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Environmental Scoping Assessment (ESA) Study Report:

The Proposed Prospecting and Exploration Activities on Exclusive Prospecting License (EPL) No. 6990 situated west of Uis Settlement in the Erongo Region, Namibia - An Application for Environmental Clearance Certificate (ECC)

MEFT Application No.: **APP-01313**

Document Version: **Final for Submission**

Proponent: **Gemco Investments CC**
P. O. Box 27158 Windhoek, Namibia

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DOCUMENT INFORMATION

Title: Environmental Scoping Assessment (ESA) Study Report for the Proposed Prospecting and Exploration Activities on Exclusive Prospecting License (EPL) No. 6990 situated west of Uis Settlement in the Erongo Region, Namibia – An Application for Environmental Clearance Certificate (ECC)

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EAP* - ***Environmental Assessment Practitioner***

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-6990 situated west of Uis Settlement in the Erongo Region, Serja Hydrogeo-Environmental Consultants cc declare that we:

- do not have, to our knowledge, any information or relationship with Gemco Investments CC (the Proponent), the Ministry of Environment, Forestry and Tourism (MEFT)'s Department of Environmental Affairs and Forestry (DEAF) or the Competent Authority (Ministry of Mines and Energy (MME) that may reasonably have potential of influencing the outcome of this Environmental Assessment and the subsequent Environmental Clearance Certificate (ECC) applied for.
- have knowledge of and experience in conducting environmental assessments, the Environmental Management Act (EMA) No. 7 of 2007 and its 2012 Environmental Impact Assessment (EIA) Regulation as well as other relevant national and international legislation, guidelines, policies, and standards that govern the proposed project as presented herein.
- have performed work related to the ECC application in an objective manner, even if the results in views and findings or some of these may not be 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: June 2023

EXECUTIVE SUMMARY

Gemco Investments cc (hereinafter referred to as the Proponent) was granted Exclusive Prospecting Licence (EPL) No. 6990 by the Ministry of Mines and Energy (MME) on the 04th of August 2019, which gave the Proponent to prospect and explore on the EPL. However, the EPL expired on the 07th of August 2022 as shown on the Namibia Mining Cadastre Map Portal (''pending ECC'') https://portals.landfolio.com/namibia/. The renewal of the EPL rights is subject to an Environmental Clearance Certificate (ECC), upon its submission to the MME, will aid in considering the EPL renewal.

The EPL covers an area of 12,749.7402 hectares (ha) and located 100km west of Uis Settlement and 55km west of the Brandberg Mountain. The EPL falls mainly under the Tsiseb Conservancy and part of this within the Dorob National Park. The EPL also borders the Ugab River to the north. Based on the preliminary soil sampling done to submit a renewal application to MME, the target areas for exploration activities will be concentrated mainly on the Conservancy side to minimize operations footprints/movements in the Park.

Upon renewal of the EPL, the Proponent intends to prospect and explore for mineral commodities within EPL-6990 (Base & Rare Metals, Industrial Minerals, and Precious Metals).

Proposed Project Activities

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

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

Communication with I&APs, and Means of Consultation Employed

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

- A Background Information Document (BID) containing brief information about the proposed project was compiled and hand delivered to the Ministry of Environment, Forestry and Tourism (MEFT) accompanying the ECC application, and uploaded on the MEFT (ECC) Portal for project registration and shared with registered Interested and Affected parties (I&APs).
- A Stakeholders' (I&AP) List was developed and updated as new I&APs register for the ESA.

- Project Environmental Assessment notices were published in The Namibia Media Holdings' *Market Watch newspapers* (*Allgemeine Zeitung*, *Die Republikein, and Namibian Sun*) dated 05 and 12 April 2023. The consultation period ran from the 05th of April 2023 to the 17th of May 2023.
- Due to the fact that the EPL is remotely located about 100km from Uis and other communities, consultation meetings were only scheduled and held with key local stakeholders (land custodians) in Uis, i.e., the Daure-Daman Traditional Authority and Tsiseb Conservancy management on the 16th of March 2023. Consultation meeting minutes were taken.
- Two A3 size posters were pasted at the Daure-Daman Traditional Authority and Uis frequented Supermarket (Brandberg Multisave).

Some key potential positive and negative impacts were identified by the Environmental Consultant and based on issues and comments submitted by the I&APs.

Impact Assessment: The key negative impacts were described, assessed. The potential negative impacts indicated a medium rating significance. To minimize the significance, appropriate management and mitigation measures 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 the reduction in the significance of adverse impacts that cannot be avoided completely (from medium rating to low).

Conclusions

The public was notified as required by Section 21 to 24 of the EIA Regulations by placing adverts in three newspapers (*Allgemeine Zeitung, Die Republikein, and Namibian Sun*) dated 05 and 12 April 2023. Two consultation meetings with directly affected and key stakeholders were held in Uis on the 16th May 2023 at different time slots. The stakeholders made some comments to the proposed project activities.

The comments were addressed and incorporated into this Report and Draft EMP.

The Scoping assessment (ESA) Study was deemed sufficient and concluded that no further detailed assessments are required to the ECC application for the prospecting and exploration activities.

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

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

- All the management and mitigation measures provided herein are effectively and progressively implemented.
- All required permits, licenses and approvals for the proposed activities should be obtained as required. These include permits and licenses for land use agreements, services provision agreements (water provision) to explore and ensuring compliance with these specific legal requirements.
- The Proponent, their project workers or contractors comply with the legal requirements governing their project and its associated activities and ensure that project permits and or approvals required to undertake specific site activities are obtained and renewed as stipulated by the issuing authorities.
- Site areas where exploration activities have ceased are rehabilitated, as far as practicable, to their pre-exploration state. This includes the levelling of stockpiled topsoil, backfilling of exploration trenches and closing/capping of exploration holes.

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 reduce impacts' rating or maintain 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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Appendix B: Draft Environmental Management Plan (EMP) - *uploaded separately on the Portal as required*

Appendix C: Consent Letters from the Daure-Daman Traditional Authority, and Tsiseb Conservancy - *uploaded separately on the Portal as required*

Appendix D: EIA Notification in the newspapers: *Allgemeine* Zeitung, *Die Republikein* & *Namibian Sun* - *uploaded separately on the Portal as required (under ''Proof of Public Consultation'' file)*

Appendix E: Minutes from the Consultation Meetings with key & affected stakeholders - *uploaded separately on the Portal as required (under ''Proof of Public Consultation'' file)*

LIST OF ABBREVIATIONS

Abbreviation	Meaning
AHIA	Archaeological & Heritage Impact Assessment
BID	Background Information Document
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSR	Corporate Social Responsibility
DD TA	Daure-Daman Traditional Authority
DEAF	Department of Environmental Affairs and Forestry
DNP	Dorob National Park

Abbreviation	Meaning
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
MAWLR	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
MME	Ministry of Mines and Energy
NACSO	Namibian Association of CBNRM (Community-based Natural Resource Management) Support Organisations
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 that would meet the same purpose and need of the proposal.
Baseline	Work done to collect and interpret information on the condition/trends of the existing environment.
Biophysical	The part of the environment that does not originate with human activities (e.g., biological, physical and chemical processes).
Cumulative Impacts / Effects Assessment	In relation to an activity, means the impact of an activity that in it may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Term	Definition
Decision-maker	The person(s) entrusted with the responsibility for allocating resources or granting approval to a proposal
Ecological Processes	Processes which 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 EMA - 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 (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 environments effects are to be mitigated, controlled, and monitored.
Exclusive Prospecting Licence	A license that confers exclusive mineral prospecting rights over land of up to 1000km^2 in size for an initial period of 3 years, renewable twice for a maximum of 2 years at a time.
Interested and Affected Party (I&AP)	In relation to the assessment of a listed activity includes - (a) any person, group of persons or organization interested in or affected by an activity; and (b) any organ of state that may have jurisdiction over any aspect of the activity. Mitigate - practical measures to reduce adverse impacts. Proponent – as defined in the Environmental Management Act, a person who proposes to undertake a listed activity. Significant impact - means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment
Fauna and Flora	The animals and plants found in an area.
Mitigation	The purposeful implementation of decisions or activities that are designed to reduce the undesirable impacts of a proposed action on the affected environment
Monitoring	Activity involving repeated observation, according to a pre-determined schedule, of one or more elements of the environment to detect their characteristics (status and trends).
Proponent	Organization (private or public sector) or individual intending to implement a development.
Public Consultation/Involvement	A range of techniques that can be used to inform, consult or interact with stakeholders affected by the proposed activities.
Protected Area	Refers to a protected area that is proclaimed in the Government Gazette according to the Nature Conservation Ordinance number 4 of 1975, as amended.
Scoping	An early and open activity to identify the impacts that are most likely to be significant and require specialized investigation during the EIA work. Can, also be used to identify alternative project designs/sites to be assessed, obtain local knowledge of site and surroundings, and prepare a plan for public involvement. The results of scoping are frequently used to prepare a Terms of Reference for the specialized input into full EIA.

1 INTRODUCTION

1.1 Project Background and Location

Gemco Investments cc (hereinafter referred to as the Proponent) was granted Exclusive Prospecting Licence (EPL) No. 6990 by the Ministry of Mines and Energy (MME) on the 04th of August 2019, which gave the Proponent to prospect and explore on the EPL. However, the EPL expired on the 07th of August 2022 as shown on the Namibia Mining Cadastre Portal (''pending ECC'') https://portals.landfolio.com/namibia/ - Figure 1-1. The renewal of the EPL rights is subject to an Environmental Clearance Certificate (ECC), upon its submission to the MME, will aid in considering the EPL renewal.

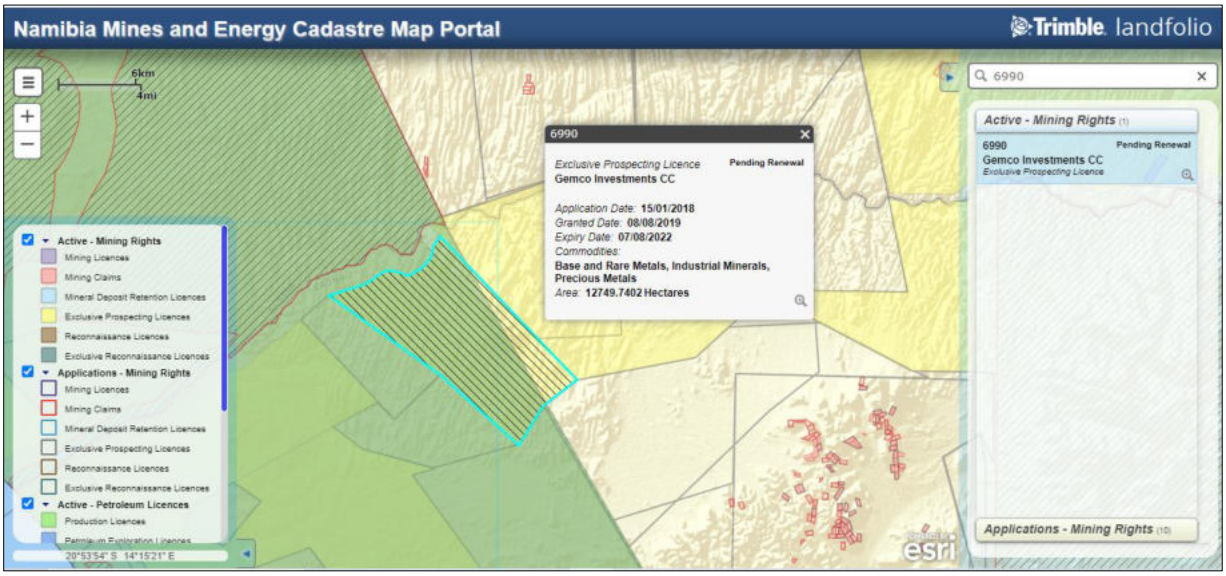

Figure 1-1: The status of EPL-6990 on the Namibia Mining Cadastre Map Portal (https://portals.landfolio.com/namibia/)

Upon renewal of the EPL, the Proponent intends to prospect and explore for mineral commodities within EPL-6990 (Base & Rare Metals, Industrial Minerals, and Precious Metals). The targeted commodities prospects for which evaluation has been done in the EPL's renewal report are nickel (base metal) and gold (precious metal).

The EPL covers an area of 12,749.7402 hectares (ha) and located 100km west of Uis Settlement and 55km west of the Brandberg Mountain as shown on the locality map in Figure 1-2.

Figure 1-2: Locality Map of EPL-6990 west of Uis in the Erongo Region

The EPL falls mainly under the Tsiseb Conservancy and part of this within the Dorob National Park as shown in Figure 1-3. The EPL also borders the Ugab River to the north (as shown clearly under the baseline environment chapter). Based on the preliminary soil sampling and surveys done to submit the renewal application to MME, the target areas for exploration activities will be concentrated on the Conservancy side to minimize operations footprints/movements in the Park as indicated on the locality and land use maps as well as other maps provided in this Report.

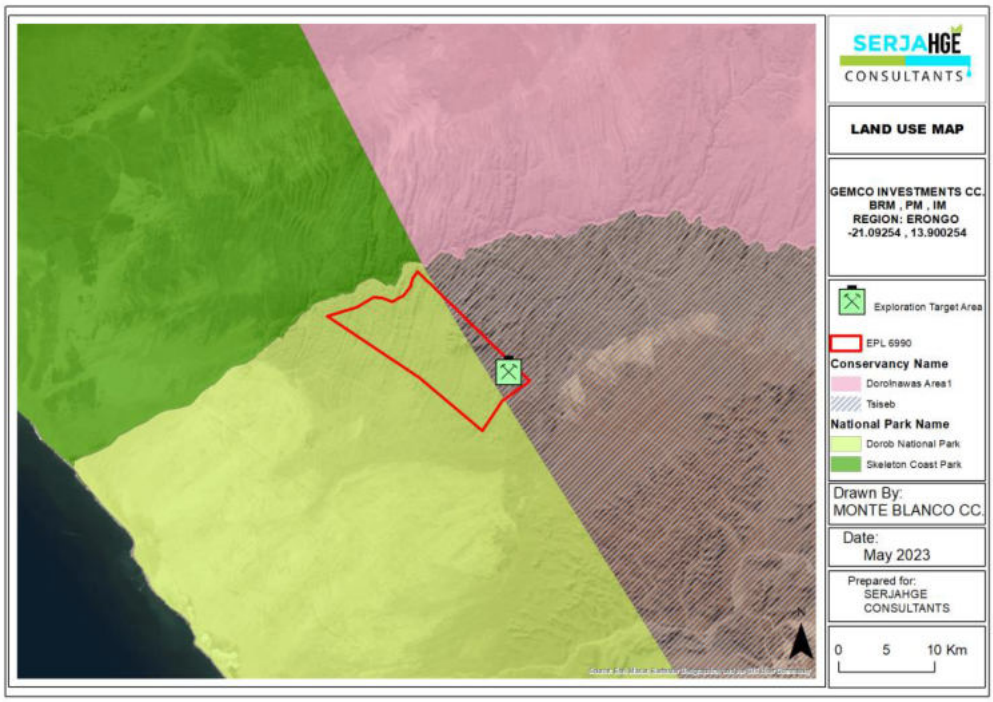

Figure 1-3: Locality Map with the significant land uses covered by EPL-6990

1.2 The Exploration Target Site and Coordinates

Based on the preliminary soil sampling and surveys done to submit the renewal application to MME, the target areas for exploration activities will be concentrated on the Conservancy side to minimize operations footprints/movements in the Park as indicated on the locality and land use maps (above) as well as other maps provided in this Report.

