Excel Dynamic Solutions
(PTY) Ltd

Environmental Scoping Assessment (ESA) Study for:

The Proposed Mineral Exploration Activities on Exclusive Prospecting License (EPL) No. 8508 located West of Kamanjab in the Kunene Region, Namibia

Document Type: **Scoping Report**

Document Version: **Final for Submission**

ECC Application No.: **221122000392**

Author: **Ms. Fredrika Shagama** Company: **Excel Dynamic Solutions (Pty) Ltd** Telephone: **+264 (0) 61 259 530** Post: **Box 997154 Maerua Mall, Windhoek** Email: **info@edsnamibia.com**	Proponent: **Codebreak Investments (Pty) Ltd** Contact person: **Dr. Erastus S. Shapumba** Telephone: **+264 81 128 0192** Post: **Box 40115 Ausspannplatz, Windhoek** Email: **admin2@citypropertyone.com**

November 2022

EXECUTIVE SUMMARY

Codebreak Investments (Pty) Ltd (hereinafter referred to as The Proponent) has applied to the Ministry of Mines and Energy (MME) to be granted an Exclusive Prospecting License (EPL) No. 8508 on the 17th of November 2020. However, the approval and granting of the EPL is subjected to an Environmental Clearance Certificate, thus the "pending ECC" status on the mining cadastre portal. The Rights' application is pending approval which is subject to an Environmental Clearance Certificate (ECC). The 19,693.1404 ha EPL is located about 39 km west of Kamanjab in the Kunene Region. The EPL covers the ≠Khoadi-//Hôas Conservancy, and farms such as Farm Condor No. 617, Farm Bruno No. 614, Farm Emmanuel No. 613, Farm No. 612, Farm Deo Volento No. 610, Farm Ombonde No. 616 and Farm Atlanta No. 618.

The EPL has potential for Base & Rare Metals, Dimension Stone, Industrial Minerals, and Precious Metals for which the Proponent applied rights on and intends to carry out the mineral exploration activities with the boundaries of the EPL. This would then lead to the estimation and delineation of the target resources.

However, exploration and all mining-related activities are among the listed activities that may not be undertaken without an Environmental Clearance Certificate (ECC) under the Environmental Management Act (EMA) (2007) and its 2012 Environmental Impact Assessment (EIA) Regulations.

To fulfil the EMA requirements, the Proponent appointed Excel Dynamic Solutions (Pty) Ltd, an independent team of Environmental Consultants, to conduct the required Environmental Scoping Assessment (ESA) process and submit the ECC application to the Department of Environmental Affairs and Forestry (DEAF) at the Ministry of Environment, Forestry & Tourism (MEFT).

Brief Project Description

Planned Activities: Proposed Exploration Methods

The Proponent intends to adopt a systematic prospecting and exploration approach of the following (as described herein under Chapter 2):

- Desktop Study: Geological mapping (Non-invasive Technique),
- Lithology geochemical surveys,
- Geophysical surveys, and

- Detailed Exploration (Invasive Techniques such as trenching and drilling).

Public Consultation

Public Consultation Activities

Regulation 21 of the EIA Regulations details steps to be taken during a public consultation process and these have been used in guiding this process. The public consultation process assisted the Environmental Consultant in identifying all potential impacts and aided in the process of identifying possible mitigation measures and alternatives to certain project activities. The communication with IAPs about the proposed prospecting and exploration activities was done through the following means and in this order to ensure that the public is notified and afforded an opportunity to comment on the proposed project:

- **The Stakeholders** / **Interested and Affected Parties (IAPs):** The list of stakeholders (IAPs) was developed and updated throughout the ESA process**.**
- **A Background Information Document (BID)** containing brief information about the proposed facility was compiled and hand delivered to relevant authorities and upon request to all new registered Interested and Affected parties (IAPs),
- **Environmental Assessment Study notification:** published in *The Namibian* and *New Era* Newspapers dated 13 & 14 and 20 September 2022) briefly explaining the activity and its locality, inviting members of the public to register as IAPs and submit their comments/concerns.
- **Consultation Meetings**: two consultation meetings were scheduled and held as follows (and the meeting minutes were taken):
    - First consultation meeting was held on the 12th of October 2022 at the Community Hall in Anker Settlement.
    - Second consultation meeting held on the 29th of November 2022 on Farm Emmanuel (Pos 2 Koekemur).
- **Project (Public) Notices:** A3 size printed posters were placed at the Kunene Regional Council in Opuwo, Kamanjab Village Council and in Anker, at the /Gaio-Daman Traditional Authority notice boards. The notices contained project information and contact details for EDS Consultants to submit comments or issues.

