</p> <p>Exploration works will be undertaken in stages, on certain days of the week, with a few vehicles, and the work will be</p>	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
	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 Aussenkehr community. Excessive noise and vibrations without any protective measures in place can also be a health risk to workers on site. The exploration equipment used for drilling on site is of medium size, and the noise level is bound to be limited to the site only. Thus, the impact likelihood is minimal.	M - 3	M - 3	M - 6	M / H - 4	M - 48	L - 1	L / M - 2	L - 2	L / M - 2	L - 10
Archaeological and Heritage Resources	The proposed project activities are likely to involve the removal of topsoil for the prospecting and excavation phase. The most impact is likely to be caused by earthworks in the form of clearing, drilling, excavating, removing, or micro-siting of the project equipment. The area is known to have sensitive archaeological and heritage sites such as graves, burial	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
	<p>grounds, rock shelters, and caves as well as the King Canyon site.</p> <p>According to TARO Consultants (2024), direct or indirect impacts or risks of impact on archaeological sites located near or in the vicinity of the proposed mining project can be reduced to acceptable levels by the adoption of appropriate recommended mitigation measures including integration of the archaeological heritage record and Chance Finds procedure in the project EMP. Demarcation for preservation purposes (100m buffer zones) i.e., no exploration activities should be conducted within these zones. Therefore, this impact can be rated as medium significance, if there are no mitigation measures in place. However, upon implementation of the measures, the impact significance will be reduced to a lower rating.</p>										

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 the:

- Water abstraction from the Orange River: Water consumption by exploration activities can lead to significant water usage during intensive activities because activities like drilling, and dust suppression (as exploration intensifies) require large amounts of water. There will also be competition over water with the community and existing activities such as large-scale irrigation projects (grape farms) that significantly alter the volume of water extracted from the river in a semi-arid region like the Orange River basin, where water scarcity is already a persistent concern. However, the implementation of water management measures as listed in the Draft EMP 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 burial grounds, graves, and stone artefacts are likely to be lost during the clearance of land or 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 to avoid all known significant heritage or cultural sites and burial places and will thus make a negligible contribution to cumulative impacts. The cumulative impacts are deemed to be of low significance in this case. However, with the implementation of project-specific mitigation measures as listed in the Draft EMP, this would reduce the impact significance from lot to very 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-9159 near Aussenkehr. 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 thereof 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 three newspapers (*New Era* and *Windhoek Observer*) on 30 October 2024 and 05 November 2024. The consultation period ran from 30 October 2024 to 03 December 2024. A consultation meeting was held and comments on the proposed project activities were recorded for incorporation.

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 whereby mitigation measures have been provided in the Draft EMP (in the form of action measure) 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 thereof 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 (ESA) 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 services 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), the Aussenkehr community, 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 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 to also ensure that all potential impacts that might arise during implementation are properly identified in time and addressed immediately.

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