The exploration target has been delineated based on the baseline geophysical data interpretation and geological information presented in the Geological report prepared for the EPL-6990 in August 2022. The exploration site is defined by the sandy marble bands and structure that is known to trap minerals such as the targeted nickel in this part of the EPL. The coordinates for the exploration site area are presented below:

- Point A: -21.09302 14.04132
- Point B: -21.09781 14.04644
- Point C: -21.11298 14.04278
- Point D: -21.11285 14.03722.

Photos of the targeted gossans within the coordinates listed above are shown in Figure 1-4.

Figure 1-4: The target point areas at the exploration site of EPL-6990

1.3 The Need and Desirability of the Proposed Project

The Proponent is committed to contribute to the socio-economic development of Namibia through different industrial sectors, which includes mining that contributes about 12% towards the country's Gross Domestic Product (GDP). The proposed prospecting and exploration activities on EPL-6990 has great potential to enhance and contribute to the development of other sectors and its activities provide temporary employment, taxes and levies as well as social responsibilities. Additionally, the industry produces a trained workforce and small businesses that can serve communities and may initiate related businesses. The successful exploration on the EPL would then lead to the mining of economic feasible commodity(ies) based on the results of exploration. This would contribute towards achieving the goals of the national development plans such as the National Development Plan 5 (NDP5) and Harambee Prosperity Plans (HPPs) I and II. Mining is therefore, essential to the development goals of Namibia in contributing to meeting the ever-increasing global demand for minerals, and for national prosperity. Thus, the need for exploration activities.

1.4 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 proposed project activities are as follows:

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

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

The ESA process will entail baseline assessment of the biophysical & social environment and public consultation. The findings of the ESA process are then incorporated into an ESA Report and a draft Environmental Management Plan (EMP) will also be developed for the proposed project activities. The ECC application is submitted to and registered with the Ministry of Environment, Forestry and Tourism (MEFT) as the Environmental Regulatory Authority.

Once the ECC is issued by the Environmental Commissioner, the Proponent will submit the ECC to the Mining Commissioner at the Ministry of Mines and Energy for consideration of renewing the EPL. The prospecting and exploration activities will then be planned for and commence thereafter.

1.5 Appointed Independent Environmental Consultant

To comply with the EMA and its Regulations and ensure environmental management, protection, and sustainability, Gemco Investments 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).

The ESA process, including public consultation and engagement as well as compilation of the associated documents were conducted and compiled by Ms. Fredrika Shagama. Ms. Shagama is a qualified and experienced Hydrogeologist and Environmental Assessment Practitioner (EAP) by training and experienced with over 7 years' experience in Groundwater and Environmental Management Consulting. Her CV is attached to this Report as Appendix A.

1.6 Application for the Environmental Clearance Certificate

The application for the ECC process was done as follows:

- Preparation of prepared 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-01313),
- 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) accompanied by the BID was submitted to the MEFT. The MEFT's date stamped copy of the ECC application was uploaded on the ECC Portal as proof of application and payment.

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

1.7 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 to renew the expired EPL rights.

This Report has been compiled as a required output of an environmental assessment process after the ECC application has been submitted to the Competent Authority (MME). 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 identification of positive, negative (adverse) and cumulative impacts, their description, assessment methodology and the assessment are provided under Chapter 7. The mitigation measures and implementation responsibilities are given in the Draft EMP (Appendix B).
- The recommendations and conclusions to the environmental assessment are presented under Chapter 8, and information references consulted for the assessment are listed under Chapter 9.

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

2 DESCRIPTION OF THE PROPOSED PROJECT ACTIVITIES

Prior to undertaking the proposed activities on the EPL (mobilizing to site and undertaking any groundwork), the Proponent will be required to sign land use agreements and consent with the affected landowners / custodian such as the Daure-Daman Traditional Authority, and the Tsiseb Conservancy. The consents of land use have been obtained from the two custodians and attached hereto as Appendix C.

Based on the preliminary prospecting works done on the EPL to enable its renewal application, the exploration works will only focus on the portion of the EPL outside the Dorob National Park, i.e., only the area falling within the Tsiseb Conservancy will be explored. Therefore, the consent from MEFT's Directorate of Wildlife & National Parks (for the portion of the EPL in the Dorob National Park) may not be necessarily required because no activities will be conducted within the Park.

2.1 Planned Exploration Techniques and Duration of Mineral Exploration

The exploration programmes are based on an iterative, results-driven and phased nature. Therefore, it is not possible at an early stage of exploration to give exact areas for future drilling or an exact duration of the exploration activities (Resilient Environmental Solutions, 2019).

The prospecting and exploration approach for the 2 exploration categories of the commodities will be carried out as per the following methods as listed below and presented under the subsections below.

- Geological mapping (Non-invasive technique): The exploration program will commence with a review of geological maps and historical drilling and / or exploration data for the area, if any. Geophysical surveys form part of this technique, which will entail data collection of the substrata. Ground geophysical surveys are also conducted, where necessary using vehicle-mounted sensors.
- Lithological sampling programmes (invasive technique): these activities may last from between one week to a month at a time over specific areas, until the explored area is fully sampled as desired. This will entail rock and soil sampling consists of small pits/trenches.
- Drilling programmes (invasive technique): Should analyses of soil/rock samples by an analytical laboratory be positive, holes are drilled, and drill samples collected for further analysis. This programme may initially range from two weeks to a month at a time, depending on the planned programme or based on the results of the programme. The Proponent undertakes to work with stakeholders to keep them informed of exploration progress to facilitate site visits and access to ongoing field exploration programmes.

In general terms, the minerals exploration activities can take up to a maximum of seven years, with different projects at various stages of the exploration phase (Resilient Environmental Solutions, 2019).

2.2 Base& Rare Metals, Industrial Minerals, and Precious Metals

2.2.1 Prospecting Stage (Non-Invasive Technique)

2.2.1.1 Desktop Study (Mapping)

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.

2.2.1.2 Geophysical surveys

This entails data collection of the substrata 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 mineralisation.

To enable the renewal of the EPL, ground geophysical surveys was conducted over the target area as per the aeromagnetic map (results) shown in Figure 2-1. These surveys (mapping and as supported by geophysics) are crucial in defining targets for test pitting, trenching, and drilling.

Mineralisation (Gemco Investments, 2022)

The concession area for EPL 6990 features nickel and gold prospects that occur within a 4km distance from each other. Gold mineralization is hosted in a sinistral fault-and-thrust zone that transcends the Zerrissenes mountains cluster, whereas; the nickel mineralization is associated with a mafic intrusion. The nickel and gold prospects are well displayed on the aeromagnetic map in Figure 2-1.

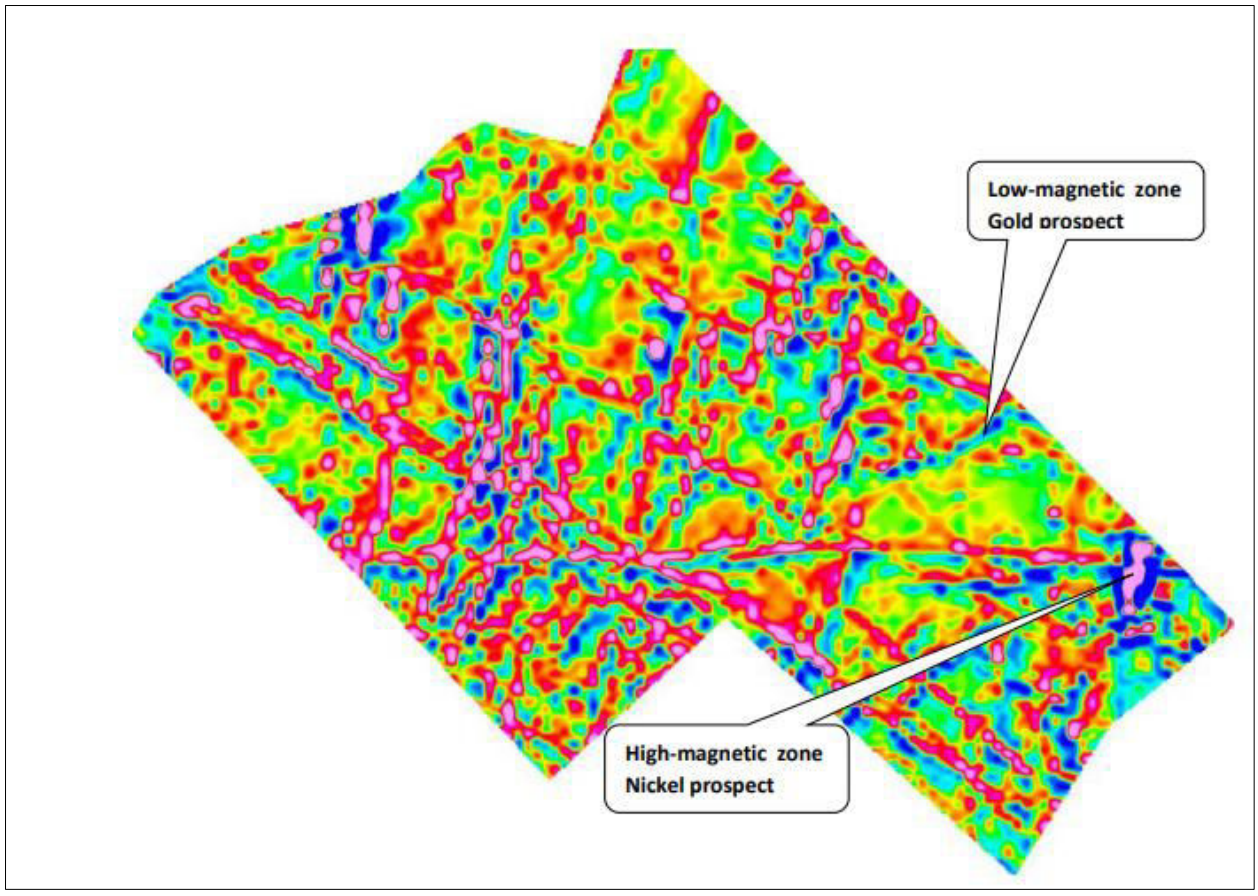

Figure 2-1: First derivative (1vd) aeromagnetics over entire area of EPL 6990. Note the magnetic features of the nickel and gold prospects (Gemco Investments, 2022)

The nickel prospect occurs as a high-relief strong magnetic anomaly, whereas; the gold prospect is displayed by a very low, linear magnetic zone cross-cutting lithologies. This low magnetic anomaly trending across the general strike of lithology appears to represent a bleached zone caused by migrating fluids along a discontinuous structure. Satellite images and field inspection confirmed that this bleached zone represents a sinistral fault & thrust zone. Upon inspection of the strong magnetic anomaly in the field it was found to represent a mafic intrusion which, interestingly, is accompanied by a prominent gossan outcrop trending along this mafic body on its western flank. These prospects of nickel and gold within EPL 6990 were sampled and returned anomalous values.

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

2.2.2 Planned Exploration Methods (Invasive Techniques)

This stage (Detailed Field Evaluation) following the Non-Invasive techniques will be carried out by simple collection of soil and rock samples from target EPL areas to verify desktop/non-invasive information. These detailed techniques will include activities and as described under subsection:

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

2.2.2.1 Lithology geochemical surveys

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

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

Figure 2-2: An example of soil sample collection and equipment (Resilient Environmental Solutions, 2019)

2.2.2.2 Detailed Exploration Drilling

Should analyses by an analytical laboratory be positive, holes are drilled to a depth of about 200m, 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 programme, for better geological control and to perform processing trials.

A typical drilling site will consist of a drill-rig and support vehicles as well as a drill core and geological samples store. A drill equipment parking and maintenance yard may be set up (including a fuel and lubricants storage facility). A typical example of drilling activities on active EPLs in Erongo and Omaheke Regions are shown in Figure 2-3 and Figure 2-4.

Figure 2-3: A-typical drill rig on an EPL (Resilient Environmental Solutions, 2019), B- drill rig on active EPL precious metals exploration site visited by the Author in Erongo Region (photo by Author, 2022)

Figure 2-4: A drill rig on an EPL in the Omaheke Region (Resilient Environmental Solutions, 2022)

2.3 Project Resources and Services Infrastructure

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

2.3.1 Human resources

The prospecting stage will require but not limited to one or two geologists, GIS specialist, and geophysicist to collect the data. During the detailed (invasive) exploration stage, the project crew will consist of about 8 people, comprising 2 to 3 skilled (geologist and geotechnician), 2 semi-skilled, 4 or more casual workers (assistants). However, this number may vary depending on the actual workload and requirement onsite.

The workforce requirement will entail the need for geologist(s), drilling personnel, sampling team, supervisor / exploration manager, casual workers to clear the sites and perform other required jobs onsite, cleaner(s), machine operator, truck & light vehicle drivers, etc.

2.3.2 Project Crew Accommodation

Exploration workers will be housed in prefabricated accommodation units (tented camps) during the exploration stage (within the EPL boundaries). However, prior to setting up the accommodation units, an agreement and a consent will need to be reached and signed between the Proponent and Tsiseb Conservancy.

The onsite accommodation is selected to ensure that the exploration crew commences with site work on time (early) and to prevent putting pressure on the local roads to transport workers to and from site daily (commuting).

2.3.3 Project Equipment, Material, Machinery and Vehicles

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

- A minimum of two (4X4) pickup trucks (vehicles), and heavy truck,
- Air compressor,
- Drill rigs, and drilling machines
- Two-way radios and satellite phone (for communication),
- Water supply tanks with dispersion pipelines, and fuel bowser,
- Power generators (minimum two), and
- Biodegradable drilling fluids stored in manufacturers approved containers.

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

2.3.4 Water Supply

During exploration onsite water will be required for washing of equipment, exploration related activities such as drilling, domestic (drinking, cooking, and ablution). For exploration related activities such as cooking, drinking and personal use, about 300 litres of water will be required per week (1,200 litres per month). Exploration drilling, specifically diamond requires a lot of water, and it would require approximately 10,000 to 25,000 litres (10 to 25m^3) per day, in instances where for example fractured formations are encountered) per hole during drilling.

To ensure that the already low potential local groundwater resources are not stressed or significantly impacted by the project activities such as drilling, the Proponent will be carting water from outside the area (where water supply is not an issue). The water will then be stored in relevant industry standard water storage tanks onsite that will be refilled as and when necessary.