The comments provided and received during the consultation period were noted and used to form a basis for the impact assessment in this Scoping Report and to develop a Draft EMP.

Potential Impacts identified

The following potential impacts are anticipated:

Positive impacts:

- Socio-economic development: temporary employment creation and skills transfer.
- Investment opportunities/infrastructure-related development benefits,
- Produce a trained workforce and small businesses that can service the communities.
- Boosting the local economic growth through corporate social responsibility (CSR).
- Increased support for local businesses through the procurement of locally available goods and services.

Negative impacts:

- Disturbance of existing communal grazing areas,
- Physical land/soil disturbance and prone to erosion
- Impact on fauna and flora (habitat disturbance and poaching).
- Water resources (over-abstraction of water) and soils pollution.
- Air quality issue owing to dust generation
- Occupational and community health and safety risks/hazards
- Vehicular traffic safety and services infrastructure (local roads).
- Vibrations and noise associated with drilling activities.
- Environmental pollution from poor waste management,
- Archaeological or cultural heritage impact
- Potential social nuisance and land use conflicts.

These project impacts were assessed, and mitigation measures provided accordingly.

RECOMMENDATIONS AND CONCLUSIONS

The potential impacts that are anticipated from the proposed project activities were identified, described, and assessed. For the significant adverse (negative) impacts with medium rating, appropriate management and mitigation measures were recommended for implementation by the Proponent, and the aim is to maximize the positive impacts of the Project.

The interested and affected parties (stakeholders) were consulted as per the EMA and its 2012 EIA Regulations (Section 21 to 24). This was done via the *New Era* and *The Namibian* newspapers used for this environmental assessment. The consultation meetings were held with the communities and leaders from the area on 12 October & 29 November 2022. Some comments and concerns were made and raised on the proposed project activities, respectively. These comments were noted down and incorporated into the Scoping Report and Draft EMP.

The issues and concerns addressed and incorporated into this Scoping Report have been addressed and mitigation measures provided thereto to avoid and/or minimize their significance on the environmental and social components. Most of the potential impacts were found to be of medium rating significance. With the effective implementation the recommended management and mitigation measures, this will particularly reduce the significance of adverse impacts that cannot be avoided completely (i.e., reduce the significance from medium rating to low). To maintain the desirable rating, the implementation of management and mitigation measures, it is highly recommended that the Proponent or their Environmental Control Officer (ECO) conduct the EMP implementation monitoring. Monitoring will not only be done to avoid impacts or maintain their desired rating, but to also ensure that all potential adverse impacts identified in this study and other impacts that might arise during Project implementation are properly and timely identified and addressed accordingly.

The Scoping assessment is deemed sufficient and conclude that no further detailed assessments are required to the ECC application.

Recommendations

The EDS 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. This would also be improved by more effort and commitment towards monitoring the implementation of these measures.

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

- All the management and mitigation measures provided herein and Draft EMP are effectively and progressively implemented.
- All required permits, licenses and approvals / consents for the proposed activities should be obtained as required. These include permits and licenses for land use agreements to explore and ensuring compliance with these specific legal requirements.
- The Proponent and all their personnel 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.
- The disturbed areas created from the project activities areas are rehabilitated, as far as practicable, to their pre-exploration state.
- Environmental Compliance monitoring reports should be compiled and submitted to the DEAF every 6 months from the date of ECC issuance (as required).

Conclusions

In conclusion, with that being done, it is crucial for the Proponent and their workers and contractors to effectively implementation of the recommended management and mitigation measures to protect both the biophysical and social environment throughout the project duration. The aim is to promote environmental and social sustainability while ensuring a harmonious existence and proposed activities in the communities and surrounding environment.