Alternatively, since the EPL is bordering the Ugab River to its northern side, the Proponent may consider drilling a borehole near the River (to target the porous alluvial aquifers). A borehole cannot be drilled elsewhere on the EPL further from the River due to low groundwater potential/ rock bodies with little groundwater potential).

2.3.5 Fuel supply (For Cooking)

The Proponent will provide a 10kg liquid gas cylinder to be used for food preparation by the site workers. If paraffin gas cookers will not available, the Proponent will provide firewood. Therefore, no project related firewood will be collected from the Conservancy.

2.3.6 Fuel Supply (Machinery and Equipment)

Diesel will be used for machinery and equipment and fuel generator. A trailer mounted and bunded 10,000-litre fuel tank will be onsite to ensure an interrupted fuel supply to the project activities.

2.3.7 Accessibility (roads)

The EPL area is accessible via the D2342 from Uis which connects to the D2303. Where necessary, and with the consent and guidance of the Tsiseb Conservancy management, few new access tracks will be created in some areas of the EPL to access the target sites for exploration and enable the movement of vehicles and drill rig.

2.3.8 Waste management

The onsite waste types will be managed as follows:

- Sewage: Portable ablution facilities with septic tanks will be provided on site and emptied according to manufacturers' instructions.
- General and domestic waste: Sufficient waste bins (containers) will be availed at both exploration sites and campsites for waste storage. The waste containers will be emptied into the main onsite container for disposal at the nearest approved landfill site, upon reaching a waste disposal agreement with the Uis Settlement Council.
- Hazardous waste: All vehicles, machinery and fuel consuming equipment will be provided with drip trays to capture potential fuel spills and waste oils. The waste fuel/oils will be carefully stored in a standardized container to be disposed of at the nearest approved hazardous waste management facility such as Walvis Bay or Swakopmund.

2.3.9 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 every project personnel and visitor/inspector while on and working at site and visiting the site, respectively.
- First aid: A minimum of two first aid kits will be readily available at exploration and camp sites to attend to potential minor injuries, while major injuries will need to be attended to further by transporting the injured to the nearest health centre for treatment. At least 2 personnel will be trained on administer first aid.
- Potential Accidental Fire Outbreaks: As a control measure for accidental fire outbreaks, a 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.
- Open exploration trenches and boreholes: The trenches dug for sampling will be temporary fenced off to prevent potential injuries of mainly wildlife in the area. Once sampling is completed, the trenches will be progressively backfilled and levelled and fencing removed for storage or donation to the land custodians for the communities. Similarly, for exploration boreholes that are no longer required after rock samples, they will be backfilled and closed off.
  Warning signage at hazardous site areas such as open trenches will be erected.

2.4 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. The economic situation or unconvincing exploration results might force the Proponent to cease the exploration program before predicted closure. Therefore, it is of best practice for the Proponent to ensure the project activities are ceased in an environmentally friendly manner and site is rehabilitated by carrying out the following:

- Dismantling and removal of campsites 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 practice onsite will include:

- Backfilling of pits and trenches used for sampling,
- Closing and capping of exploration boreholes to ensure that they do not pose a risk to both people and animals in the area, and

- Levelling of stockpiled topsoil. This will be done to ensure that the disturbed land sites are left close to their original state as much as possible.

2.5 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 into a Mining License. Upon pre-approval of the application by MME, feasibility study and full EIA Study (with an approved ECC for mining activities), the approved area would be prepared for mine development and actual mining and subsequent mine closure.

The next chapter is the presentation 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 to identify the alternative that will be the most practical, but least damaging to the environment is identified.

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.

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 activities for the specific commodities in the area is not possible. This means that the mineralization of the target commodities is area-specific, which means exploration targets are primarily determined by the geology (host rocks) and the ore-forming mechanism. The location of the EPL also depend on the availability of license areas that the different applicants and Proponents applied for and interested in (specific minerals).

Furthermore, the national mineral resources’ potential locations are also mapped and categorized by the Ministry of Mines and Energy in exclusive prospecting licenses, mining licenses and claims, mineral deposit retention licenses, reconnaissance licenses and exclusive reconnaissance licenses. Available information on EPL-6990 and other licenses are available on the Namibia Mining Cadastral Map.

3.3 Exploration Methods

Both invasive and non-invasive exploration activities as indicated under the project description chapter are expected to take place. These were found to be appropriate and reliable for the type of commodities explored for. 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 alternative considered in this regard are presented in Table 3-1 below.

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

Category of Infrastructure	Alternatives Considered	Justification for 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

Category of Infrastructure	Alternatives Considered	Justification for selected option
Water supply	-Bring water from elsewhere -Abstract from site boreholes	-The project water will be brought from elsewhere to minimize the impact on the local resources
Fuel storage	-Trailer mounted diesel tank -Fixed bunded fuel tank	-During exploration use 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	-The diesel and or solar power are the most practical & economically viable options for exploration (in case of no favourable results of exploration).
Site access	-Drive through the Dorob National Park -Create a direct access targeting the exploration	-Creating a direct access road from the Tsiseb Conservancy side of the EPL directly to the exploration target site will be viable to eliminate and or minimize the vehicle tracks in the DNP.
Offices, accommodation	-Erect dis-mantable 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 campsite within the EPL -Commuting from Uis which is about 100km away from the EPL.	-Set up temporary camps onsite (within the Conservancy), instead of commuting to and from Uis. The bad (gravel) roads and time needed to travel to the EPL area, would affect the works and eventual productivity. Therefore onsite camp (for trenching and drilling crew) would be feasible. An agreement to set up camp should be made with the Conservancy.

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

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 on a local (institutional), national (Namibian) and 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 aims to ensure that the potential impacts of the development on the environment are considered carefully and in good time; that all interested and affected parties have a chance to participate in the environmental assessments and that the findings of the environmental assessments are fully considered before any decisions are made about activities which might affect the environment.

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

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

The most applicable Sections to the project are as follows:

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

Implication for the proposed project: The Proponent should carry out an assessment of the impact on the receiving environment. The Proponent should include as part of their application for the EPL, measures by which they will rehabilitate the areas where they intend to carry out exploration activities. Other applicable legal framework and policies relevant to the proposed project are presented in Table 4-1.

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

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

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
Traditional Authority Act (Act No. 25 of 2000):	The Act also stipulates that Traditional Authorities (TAs) should ensure that natural resources are used on a sustainable basis that conserves the ecosystem. The implications of this Act are that TAs must be fully involved in the planning of land use and development for their area. It is the responsibility of the TA's customary leadership, the Chiefs, to exercise control on behalf of the state and the residents in their designated area.	The EPL considered under this project is within the predominantly communal land under the Daure-Daman Traditional Authority (TA). Therefore, they should be consulted for the land use consent and engagement should continue throughout the Project.
Mine Health & Safety Regulations, 10th Draft	Makes provision for the health and safety of persons employed or otherwise present in mineral licenses area. These deal with among other matters; clothing and devices; design, use, operation, supervision, and control of machinery; fencing and guards; and safety measures during repairs and maintenance.	The Proponent should comply with all these regulations with respect to their employees.
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)	Regulation 3(2)(b) states that "No person shall possess [sic] or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area"	The Proponent should obtain the necessary authorisation from the MME for the storage of fuel on-site.
The Regional Councils Act (No. 22 of 1992)	This Act sets out the conditions under which Regional Councils must be elected and administer each delineated region. From a land use and project planning point of view, their duties include, as described in section 28 "to undertake the planning of the development of the region for which it has been established with a view to physical, social and economic characteristics, urbanisation patterns, natural resources, economic development potential, infrastructure, land utilisation pattern and sensitivity of the natural environment.	The relevant Regional Councils are I&APs and must be consulted during the Environmental Assessment (EA) process. The project site falls under the Erongo Regional Council; therefore, they should be consulted.
Water Act 54 of 1956	The Water Resources Management Act 11 of 2013 is presently without regulations; therefore, the Water Act No 54 of 1956 is still in force: Prohibits the pollution of water and implements the principle that a person disposing of effluent or waste has a duly of care to prevent pollution (S3 (k)). Provides for control and protection of groundwater (S66 (1), (d (ii)). Liability of clean-up costs after closure/abandonment of an activity (S3 (l)). (l)).	The protection (both quality and quantity/abstraction) of water resources should be a priority. Relevant permits and or agreements to abstract and use water should be applied for and obtained. These permits will range from Borehole Drilling to Groundwater Abstraction & Use Permits as well as Effluent Discharge Permit (if need be)

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
Water Resources Management Act (No 11 of 2013)	The Act provides for the management, protection, development, use and conservation of water resources; and provides for the regulation and monitoring of water services and to provide for incidental matters. The objects of this Act are to: Ensure that the water resources of Namibia are managed, developed, used, conserved and protected in a manner consistent with, or conducive to, the fundamental principles set out in Section 66 - protection of aquifers, Subsection 1 (d) (iii) provide for preventing the contamination of the aquifer and water pollution control (Section 68).	
National Heritage Act No. 27 of 2004	To provide for the protection and conservation of places and objects of heritage significance and the registration of such places and objects; to establish a National Heritage Council; to establish a National Heritage Register; and to provide for incidental matters.	The Proponent should ensure compliance with these Acts requirements. The necessary management measures and related permitting requirements must be taken. This done by the consulting with the National Heritage Council of Namibia. A Chance Finds Procedure provided to the Draft EMP should be implemented upon discovery of archaeological and heritage resources.
The National Monuments Act (No. 28 of 1969)	The Act enables the proclamation of national monuments and protects archaeological sites.	
Soil Conservation Act (No 76 of 1969)	The Act makes provision for the prevention and control of soil erosion and the protection, improvement and conservation of soil, vegetation and water supply sources and resources, through directives declared by the Minister.	Duty of care must be applied to soil conservation and management measures must be included in the EMP.
Forestry Act (Act No. 12 of 2001	The Act provides for the management and use of forests and forest products.	The proponent will apply for the relevant permit under this Act, if it becomes necessary.

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

Legislation / Policy / Guideline	Relevant Provisions	Implications for the project activities
Road Traffic and Transport Act, No. 22 of 1999	The Act provides for the establishment of the Transportation Commission of Namibia; for the control of traffic on public roads, the licensing of drivers, the registration and licensing of vehicles, the control and regulation of road transport across Namibia's borders; and for matters incidental thereto.	Mitigation measures should be provided for, if the roads and traffic impact cannot be avoided, the relevant permits must be applied for.
Labour Act (No. 6 of 1992)	Ministry of Labour, Industrial Relations and Employment Creation is aimed at ensuring harmonious labour relations through promoting social justice, occupational health and safety and enhanced labour market services for the benefit of all Namibians. This ministry insures effective implementation of the Labour Act No. 6 of 1992.	The Proponent should ensure that the prospecting and exploration activities do not compromise the safety and welfare of workers.

4.3 International Policies, Principles, Standards, Treaties and Conventions

Given the fact that the proposed project is likely to be partly funded by international investors and the financing require the project to comply with certain requirements. Therefore, it is crucial to include the relevant legal requirements in this ESA Study and these are listed below:

- Equator Principles (EP):
  - *EP1: Review and Categorization*
  - *EP2: Environmental and Social Assessment*
  - *EP 3: Applicable Environmental and Social Standards*
  - *EP 4: Environmental and Social Management System and Equator Principles Action Plan*
  - *EP5: Stakeholder Engagement*
  - *EP6: Grievance Mechanism*
  - *EP7: Independent Review*
  - *EP8: Covenants*
  - *EP9: Independent Monitoring and Reporting*
  - *EP10: Reporting and Transparency.*
- International Finance Corporation (IFC) Performance Standards (PS):
  - *PS1: Assessment and Management of Environmental and Social Risks and Impacts*
  - *PS2: Labour and Working Conditions*
  - *PS3: Resource Efficient and Pollution Prevention and Management*
  - *PS4: Community Health and Safety*
  - *PS5: Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement*

  - *PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources*
  - *PS7: Indigenous Peoples/Sub-Saharan African Historically Undeserved Traditional Local Communities*
  - *PS8: Cultural Heritage*
  - *PS9: Financial Intermediaries (FIs)*
  - *PS10: Stakeholder Engagement and Information*
- The United Nations Convention to Combat Desertification (UNCCD) 1992
- Convention on Biological Diversity 1992
- Stockholm Declaration on the Human Environment, Stockholm (1972)

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 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 site visit undertaken by the Environmental Consultant (accompanied some members of the Daure Daman Traditional Authority (TA) and Tsiseb Conservancy) on the 17th of May 2023 - Figure 5-1. The site visit information was complemented by online sources ranging from old reports, books and publishing as well as other relevant research information in the broader area. The project baseline that is deemed necessary to the project activities are as follows.

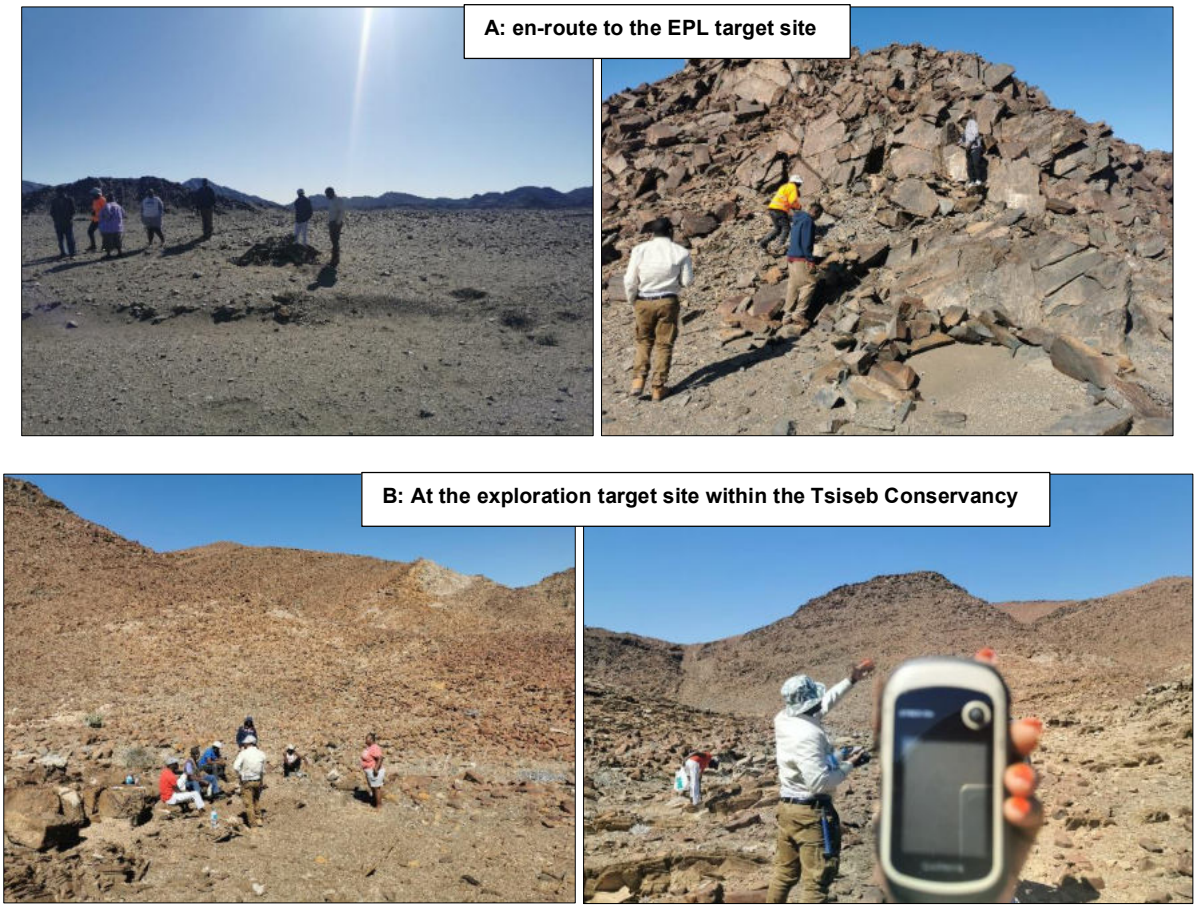

Figure 5-1: Serja Environmental Consultant, members of the Daure-Damana TA and Tsiseb Conservancy as well as Proponent representatives at the exploration target site of the EPL on 17 May 2023

5.1 Biological Environment

According to Erongo Regional Council (2015), the hyper-arid Namibian coastal ecosystem is home to a significant and unique array of biological and ecological diversity, including uniquely adapted plants and animals, rich estuarine fauna and a high diversity of migratory shore and seabirds. Namibia's coastal zones are considered as refuge for several of endangered species.

5.1.1 Fauna

In terms of fauna, the project area is homes to wildlife such as Elephant, black rhino, leopard, cheetah, mountain zebra, kudu, gemsbok, ostrich, springbok, steenbok, black-backed jackal, klipspringer (NACSO, 2023). The faunal species expected to occur on-site are expected to occur in similar habitats within the wider project area.

Given the fact that the site visit was done during the day, there were no observed wildlife as this would be due to the time limit spent by the Environmental Consultant on site, and time of the day when the site visit was done when animals were probably seeking shelter in far vegetation and rock outcrops. There were however, some wild animal prints and faeces as the ones shown in Figure 5-2 below.

Figure 5-2: Animal prints (hyena) and kudu droppings/faeces along the route used to access the exploration target site

5.1.2 Flora

The EPL area is found within two vegetation structure types, mainly the Namib grassland and small part characterized by the ephemeral riverine woodland to the northern border with the Ugab River as shown on the map in Figure 5-3.

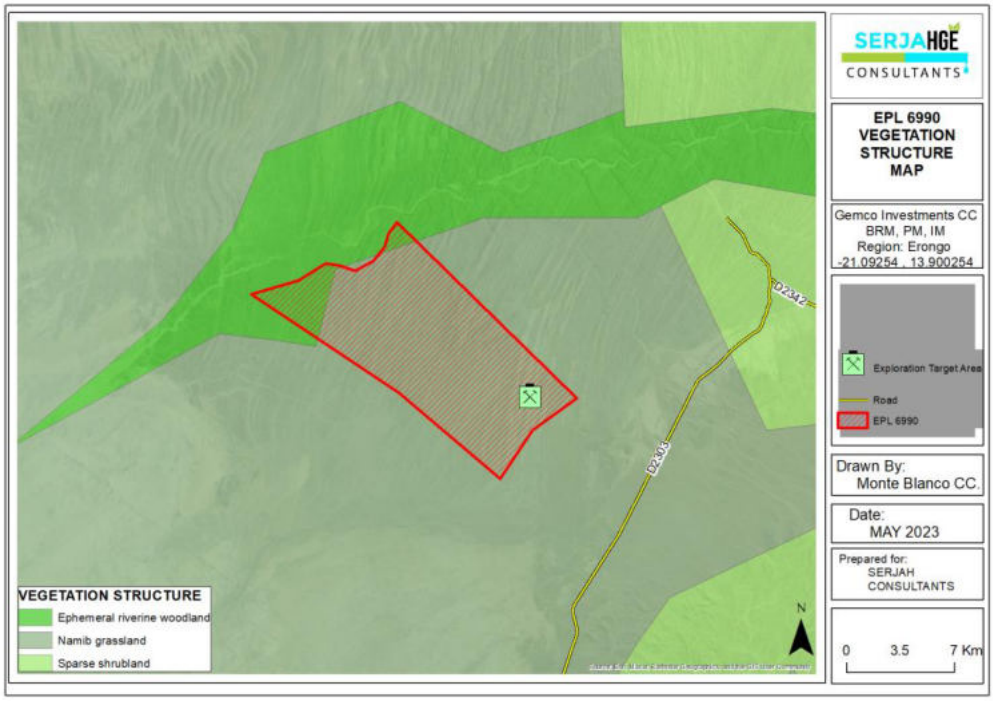

Figure 5-3: Dominant vegetation map within and around the EPL

Based on the site visit conducted on 17 May 2023, the following plants were observed in the project site area and site (as per figures below). It should be noted that all these vegetation species are protected and hence, their conservation should be prioritized. In other words, if not necessary, they should be left undisturbed. Within the broader area of the EPL (from the Dorob National Park side), the following vegetation was observed and some shown on the photos in Figure 5-4.

- Pencil bush (*Arthraerua leubnitzia*) observed along the water drainage ways at the mountain foot
- Dollar bush (*Zygophyllum stapfii*)
- Lichens, shepherd's tree (*Boscia albitrunca*)
- Welwitschia (*Welwitschia mirabilis* - protected) within the EPL and common elsewhere in the surroundings
- Sparsely distributed Damara milk-bush *Euphorbia Damarana*
- Sparsely few *Vachellia reficiens (red*-bark acacia, red thorn or false umbrella thorn*)*.

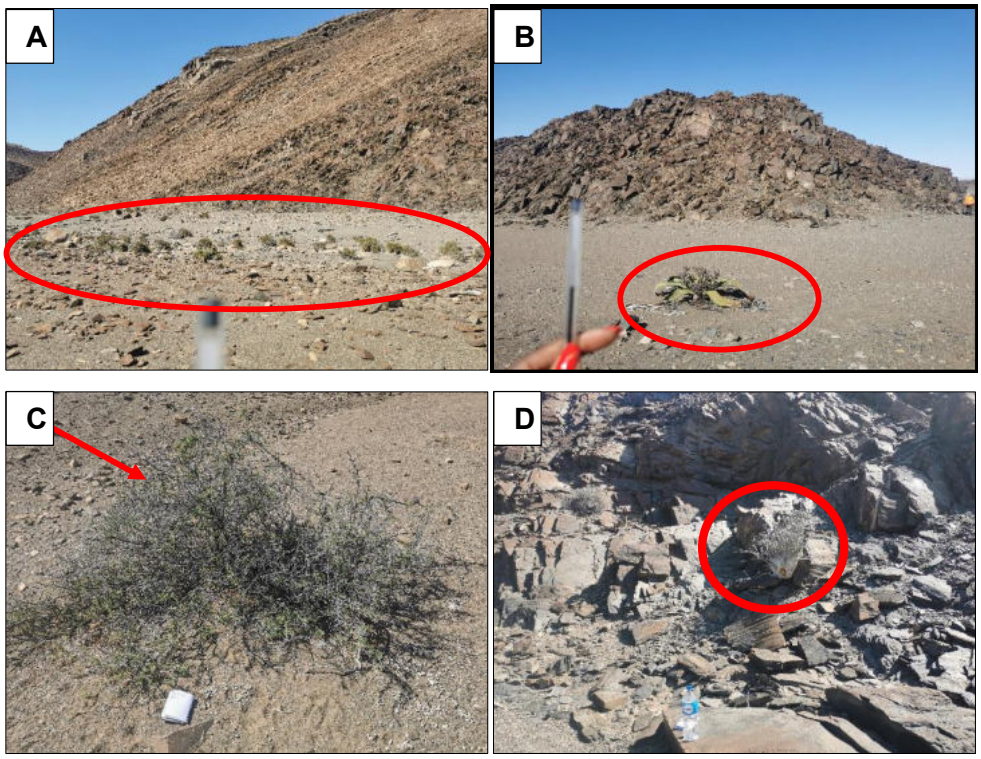

Figure 5-4: The vegetation observed within the EPL area from the DNP (A –Pencil bush, B - Welwitschia, C – young Camelthorn shrub near the border of the Tsiseb Conservancy and DNP, and D –Elephant foot plant)

At the exploration target site of the EPL (within the Tsiseb Conservancy)

- Elephants Foot plant (*Adenia pechuelli*), commonly from the Dorob National Park side towards the target site.
- Most common and occurring species at the target site comprising (*Commiphora virgate,* and *Commiphora Wildii)* as well as Bushman's hat (*Hoodia gordonii*) - all protected species.

The EPL area and particularly the target site are covered by sparse vegetation shrubs of the above listed species as shown by photos in Figure 5-5.

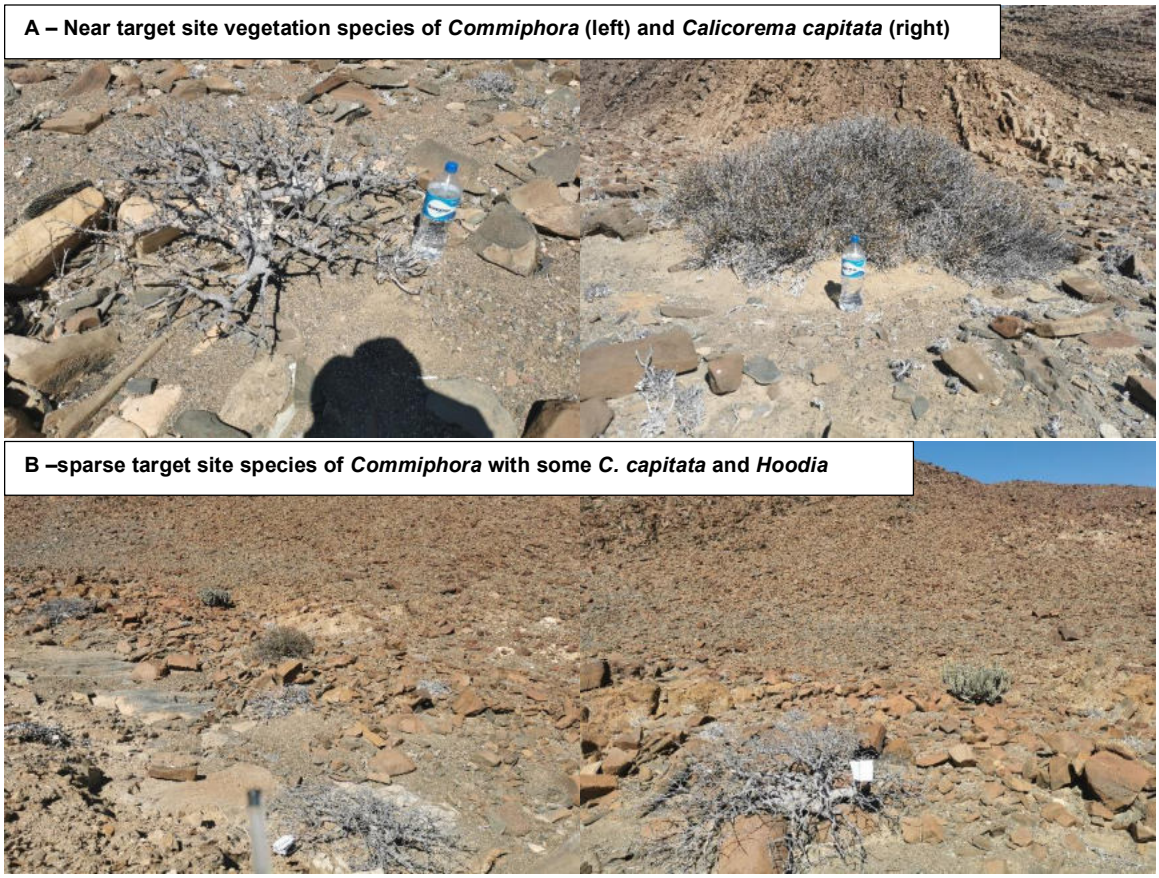

Figure 5-5: The vegetation observed within 500m to 1km of the exploration target site (A – near target site vegetation comprising *Commiphora virgata*& *Calicorema capitata*, and B - onsite vegetation comprising *Commiphora virgata* and *Hoodia gordonii*)

5.2 Physical Environment

5.2.1 Climate

The climatic conditions of the area overlain by the EPL are described using the information sourced from Mendelsohn *et al* (2002) as presented below. The EPL area and surrounding areas receives an average annual rainfall between 50 and 150mm as shown on the map in Figure 5-6 below.

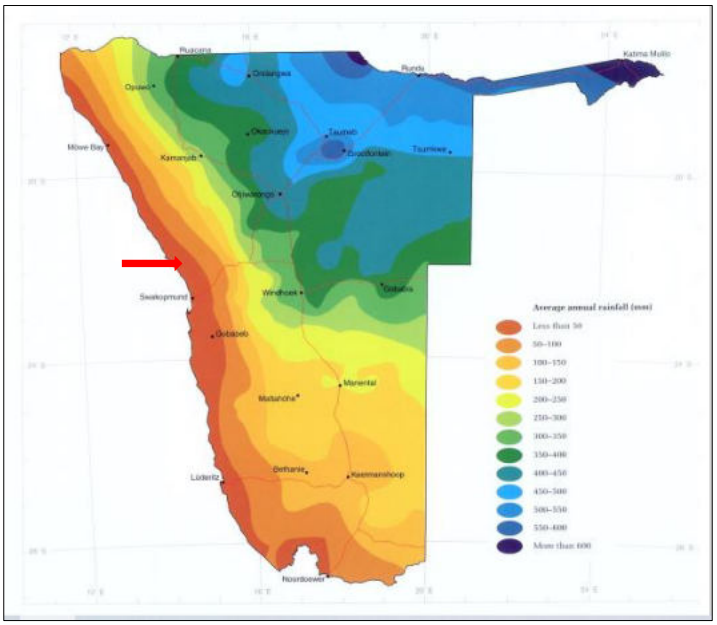

Figure 5-6: The annual rainfall for the project area (Mendelsohn *et al.*, 2002)

5.2.1.1 Temperatures

The annual temperatures of the project area range between 16 and 22°C (Figure 5-7), and minimum ranging from 16 to 20°C and maximum temperatures ranging from 22 to 32°C (Figure 5-8).