Disclaimer

EDS warrants that the findings and conclusion contained herein were accomplished in accordance with the methodologies set forth in the Scope of Work and EMA of 2007 with its 2012 EIA Regulations. These methodologies are described as representing good customary practice for conducting an EIA for the purpose of identifying recognized environmental conditions. There is a possibility that even with the proper application of these methodologies there may exist on the subject Project Site conditions that could not be identified within the scope of the assessment, or which were not reasonably identifiable from the available information. The EDS Consultants believe that the information obtained from the record review and during the public consultation processes concerning the proposed exploration work is reliable. However, the Consultants cannot and does not warrant or guarantee that the

information provided by the other sources is accurate or complete. The conclusions and findings set forth in this Scoping Report are strictly limited in time and scope to the date of the evaluations. No other warranties are implied or expressed.

Some of the information provided in this Report is based upon personal interviews, public / stakeholders' engagement and research of available documents, records, and maps held by the appropriate government and private agencies. This Report is subject to the limitations of historical documentation, availability, and accuracy of pertinent records and the personal recollections of the persons contacted or consulted.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

Appendix A: Draft Environmental Management Plan (EMP)

Appendix B: Curricula Vitae (CV) for the Environmental Assessment Practitioner (EAP)

Appendix C: EIA / ESA Notification in the newspapers (*New Era* and *The Namibian*)

Appendix D: Stakeholders (IAPs) Consultation Meeting Minutes and Attendance Registers

LIST OF ABBREVIATIONS

Abbreviation	Meaning
BID	Background Information Document
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora

Abbreviation	Meaning
CV	Curriculum Vitae
DEAF	Department of Environmental Affairs and Forestry
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
EDS	Excel Dynamic Solutions
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPL	Exclusive Prospecting Licence
EPFIs	Equator Principle Financial Institutions
ESA	Environmental Scoping Assessment
GG & GN	Government Gazette & Government Notice
IAPs	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	Namibia Association of Community Based-Natural Resources Management (CBRNM) Support Organisations
PPE	Personal Protective Equipment
Reg / S	Regulation / Section
TOR	Terms of Reference
UNCCD	The United Nations Convention to Combat Desertification

KEY TERMS

Terms	Definition
Alternative	A possible course of action, in place of another that would meet the

Terms	Definition
	same purpose and need of the proposal.
Baseline	Work done to collect and interpret information on the condition/trends of the existing environment.
Biophysical	That 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.
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 Environmental Management Act - the complex of natural and anthropogenic factors and elements that are mutually interrelated and affect the ecological equilibrium and the quality of life, including – (a) the natural environment that is land, water, and air; all organic and inorganic matter and living organisms and (b) the human environment that is the landscape and natural, cultural, historical, aesthetic, economic and social heritage and values.
Environmental Management Plan	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	Is a license that confers exclusive mineral prospecting rights over land of up to 1000 km2 in size for an initial period of three years, renewable twice for a maximum of two years at a time
Interested and Affected Party (IAP)	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

Terms	Definition
	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	All the animals and plants found in an area.
Mitigation	The purposeful implementation of decisions or activities that are designed to reduce the undesirable impacts of a proposed action on the affected environment.
Monitoring	Activity involving repeated observation, according to a pre-determined schedule, of one or more elements of the environment to detect their characteristics (status and trends).
Proponent	Organization (private or public sector) or individual intending to implement a development proposal.
Public Consultation/Involvement	A range of techniques 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.
Terms of Reference (ToR)	Written requirements governing full EIA input and implementation, consultations to be held, data to be produced and form/contents of the EIA report. Often produced as an output from scoping.

1 INTRODUCTION

1.1 Project Background and Locality

Codebreak Investments (Pty) Ltd (hereinafter referred to as The Proponent) has applied to the Ministry of Mines and Energy (MME) to be granted an Exclusive Prospecting License (EPL) No. 8508 on the 17th of November 2020. However, the approval and granting of the EPL is subjected to an Environmental Clearance Certificate, thus the "pending ECC" status on the mining cadastre portal. The Rights' application is pending approval which is subject to an Environmental Clearance Certificate (ECC) as shown on the Mining Cadastre in Figure 1-1.