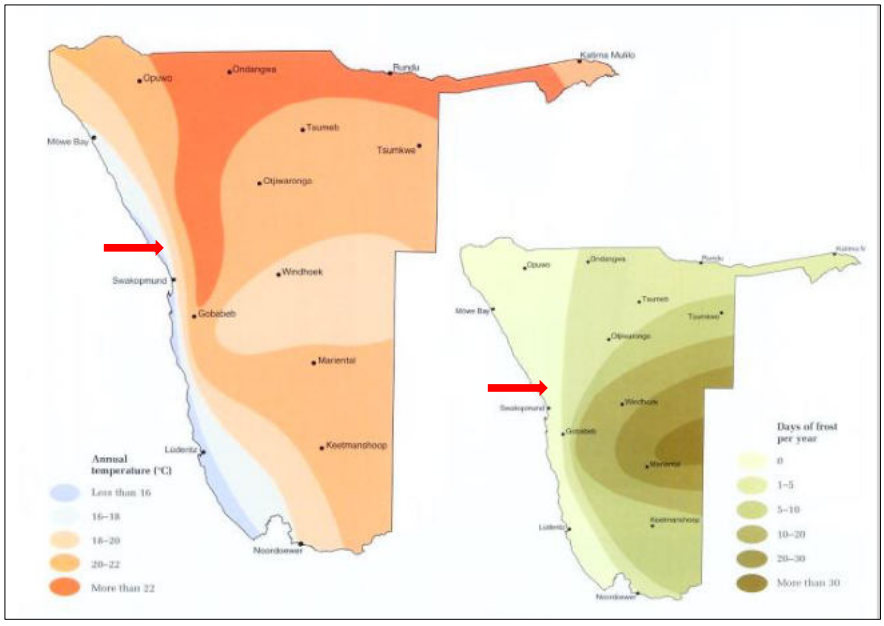

Figure 5-7: The annual temperatures for the project area (Mendelsohn *et al.*, 2002)

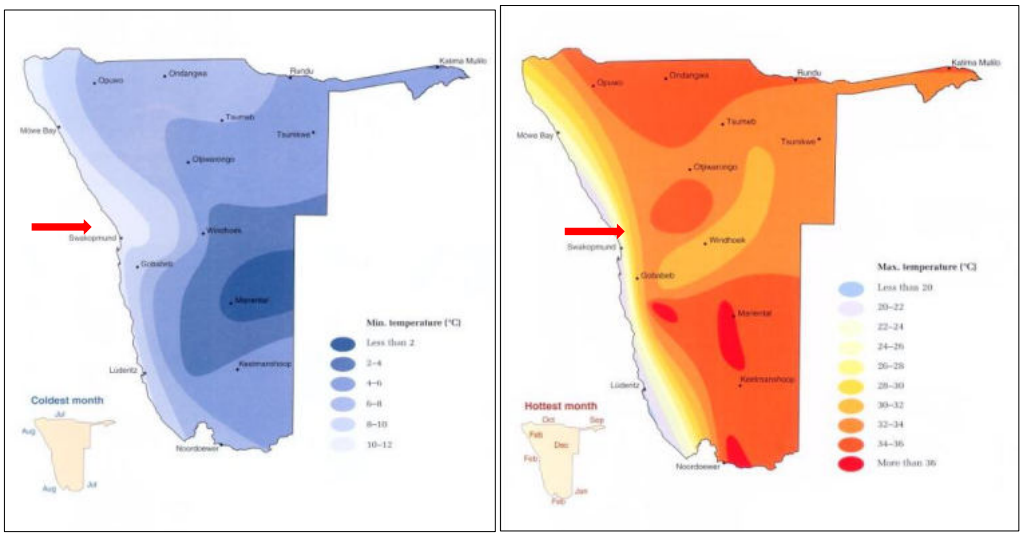

Figure 5-8: The minimum and maximum temperatures for the project area (Mendelsohn *et al.*, 2002)

5.2.2 Landscape and Topography

The EPL is within the Coastal Plains Landscape (Figure 5-9). This landscape stretches back from the coast. A coastal plain is a flat, low-lying piece of land next to the ocean and are separated from the rest of the interior by nearby landforms, such as mountains (National Geographic, 2023). Situated in a flat area with some hills and mountains, the site elevations range between 0 and 951 meters above sea level (Figure 5-9). The EPL terrain is characterized by hills, rugged terrains, lineaments and ancient water flow-ways.

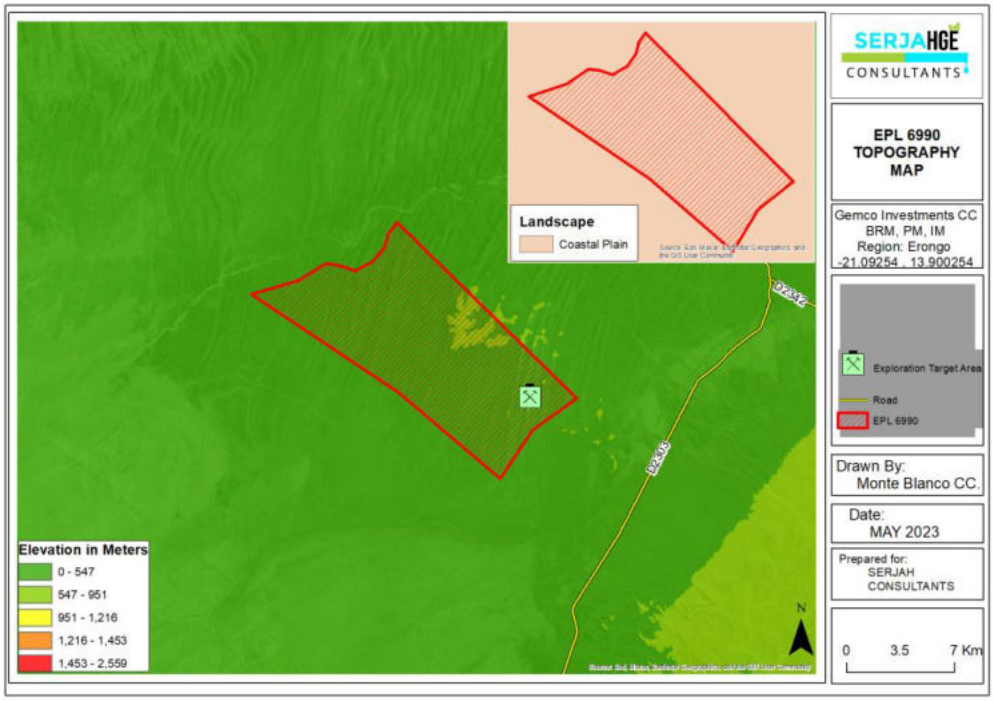

Figure 5-9: The landscape and topography of the EPL area

5.2.3 General Geology

The EPL falls within the Damara Granites and Swakop Group geological groups (Mendelsohn *et al.,* 2002). The typical rock outcrops and units occurring within the EPL (as shown in Figure 5-10) and immediate surroundings map) are mica and graphitic schist, quartzite, and marbles.

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 within the EPL.

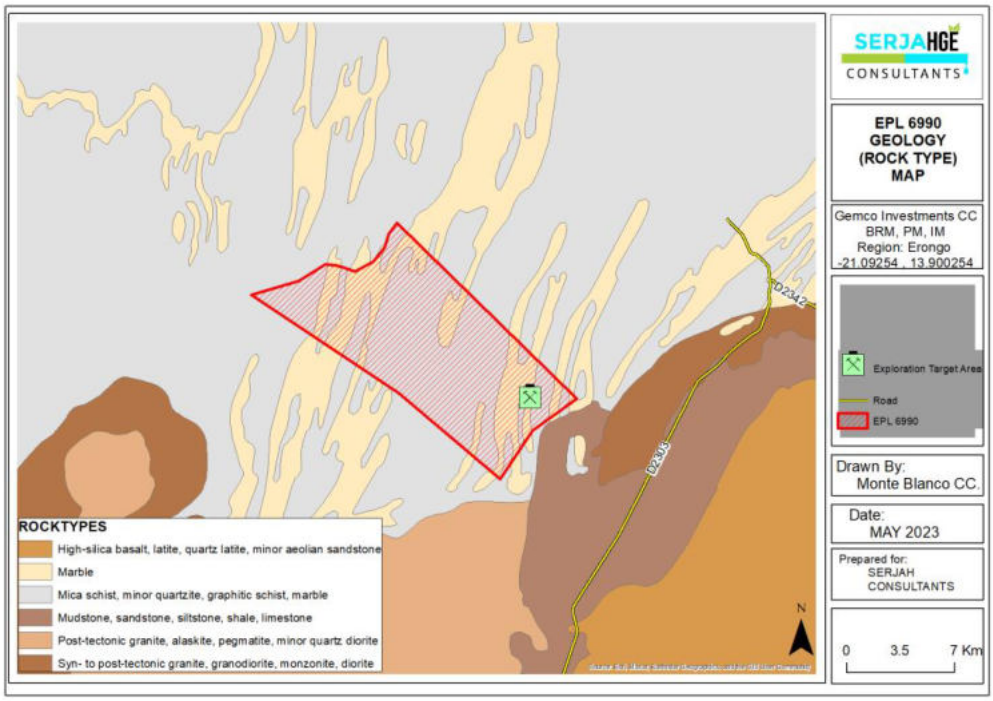

Figure 5-10: The geology of the EPL and surrounding project area

5.2.4 Site Geology and Geological Structures

According to the Gemco Investments' Geological Report prepared for EPL-6990 in 2022, the concession largely overlays lithological units of the Zerrissenes turbidite system. The area is cross-cut by several a significant number of mafic dykes which are understood to be associated with the breaking up of Gondwana Super Continent. Apart from the mafic dykes, very few mafic (or ultra-mafic) units are known to occur in the Zerrissenes. One such occurrence is the nickel prospect where gabbros and amphibolites were observed in addition to gossans. The nickel-hosting mafic units which extend about 2km are cross-cut by a prominent east-west trending structure/lineament as shown in Figure 5-11.

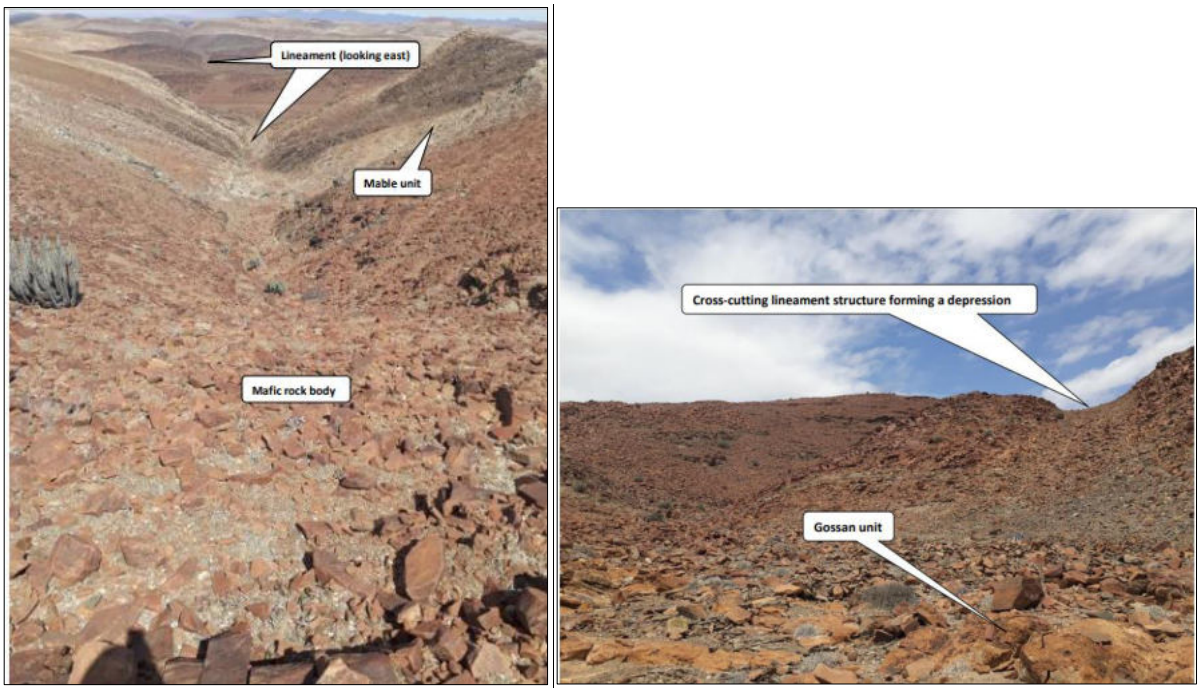

Figure 5-11: The structure/lineament cross-cutting the mafic body – east view (Gemco Investments, 2022)

The site is characterized by outcrops of visibly weathered marble and schist as shown in Figure 5-13.

Figure 5-12: The rock units observed near the exploration target site comprising structures of chemically deformed (weathered) marble, and schist

The nickel-hosting mafic units and gossans observed at the target sites are shown in Figure 5-13.

Figure 5-13: The rock units observed at the exploration target site comprising mafic rocks units

5.2.5 Site Soils

In terms of soil, EPL-6990 is mainly overlain by lithic (very thin or shallow soils) leptosols as shown on the soil type map in Figure 5-14.

The leptosols are typically formed in actively eroding landscapes, especially in the hilly or undulating areas that cover much of southern and north-western Namibia. These coarse-textured soils are characterized by their limited depth caused by the presence of continuous hard-rock, highly calcareous or cemented layer within 30cm of the surface (Mendelsohn *et al*, 2002). Hence, leptosols are shallowest soils to be found in Namibian and they often contain a lot of gravel.

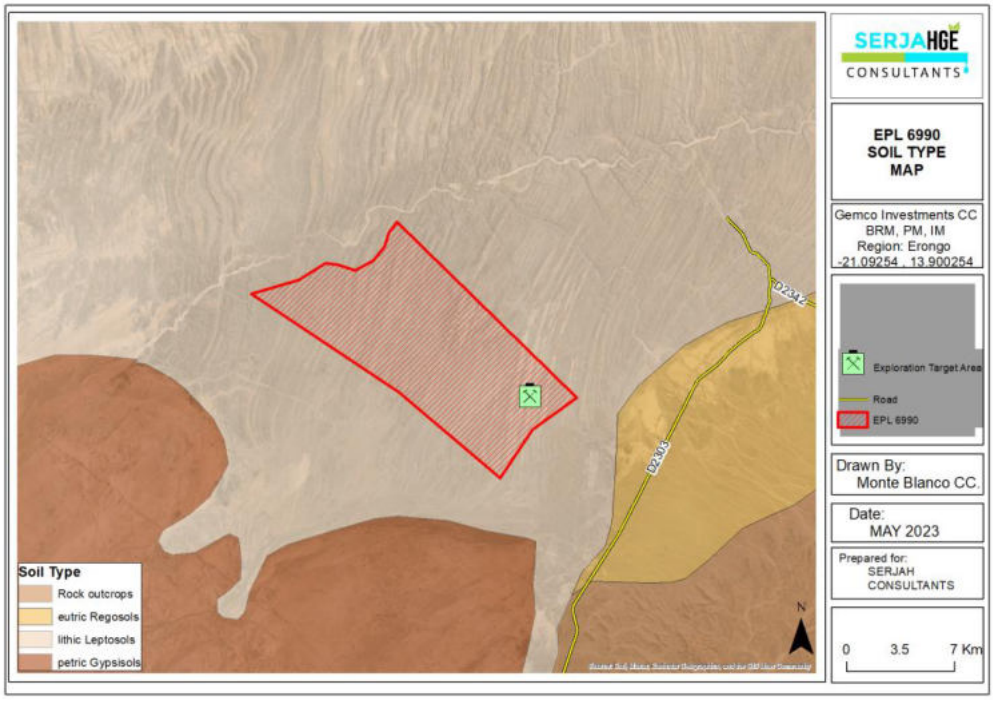

Figure 5-14: The dominant soil types found within and around the EPL

The EPL area is overlain by thin light brown and grey sandy gravel and rock outcrop scree (Figure 5-15).

Figure 5-15: Typical soils observed inside the EPL

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

With regards to groundwater (hydrogeology), the EPL is mainly covered by the rock bodies with little groundwater potential as shown on the map in Figure 5-16. Porous aquifers found on the jorth and northwestern part of the EPL are characterized by the presnce of the Ugab, a major ephemeral river. The low/little groundwater potential in the EPL area is attributed to the low rainfall (inflcunded by the arid climate), type of rock units underlying the EPL and their non-fractured/faulted nature that limit the storage, transmission, and flow of groundwater. Therefore, the local rocks are not good aquifers (groundwater resources).

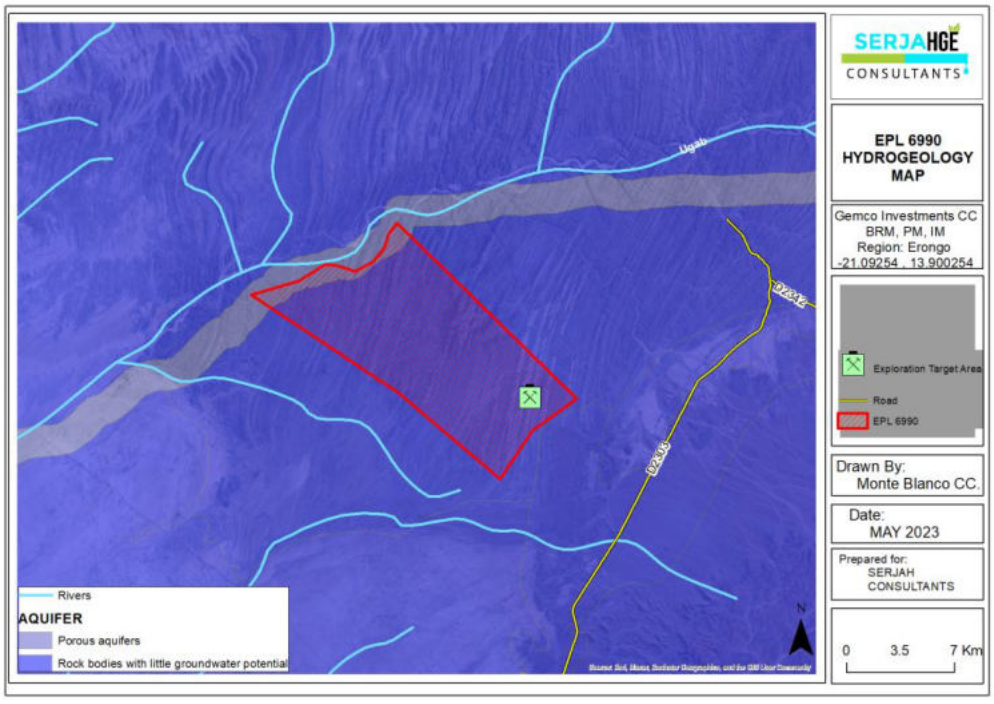

Figure 5-16: The surface and groundwater map of the EPL area

5.3 Social and Economic Environment

5.3.1 Demography

The Erongo Region has a population of 150,809 people, accounting to a 7.1% of the country's total population of Namibia of 2,104,900 in 2011. The population density for the Region was 2.7 people per square kilometres (Namibia Statistics Agency, 2014). The EPL site falls within the Daures Constituency which had a population of 11,350 in 2011.

5.3.2 Economic Activities

According to the Erongo Regional Council (2015), the economy of the Erongo Region mainly depends on mining, fishing, agriculture, and tourism. The fishing industry is the third largest economic sector contributed about 6.6% to the Gross Domestic Product (GDP). The Region's whole eastern part and certain western parts are characterized by livestock farming on commercial farms in the districts of Karibib, Usakos and Omaruru, and in the communal areas (Erongo Regional Council, 2015).

According to the Namibia Statistics Agency (2014), the main source of income in households in the Erongo Region comes from farming (3%), wages and salaries (73%), cash remittance (5%), business and non-farming (9%) and pension (8%).

5.3.2.1 Agriculture

The economic activities practiced in the Daures Constituency are farming (livestock and game) and tourism. The farming involves livestock and tourism is centered on eco-tourism, game drive and trophy hunting on commercial farms inland. There are no farming nor agricultural activities within or near the EPL area.

5.3.2.2 Exploration and Mining

The mining activities are undertaken near mining towns of Arandis and settlements such as Uis, Omatjete where commonalities such as nuclear fuels (Uranium), Dimension Stone (marble and granite), Base & Rare Metals (Copper), Precious Metals (Gold) and Industrial Minerals, etc. are mined. There are other active EPLs around EPL-6990, whereby exploration works may or may not be undertaken currently.

5.3.2.3 Tourism

With regards to tourism, the Erongo Region offers some of the most spectacular and popular tourist destinations as well as a variety eco-, wildlife, cultural and adventure tourism opportunities. The EPL area is mainly aimed for tourism purposes.

5.3.3 Infrastructure and Services

The Erongo 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 ErongoRed in the coastal and central western areas of the Region. There is also a good water reticulation system in both towns/village/settlements and rural (farm) areas. The water is mainly

supplied through water supply schemes operated by NamWater either through boreholes (direct or treated water) such as Omaruru Delta Aquifer Scheme for Omaruru Town and private boreholes on farms.

The summary of current services infrastructure in and around Uis and to the EPL area include:

- **Water supply**: Water is supplied from moderate and low yielding solar powered boreholes on farms and the Uis area and possibly nearby water users are supplied from NamWater Scheme.
- **Power supply:** The broader areas such as towns and settlements (including Uis) are supplied by ErongoRed regional electricity provider. Some areas (including some farms) depend on solar energy and generators for power supply.
- **Road network:** The project area is connected to the inland areas by the C36 until Uis, and accessible via the D2303 and D2342. These provide closest access to the EPL area.

5.4 Land Uses: Tsiseb Conservancy and Dorob National Park

EPL-6990 lies mainly within the Dorob National Park and part of it lies within the Tsiseb Conservancy as shown in Figure 5-17. The two conservation areas are briefly described under the subheadings below. It should be noted that although the most part of the EPL falls within the Park, the target area for exploration is found within the Conservancy as presented under Chapter 1 (locality map) and as shown below.

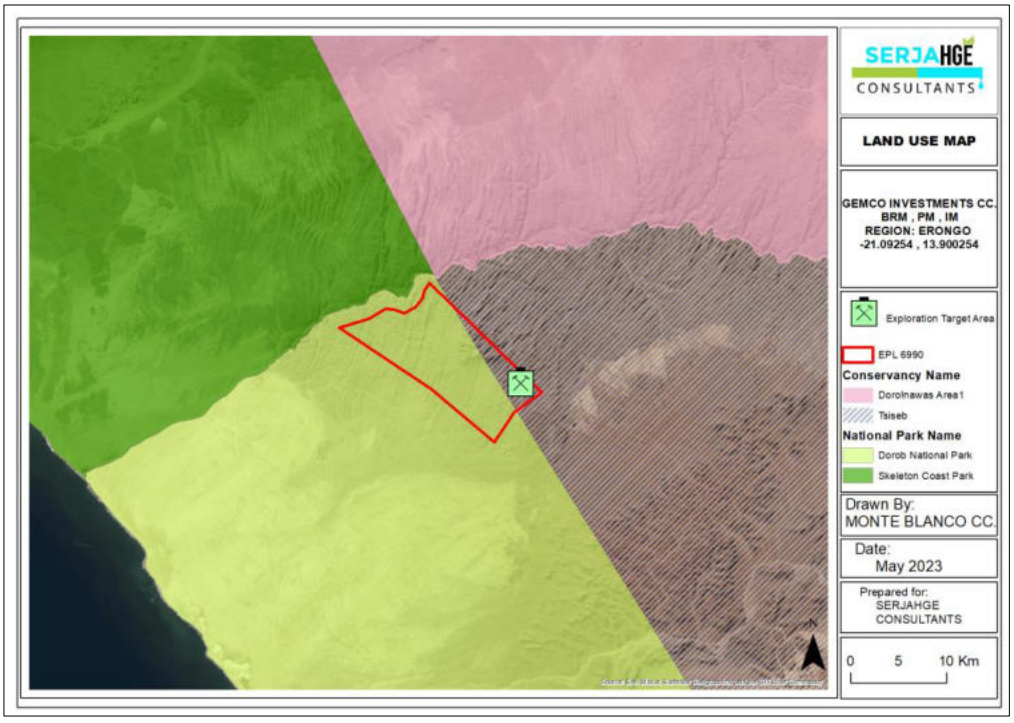

Figure 5-17: The significant land uses (Dorob National Park and Tsiseb Conservancy) covered by EPL-6990

5.4.1 Tsiseb Conservancy

The south-eastern lower part of the EPL lies within the Tsiseb Conservancy. The EPL area has no community but the area serves a tourism area.

Named after the Tsiseb Gorge in which the White Lady rock painting is located, the Tsiseb Conservancy is located in an arid area with average annual rainfall of less than 100mm. The geographical features include rolling or flat landscape in which the Brandberg massif stands out. The Ugab River forms the northern border. Other particular significant features include Brandberg (Namibia's highest mountain which has an abundance of rock art including the famous White Lady), Ugab River, Omaruru River and Messum Crater (NACSO, 2023). The major wildlife occurring in the Conservancy include Elephant, black rhino, leopard, cheetah, mountain zebra, kudu, gemsbok, ostrich, springbok, steenbok, black-backed jackal, klipspringer.

5.4.2 Dorob National Park

Dorob National Park was proclaimed in 2010 and covers the central Namib Desert with an area of 7,800km^2. This area is known as an angler's paradise, with kabeljou, galjoen and steenbras being the most prized species. Extensive lichen fields are found north of Wlotzkasbaken and Cape Cross, while the Messum Crater in the north contains San rock paintings and archaeological sites from Damara nomads (Ministry of Environment, Forestry and Tourism (MEFT), 2023).

The Park is bordered to the north by the Ugab River and the Skeleton Coast Park. The Omaruru River bisects the Park, while the Swakop River is situated south of its boundary. The towns found within the Park's boundaries include Henties Bay and Swakopmund as well as the hamlet of Wlotzkasbaken. The following features are distinctive to the Dorob National Park according to MEFT, 2023):

- Natural features: The Atlantic coastline, gravel plains, sandy beaches with dune hummocks. A variety of lichen occur in the park.
- Vegetation: the Park is characterized by the Namib Desert Biome. Vegetation type: Central Desert. Pencil bush (*Arthraerua leubnitzia*), dollar bush (*Zygophyllum stapfii*), lichens, shepherd's tree (*Boscia albitrunca*), welwitschia (*Welwitschia mirabilis*).
- Wildlife: The wildlife found in the Park includes springbok, black-backed jackal, Cape fur seal, brown hyena, oryx, and zebra amongst others. About 270 bird species have been recorded here and these include the Damara Tern, Ludwig's Bustard, Rüppell's Korhaan, African Black Oystercatcher and Gray's Lark.
- Tourism: common tourism activities in the Dorob National Park are angling, camping, and walking. There are four campsites at Mile 14, Jakkalsputz, Mile 72 and Mile 108. Jakkalsputz walking Trail (18 km) and 20- and 70-km walking trails in the Omaruru River (MEFT, 2023).

5.5 Archaeology and Heritage Aspect

An Archaeological & Heritage Impact Assessment (AHIA) was carried out for the EPL by a qualified and experienced Archaeologist from TARO Archaeology Consultants (2023). The site assessment was conducted on the 17th of May 2023 and a Report compiled thereto. The baseline information, assessment and mitigation measures provided presented herein and in the Draft EMP have been sourced from the AHIA Report which is submitted to the National Heritage Council (NHC) for evaluation and consideration of the Heritage Consent for EPL-6990.

According to TARO Archaeology Consultants (2023), it should be noted that most of the findings were recorded outside the targeted area but within the EPL's boundaries. The findings included; hut circles/stone circles, rock shelters, animal tracks/paths, animals dust baths, few stone mounds.

The eastern boundaries of the EPL are about 22 km away from Brandberg which is way outside of the known buffer zone of 15 km radius (TARO Archaeology Consultants, 2023). The general overview of archaeology and heritage sites within the Brandberg landscape and around the EPL-6990 is shown on the map in Figure 5-19 below.

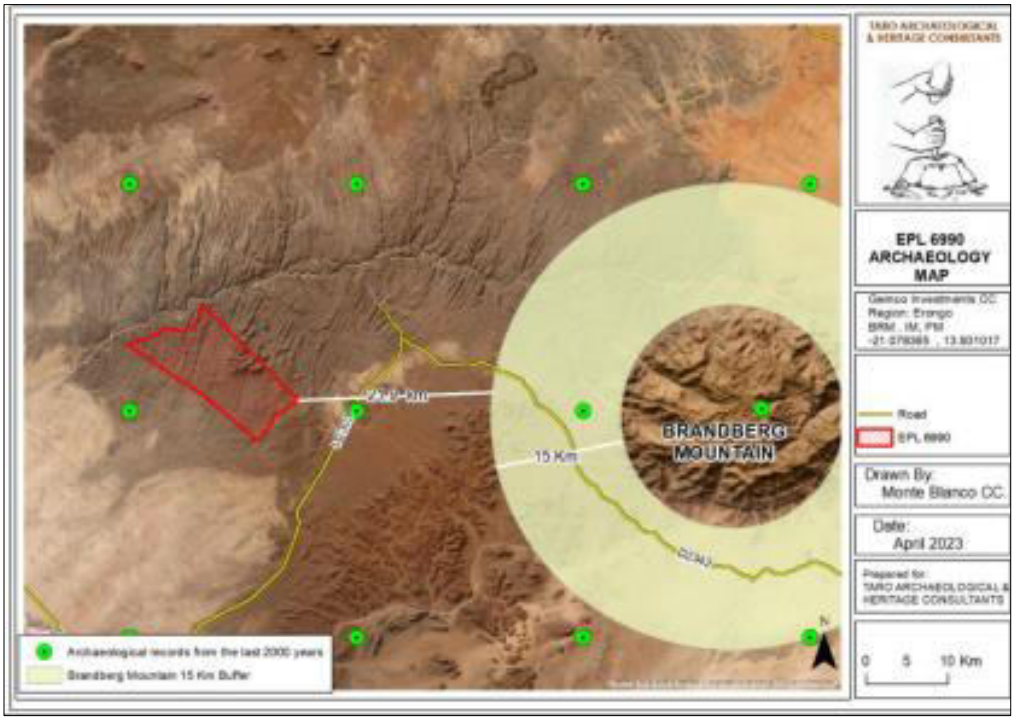

Figure 5-18: Archaeological and heritage sites within Brandberg landscape (TARO Consultants, 2023)

By using the GIS Data set from the national database on the prevailing archaeological sites, several of the sites are located within the landscape but outside the EPL boundaries as shown in Figure 5-19.