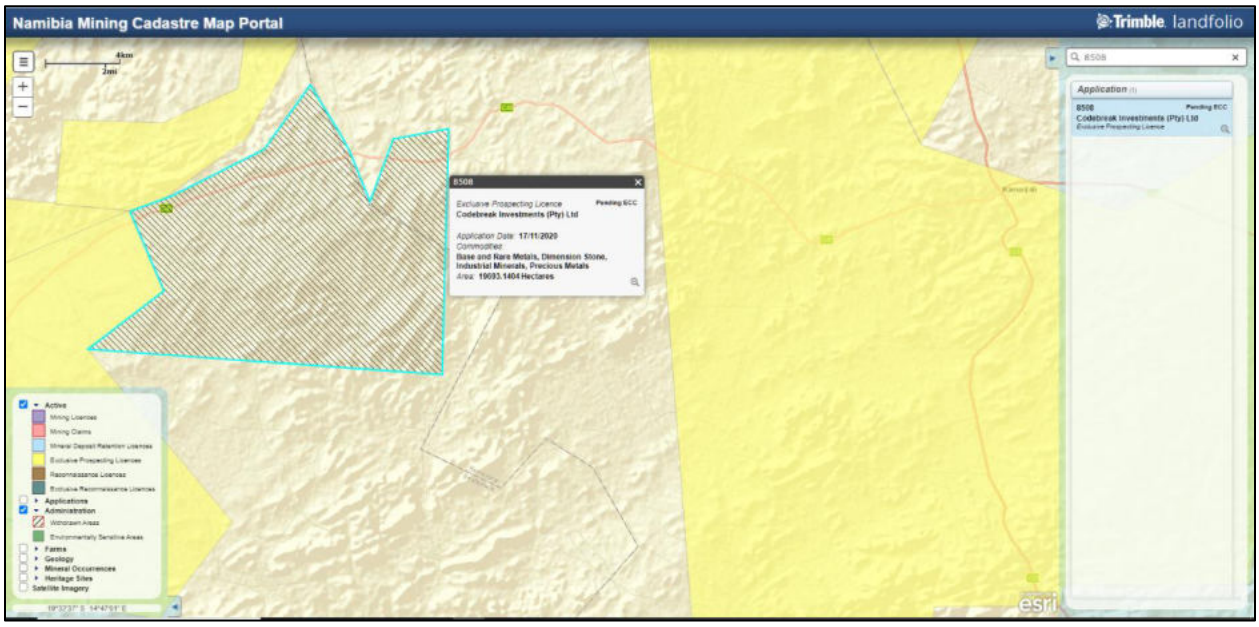

Figure 1-1: EPL-8508 on the Namibian Mining Cadastre (https://portals.landfolio.com/namibia/)

The 19,693.1404 ha EPL is located about 39 km west of Kamanjab in the Kunene Region. The EPL covers the ≠Khoadi-//Hôas Conservancy, and farms such as Farm Condor No. 617, Farm Bruno No. 614, Farm Emmanuel No. 613, Farm No. 612, Farm Deo Volento No. 610, Farm Ombonde No. 616 and Farm Atlanta No. 618 as shown in Figure 1-2 and Figure 1-3.