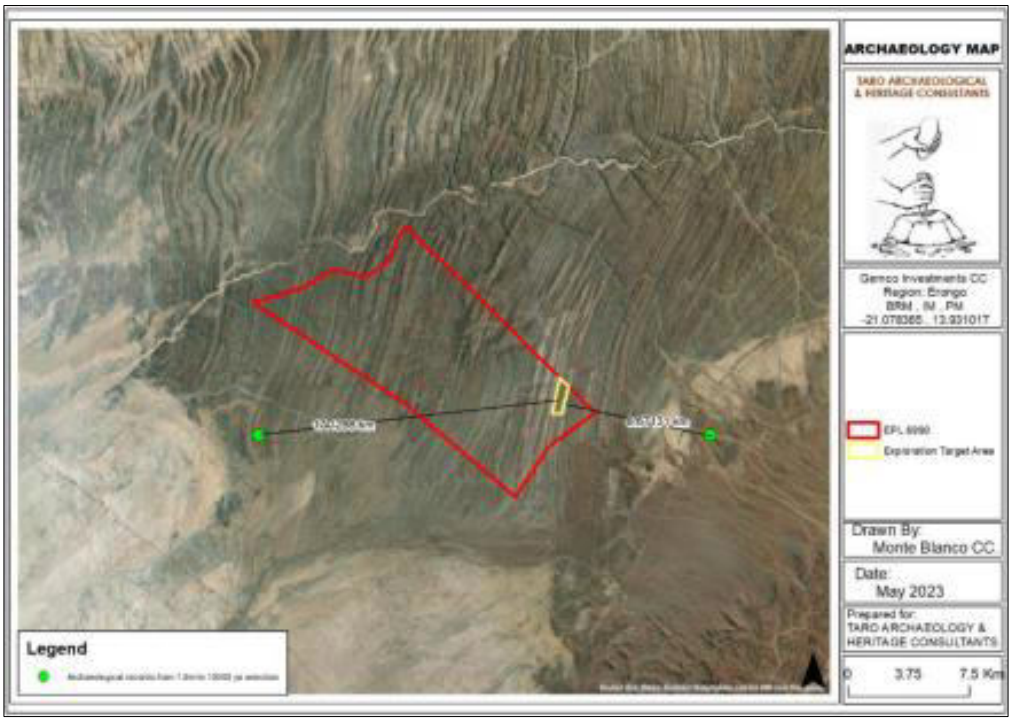

Figure 5-19: Distance of located archaeological sites from the EPL boundaries and targeted site (TARO Consultants, 2023)

5.5.1 Site Findings

The hut circles/stone circles complexes have been reported from several locations in Namibia (Carr et al. 1978; Rudner 1957; Viereck 1968 as cited by TARO Archaeology Consultants, 2023). The function of these circles seems likely to be complex, either long-term occupation sites or occasionally mere hunting blinds, but they are usually located primarily in response to available food resources. The locations of these huts seem to be on the edges of the hills or koppies, most likely these hut settlements or camps were established as hunting blinds as it correlates with the game availability within the areas. These hut/stone circles were recorded within the Dorob National Park and Tsiseb Conservation area, outside the targeted sites (TARO Archaeology Consultants, 2023). The significance of these heritage resources and their vulnerability rankings are provided in the AHIA Report, which focuses on how far are they from the EPL targeted sites.

The different findings recorded during the site surface surveys are shown in Figure 5-20 below, with the buffer zones recommended for the sensitive findings such as hut settlements along several waypoints outside the targeted area of the EPL. There is only one targeted site in the entire EPL of which the exploration activities will be carried out. No sensitive heritage receptors were found in the project area (targeted site).

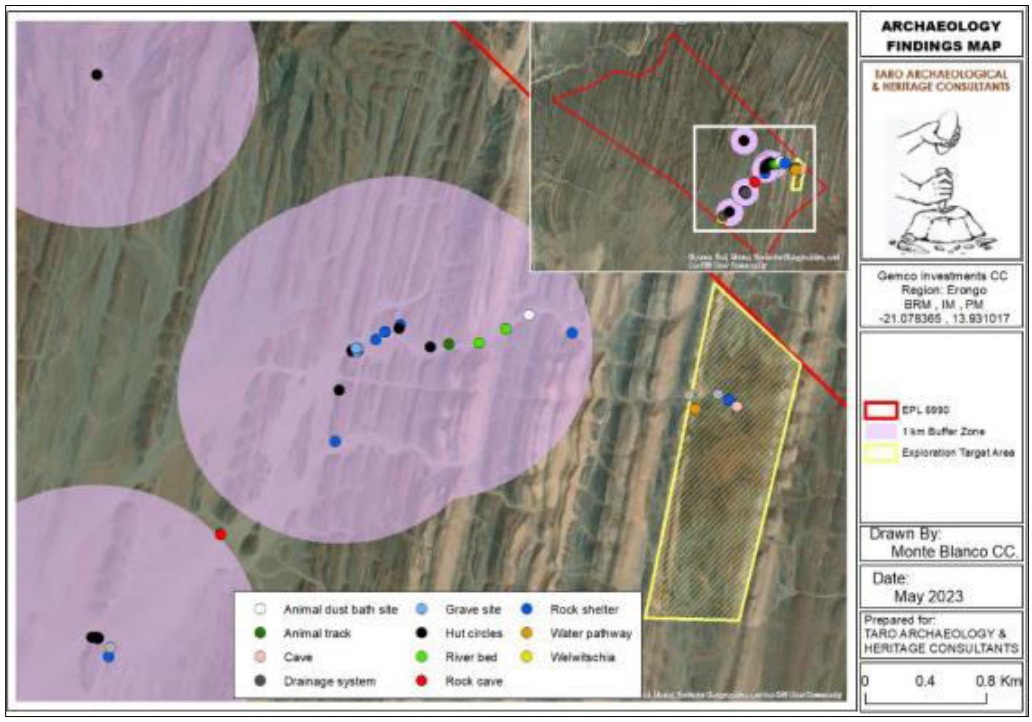

Figure 5-20: Depiction of clusters of the recorded archaeological and heritage resources in the surveyed areas of EPL 6990 (TARO Consultants, 2023)

The public consultation and engagement process and means employed for the EPL ESA Study is presented under 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 assist the EAP (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 their request.

6.2 Communication with I&APs, and Means of Consultation Employed

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

- A Background Information Document (BID) containing brief information about the proposed project was compiled and hand delivered to the Ministry of Environment, Forestry and Tourism (MEFT) accompanying the ECC application, and uploaded on the MEFT (ECC) Portal for project registration and shared with registered Interested and Affected parties (I&APs).
- A Stakeholders' (I&AP) List was developed and updated as new I&APs register for the ESA.
- Project Environmental Assessment notices were published in The Namibia Media Holdings' *Market Watch newspapers* (*Allgemeine Zeitung*, *Die Republikein, and Namibian Sun*) dated 05 and 12 April 2023 – Appendix D.
- Due to the fact that the EPL is remotely located about 100km from Uis and other communities, consultation meetings were only scheduled and held with key local stakeholders (land custodians/users of the exploration target site) in Uis. These directly affected stakeholders are Daure-Daman Traditional Authority and Tsiseb Conservancy management. The consultation meetings were done on the 16th of May 2023 in Uis as shown on the photos in Figure 6-1. The consultation meeting minutes were taken and are attached hereto as Appendix E.

Figure 6-1: Consultation meeting with the members of; A- the Daure-Daman Traditional Authority in Uis, and B - Tsiseb Conservancy management in Uis on the 16th of May 2023

- Two A3 size posters were pasted at the Daure-Daman Traditional Authority office door (Figure 6-3) and frequented Brandberg Multisave Supermarket (Figure 6-3) in Uis.

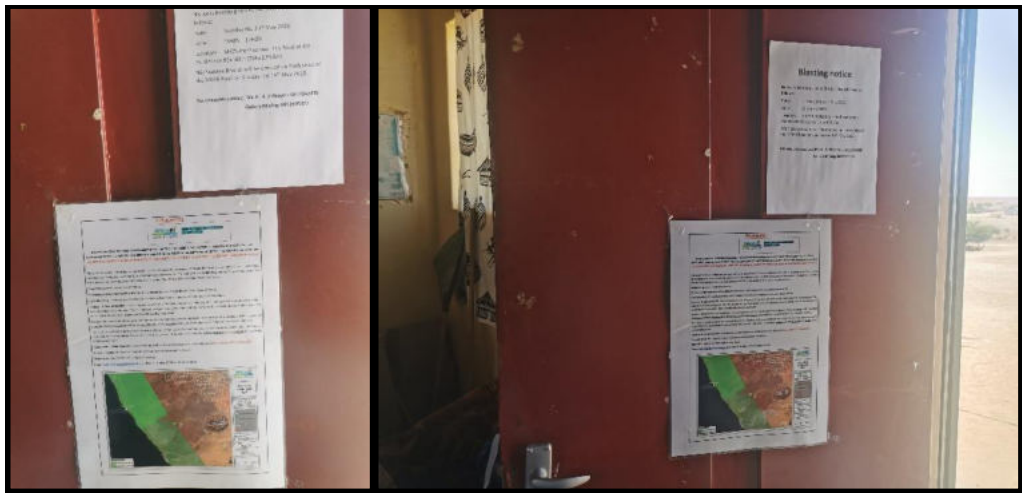

Figure 6-2: A3 ESA Study Poster at the Daure-Daman Traditional Authority Office door in Uis

Figure 6-3: A3 ESA Study Poster at the Brandberg Multisave Supermarket in Uis

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

Issues were raised by the stakeholders and these have been recorded and incorporated in the ESA Report and EMP. The summary these few key issues are presented in Table 6-1 below.

Table 6-1: Summary of main issues and comments received throughout the consultation period

Aspect	Summary
Ecological sensitivity of the EPL area	Mitigation measures should be provided to protect the ecological species.
Adherence to exploration activities	The Proponent is required to only undertake exploration activities and not mine onsite during exploration.
Promotion of transparency in communication and continued engagement	Promote and maintain transparency before and during exploration by continuously engaging the Daure-Daman Traditional Authority (TA) and Conservancy. The TA should be timely informed when starting exploration.
Corporate Social Responsibility (CSR)	The Proponent to assist Uis communities, where possible. A memorandum of understanding should be signed by both the TA and Proponent.
The issue of Proponents selling EPLs later	The TA has introduced a standard 20% of the EPL sale should proponents sell the EPL before working on it.
Employment of Uis and surrounding communities	Employment of locals should be prioritized, where applicable and possible.
Sizes of exploration samples	The issue of some proponents such as lithium prospectors who collect large piles of sampling while they are actually mining already.
The issue of noise and poaching during exploration	Wildlife in the area since the site is located near the Dorob National Park
Assistance in combating poaching	The Tsiseb Conservancy resources for wildlife protection will be stretched given the increase in human presence during exploration.

The consultation period ran from the 05th of April 2023 to the 17th of May 2023, but no comments were submitted to the Serja Consultants.

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

7 IMPACTS IDENTIFICATION, ASSESSMENT AND MEASURES

7.1 Identification of Potential Impacts

The proposed project and its associated activities are usually associated with different potential positive and negative impacts. For an environmental assessment, the focus is placed mainly on the negative

impacts that are likely to affect the host 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 activities are listed as follow:

Positive impacts:

- Local socio-economic development through temporary employment creation.
- Payment of land use fees to the Conservancy and Traditional Authority to assist in uplifting the communities in and near Uis.
- Procurement of local goods and services for exploration by small and medium businesses to promote local entrepreneurship empowerment and local economic development.
- The presence of EPL crew, particularly the Exploration Manager and Environmental Control Officer (ECO) will aid in deterring crime against wildlife (anti-poaching). This will be done through raising continuous anti-poaching awareness to the workers and their responsibility to report suspicious movements in the area to the Exploration Manager and ECO while working/operating in the area.
- Rendering assistance to the anti-poaching team in the Conservancy with basic needs and other possible aids (donations) through the Conservancy or aiding in the compensation of the additional wildlife guards during exploration (as per signed Memorandum of Understanding).

Negative:

- Physical land / soil disturbance.
- Impact on local biodiversity (fauna and flora); potential illegal harvesting of protected vegetation and wildlife hunting (poaching) and habitat disturbance in the area.
- Potential impact on water resources and soils particularly due to pollution.
- Visual impact from unrehabilitated explored areas on the EPL may pose as an eyesore to travellers (including tourists) using the D2303, D2342 and site access roads.
- Accidental fire outbreaks related to the project activities.
- Air quality issue: potential dust generated from the project activities such as drilling, possibly trenching and movement of heavy trucks on unpaved access roads.
- Potential occupational health and safety risks (trenches and drilled holes risk to wildlife).
- Vehicular traffic safety and impact on services infrastructure such as local roads.

- Vibrations and noise associated with drilling activities could impact wildlife that are sensitive to noise.
- Environmental pollution (solid waste and wastewater).
- Archaeological and heritage resources impact (during trenching and drilling).

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

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

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

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

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

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

The Criteria used to assess the potential negative impacts				
Extent or (spatial scale) - extent is an indication of the physical and spatial scale of the impact.				
Low (1)	**Low/Medium (2)**	**Medium (3)**	**Medium/High (4)**	**High (5)**

The Criteria used to assess the potential negative impacts				
Impact is localised within the site boundary: Site only	Impact is beyond the site boundary: Local	Impacts felt within adjacent biophysical and social environments: Regional	Impact widespread far beyond site boundary: Regional	Impact extend National or over international boundaries
Duration- Duration refers to the timeframe over which the impact is expected to occur, measured in relation to the lifetime of the project				
Low (1)	**Low/Medium (2)**	**Medium (3)**	**Medium/High (4)**	**High (5)**
Immediate mitigating measures, immediate progress	Impact is quickly reversible, short-term impacts (0-5 years)	Reversible over time; medium term (5-15 years)	Impact is long-term	Long term; beyond closure; permanent; irreplaceable or irretrievable commitment of resources
Intensity, Magnitude / severity - Intensity refers to the degree or magnitude to which the impact alters the functioning of an element of the environment. This 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 of illness / total loss of habitat, total alteration of ecological processes, extinction of rare species	Substantial deterioration, death, illness or injury, loss of habitat / diversity or resource, severe alteration, or disturbance of important processes	Moderate deterioration, discomfort, partial loss of habitat / biodiversity or resource, moderate alteration	Low deterioration, slight noticeable alteration in habitat and biodiversity. Little loss in species numbers	Minor deterioration, nuisance or irritation, minor change in species / habitat / diversity or resource, no or very little quality deterioration.
Probability of occurrence - Probability describes the likelihood of the impacts occurring. This determination is based on previous experience with similar projects and/or based on professional judgment				
Low (1)	**Medium/Low (2)**	**Medium (3)**	**Medium/High (4)**	**High (5)**
Improbable; low likelihood; seldom. No known risk or vulnerability to natural or induced hazards.	Likely to occur from time to time. Low risk or vulnerability to natural or induced hazards	Possible, distinct possibility, frequent. Low to medium risk or vulnerability to natural or induced hazards.	Probable if mitigating measures are not implemented. Medium risk of vulnerability to natural or induced hazards.	Definite (regardless of preventative measures), highly likely, continuous. High risk or vulnerability to natural or induced hazards.

7.3 Impact Significance

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

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

SP = (magnitude + duration + scale) x probability

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

Table 7-2: Impact significance rating scale

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

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

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

7.4 Description and Assessment of Potential Impacts

The potential impacts from the proposed project activities are described, and assessed in Table 7-3. The management and mitigation measures are in a 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 to some locals from sampling throughout to drilling. This will include casual labourers, technical assistants, cooks, etc.	L / M- 2	L / M - 2	L / M - 4	L - 1	L - 8	M / H - 4	H - 5	M - 6	H - 5	H - 75
Land use fees for socio-economic development	Payment of land use fees to the Conservancy and Traditional Authority will assist in uplifting the communities in, near Uis and these between the EPL and Uis.	L / M- 2	L / M - 2	L / M - 4	L - 1	L - 8	M / H - 4	H - 5	M - 6	H - 5	H - 75
Empowerment of local businesses	Procurement of local goods and services for exploration by small and medium businesses will promote local entrepreneurship empowerment and local economic development (income generation).	L / M- 2	L / M - 2	L / M - 4	L / M - 2	L - 16	M - 3	M / H - 4	L / M - 4	M / H - 4	M - 44
Combating / fighting anti-poaching	The presence of EPL crew, particularly the Exploration Manager and Environmental Control Officer will aid in	L / M- 2	L / M - 2	L / M - 4	L - 1	L - 8	M - 3	M / H - 4	L / M - 4	M / H - 4	M - 44

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	deterring crime against wildlife by keeping an eye on the area and notifying the Conservancy and Police of any suspicious movements in the area. The Proponent will also assist the Conservancy and possibly the wildlife rangers with basic supplies while operating in the area. Gemco will also commit to partly or as agreed in compensating the additional wildlife guards (at least 2) during exploration. These will be included in the Memorandum of Understanding between the Proponent and Conservancy.										
Negative (Adverse) Impacts											
Physical disturbance to the site soils	The excavations to enable siting of project structures and equipment will potentially result in soil disturbance through target site establishment, access road creations and unnecessary offload driving. These would leave the site soils exposed to erosion (areas with no to little vegetation cover to the soils in	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
	place). This is a concern because desert soils are sensitive to disturbance, and the prints may take hundred years to fade. The movement of heavy vehicles and equipment may lead to compaction of the soils during exploration. This will, however, be a short-term and localized impact.										
Impact on the sensitive Biodiversity: Wild Fauna and Flora	Fauna: The EPL falls within an ecologically sensitive area. Therefore, if activities such as trenching and drilling activities are not carefully conducted, this would result in land degradation. The degradation would lead to habitat loss for a diversity of flora and fauna onsite. However, exploration activities will be limited specific target areas only within the EPL. The presence and movement of the exploration workforce and operation of project equipment and heavy vehicles would disturb wildlife at the explored sites of the EPL. There is also a potential illegal hunting (poaching) of local	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
	wildlife by project related workers. This could lead to loss or number reduction of specific faunal species which also impacts tourism in the community. Flora: The already scarce and sensitive 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. The clearing of vegetation, where deem necessary will be limited to the specific route and minimal, therefore, the impact will be localized, site-specific, therefore manageable.										
Air Quality: Dust Generation	There is a potential impact of dust emanating from site access roads when transporting exploration equipment and supply to and from site. This may compromise the air quality in the area. Additionally, activities carried out as part of the exploration works such as drilling	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
	would contribute to the dust levels in the air.										
Visual impact: Scenic view of the area for Tourism	The sight of the explored and unrehabilitated areas of the EPL may be an eyesore to tourists and travelers alike on D2303 and D2342. This would become a visual nuisance in tourist-prone areas of the EPL areas. The presence of exploration vehicles and machinery near the local roads may impact the scenic view of the area for tourism and travelers on the roads. This impact is considered minimal as part of exploration and duration will be short term.	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	The abstraction of more water than it can be replenished from low groundwater potential areas would negatively affect wildlife watering in the area that depend on the same low potential groundwater resource (aquifer). The impact of the project activities on the resources would be dependent on the water	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
	volumes required by each project activity. Commonly exploration activities use a lot of water, mainly diamond drilling (for Base & Rare, Industrial Minerals, and Precious Metals) that 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 litres (10 to 25 m^3) per day per hole. Given the fact that the EPL area is underlain by rock units with low groundwater potential, the Proponent will be carting water for drilling from outside the area and store it in industry standard water reservoirs/tanks on site and refilled as required. The required water would also be dependent on the duration of the exploration works and number of exploration holes required to make reliable interpretation on the commodity presence explored for during exploration. Therefore, the impact will only last for the duration of the exploration										

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	activities and ceases upon their completion.										
Soil and Water Resources Pollution	The proposed exploration activities are associated with a variety of potential pollution sources (i.e., lubricants, fuel, and wastewater) that may contaminate/pollute soils and eventually groundwater and surface water. The anticipated potential source of pollution to water resources from the project activities would be hydrocarbons (oil) from project vehicles, machinery, and equipment as well as potential wastewater/effluent from exploration related activities. The spills (depending on volumes spilled on the soils) from these machinery, vehicles and equipment could be washed in surface water bodies such as rivers and streams. The pollution may eventually infiltrate into the ground and pollute the fractured or faulted aquifers. This impact would occur during heavy rainy season when surface runoff would be inevitable. However, it	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
	should be noted that the scale and extent/footprint of the activities where potential sources of pollution will be handled is relatively small. Therefore, the impact will be moderately low.										
Waste Generation (Environmental pollution)	Waste types such as solid, wastewater and possibly hazardous will be produced onsite during exploration. If the generated waste is not disposed of in a responsible way, land pollution may occur on the EPL or around the site. If solid waste such as papers and plastics are not properly stored or just thrown into the environment (littering), these may be consumed by wild animals which could be detrimental to their health. Improper handling, storage and disposal of hydrocarbon products and hazardous materials at the site may lead to soil and groundwater contamination, in case of spills and leakages. Therefore, the exploration programme needs to	M: -3	M: -3	M / L: -4	M / H: 4	M: -40	L - 1	L - 1	L - 2	L / M - 2	L - 8

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
	have appropriate waste management for the site. To prevent these issues, biodegradable and non-biodegradable wastes will be stored in separate containers and collected regularly for disposal at a nearest recognized waste management facilities										
Occupational Health and Safety Risks	Project personnel (workers) involved in the exploration activities may be exposed to health and safety risks. The heavy vehicle, equipment and fuel storage area will be properly secured to prevent any harm or injury to the Proponent's personnel, locals and animals. Another potential risks to both people and wildlife within the EPL are unfenced exploration trenches or trenches that are not backfilled after completing the sampling. Unsecured exploration trenches and even uncapped holes could pose a risk of people or wildlife falling into the open trenches leading to injuries.	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	The local roads such as C35, C36, D2303 and D2342 is the main transportation routes for all vehicular movement in the EPL area. There would be a potential increase in traffic flow especially during exploration stage of the project activities, due to the delivery of supplies, goods and services to site. Depending on the project needs, trucks, medium and small vehicles will be frequenting the area to and from exploration sites on the EPL. This would potentially increase slow moving heavy vehicular traffic along these roads leading to accidents. Exploration works will be undertaken in stages, on certain days of the week, few vehicles and the work will be temporary.	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
	Therefore, the risk is anticipated to be short-term, not frequent										
Impact on local road use	The project activities will mean an increased movement of heavy trucks and equipment on the local gravel roads which would exert more pressure on these roads, and worsening their conditions. This will be a concern if maintenance and care is not done during the exploration phase. The impact would be short-term and therefore, manageable.	M: -3	M: -3	M / L: -4	M / H: 4	M: -40	L - 1	L - 1	M / L - 4	M / L -2	L - 12
Noise and vibration from drilling	There is a potential of noise from certain activities, especially drilling and trenching, which may be a nuisance to wildlife. Excessive noise and vibrations without any protective measures in place can be also a health risk to workers on site. The exploration equipment used for drilling on site is of medium size and the noise level is bound to be limited to the site only, therefore, the impact likelihood is minimal.	M - 3	M - 3	M - 6	M / H - 4	M – 48	L - 1	L / M - 2	L - 2	L / M -2	L - 10

Impact	Impact Description	Impact Assessment									
		Pre-mitigation Rating					Post-mitigation Rating				
		Extent	Duration	Intensity	Probability	Significance	Extent	Duration	Intensity	Probability	Significance
Archaeological and Heritage resources	As fully described in the AHIA Report by TARO Archaeology Consultants (2023), the targeted area has minimal to less significance in terms of archaeological and heritage resources. However, since the survey was conducted and limited to the surface levels only, the impact can occur during earthworks such as drilling, excavation and other invasive methods of exploration as well as associated activities such as creation of access roads or sitting of equipment. Therefore Chance finds procedure is recommended to be adopted throughout the prospecting and exploration phase to avoid any destruction and disturbances of the known and unknown archaeological materials.	M: -3	M: -3	M / L: -4	M / H: 4	M: -40	L - 1	L / M - 2	L - 2	L / M -2	L - 10

7.5 Cumulative Impacts Associated with the Proposed Exploration

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

- Poaching (illegal hunting of wildlife): During the ESA consultation process, it was indicated that the EPL falls within the DNP, and although exploration works are targeted in the Conservancy, wild animals still roam the areas of both the Conservancy and Park, where poaching is an ongoing threat to wildlife in the area. The poaching could be currently linked to people from outside the area, and likely to continue with the introduction of additional people (related to projects) in the area. Regardless, mitigations measures will need to be implemented to mitigate these impacts.
- Impact on road infrastructure: The proposed exploration activities will contribute cumulatively to various existing activities such as travelling associated with tourism, and existing mineral licenses and other projects in the area. The contribution of the proposed project to this cumulative impact is however not considered significant given the short duration, and local extent (site-specific) of the intended mineral exploration activities.
- Impact on soils (physical disturbance): the desert soils are sensitive to disturbance and erosion. The current movements/footprints and operations in the areas of both the Tsiseb Conservancy and DNP would increase the disturbance of soils, particularly on the creation of many off-road tracks. The presence of exploration team and vehicles is likely to add on this impact. Therefore, mitigation measures on soil disturbance will need to be implemented as effectively as possible.
- Impact on Archaeological and Heritage resources: according to TARO Archaeology Consultants (2023), although some archaeological materials such as stone artefacts and sites are likely to be lost during the clearance of land or construction of other facilities necessary for exploration works. Similarly, the focus of mitigation measures in the AHIA Report was 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.

8 CONCLUSIONS

The ESA Study for the proposed exploration activities on EPL-6990 was undertaken in accordance with the EMA and its 2012 EIA Regulations. Some key potential positive and negative impacts were identified. The key negative impacts were described, assessed and appropriate management and mitigation measures made thereof for implementation by the Proponent, their contractors, and workers.

The public was notified as required by Section 21 to 24 of the EIA Regulations by placing adverts in three newspapers (*Allgemeine Zeitung, Die Republikein, and Namibian Sun*) dated 05 and 12 April 2023. Two consultation meetings with directly affected and key stakeholders were held in Uis on the 16th of May 2023. The stakeholders made some comments to the proposed project activities.

The comments were addressed and incorporated into this Report and Draft EMP.

Impact Assessment: The key negative impacts were described, assessed. The potential negative impacts indicated a medium rating significance. To minimize the significance, appropriate management and mitigation measures 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 the 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 are required to the ECC application for the prospecting and exploration activities.

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

- All the management and mitigation measures provided herein are effectively and progressively implemented.
- All required permits, licenses and approvals for the proposed activities should be obtained as required. These include permits and licenses for land use agreements, services provision agreements (water provision) to explore and ensuring compliance with these specific legal requirements.
- The Proponent, their project workers or contractors comply with the legal requirements governing their project and its associated activities and ensure that project permits and or approvals required

to undertake specific site activities are obtained and renewed as stipulated by the issuing authorities.

- Site areas where exploration activities have ceased are rehabilitated, as far as practicable, to their pre-exploration state. This includes the levelling of stockpiled topsoil, backfilling of exploration trenches and closing/capping of exploration holes.

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 reduce impacts' rating or maintain low rating but to also ensure that all potential impacts that might arise during implementation are properly identified in time and addressed immediately.

9 LIST OF REFERENCES

1. Erongo Regional Council. (2015). Economy - Available from http://www.erc.com.na/economy/fishinig/.
2. Gemco Investments. (2022). Exclusive Prospecting License (EPL) 6990 Geology Report: Economic evaluation of nickel and gold prospects in Namibia. Windhoek. Unpublished.
3. Mendelsohn J., Jarvis A., Roberts C., and Robertson T. (2002). Atlas of Namibia: A Portrait of the Land and its People. Cape Town: David Philip Publishers.
4. Ministry of Environment, Forestry and Tourism (MEFT). (2023). National Parks - Dorob National Park. Available from https://www.meft.gov.na/national-parks/dorob-national-park/216/
5. NACSO. (2023). Conservancies: Tsiseb Conservancy. Available from https://www.nacso.org.na/conservancies/tsiseb.
6. Namibia Statistics Agency. (2014). Namibia 2011: Population and Housing Census: Basic Analysis with Highlights – Erongo Regional Profile. Windhoek: Namibia Statistics Agency.
7. National Geographic. (2023). Education - Coastal plain https://education.nationalgeographic.org/resource/coastal-plain/.

8. Resilient Environmental Solutions. (2019). Scoping Report for the Environmental Assessment Report for EPL-7264 near Talismanis in the Omaheke Region. Windhoek. Ministry of Environment, Forestry and Tourism.

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

10. TARO Archaeology Consultants. (2023). Archaeological and Heritage Impact Assessment for the proposed Prospecting and Exploration Activities on EPL-6990 situated west of Uis Settlement in the Erongo Region, Namibia. Windhoek. Unpublished.