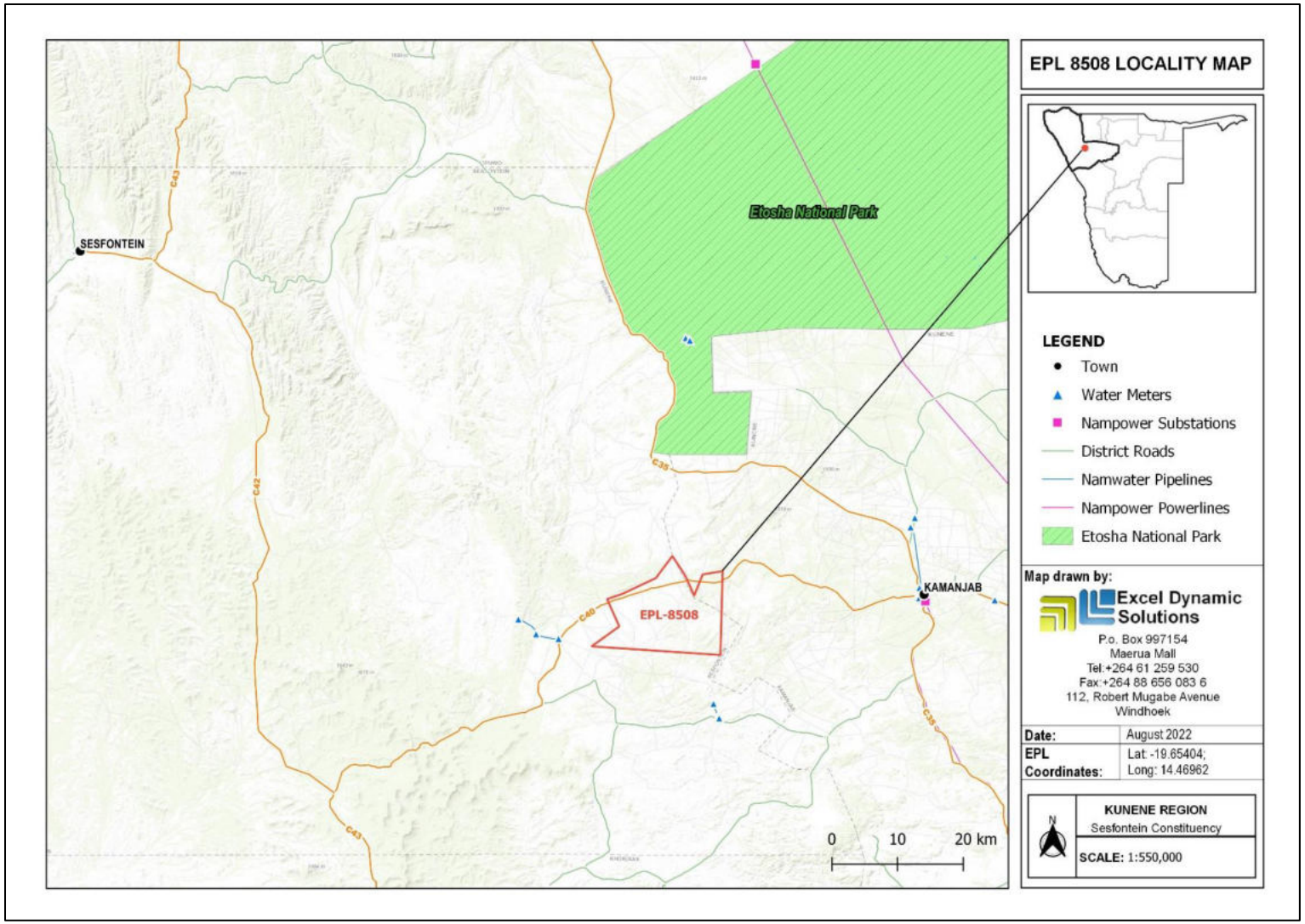

Figure 1-2: Location of EPL-8508 in the Kunene Region, Namibia

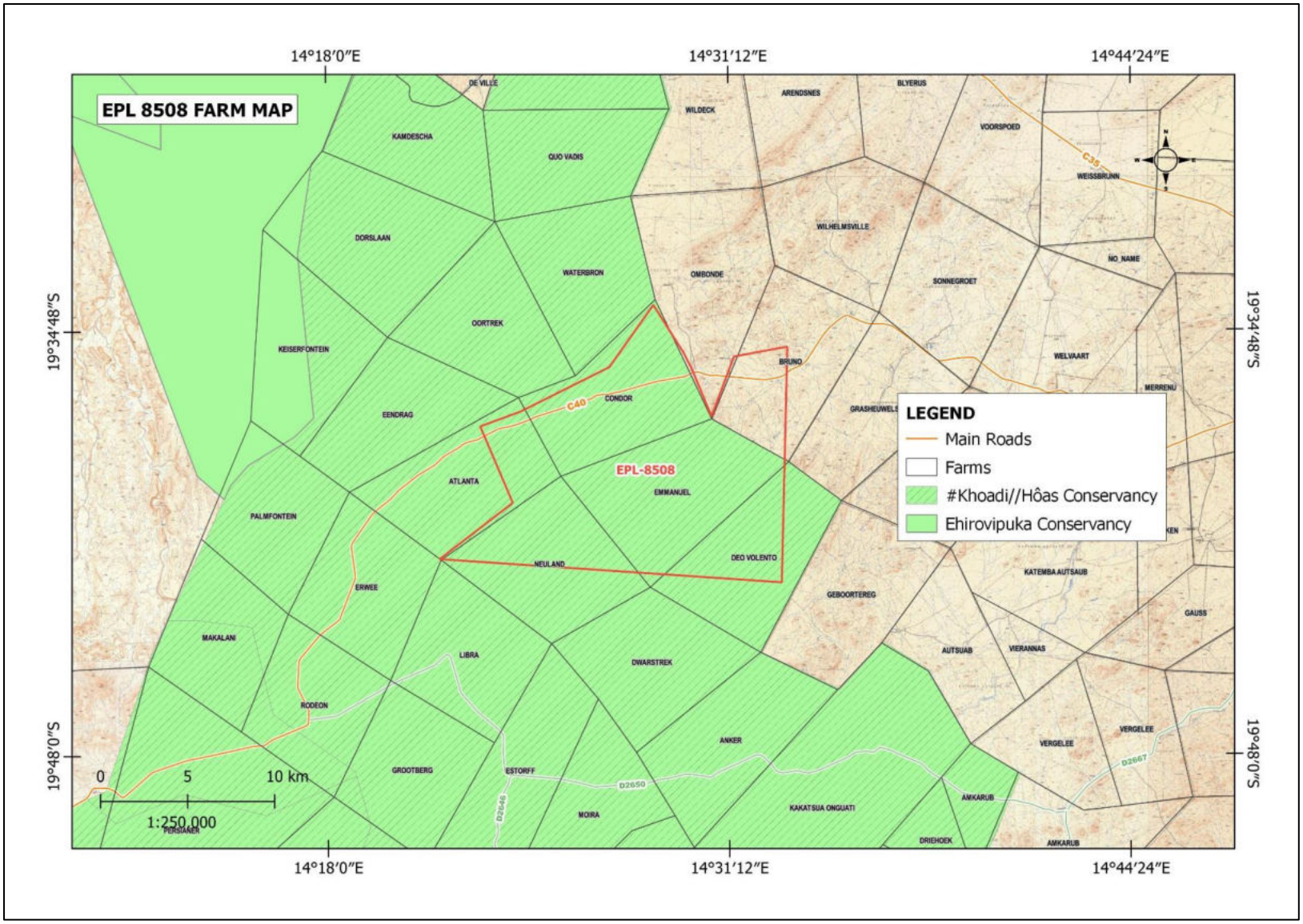

Figure 1-3: The land use (farms and Conservancy) overlain by EPL-8508 in the Kunene Region

The Proponent is interested in prospecting & exploring for Base & Rare Metals, Dimension Stone, Industrial Minerals, and Precious Metals. However, exploration and all mining-related activities are among the listed activities that may not be undertaken without an Environmental Clearance Certificate (ECC) under the Environmental Management Act (EMA) (2007) and its 2012 Environmental Impact Assessment (EIA) Regulations. The relevant listed activities are:

- *3.1 The construction of facilities for any process or activities which requires 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 Proponent is, therefore, required to obtain an ECC for the approval of the EPL and before the commencement of works on the EPL. To fulfill the legal requirements, the Proponent has appointed Excel Dynamic Solutions (Pty) Ltd, an independent team of Environmental Consultants, to conduct the required Environmental Scoping Assessment (ESA) process and submit the ECC application to the Department of Environmental Affairs and Forestry (DEAF) at the Ministry of Environment, Forestry & Tourism (MEFT).

1.2 Terms of Reference and Scope of Works

There are no specific Terms of Reference (ToR) provided to EDS by the Proponent for the ESA Study. Therefore, the Consultants undertook the Study according to the requirements of the EMA and its EIA Regulations (Government Notice. No. 30 of 2012) and apply for the ECC.

The application for the ECC was compiled and submitted to the Environmental Custodian, the Ministry of Environment, Forestry and Tourism (MEFT)'s Department of Environmental Affairs and Forestry (DEAF). The Background Information Document (BID) was also uploaded on the online ECC Portal for project registration purposes. Upon submission of an Environmental Scoping Assessment (ESA) or Scoping Report and Draft Environmental Management Plan (EMP), an ECC for the proposed project activities will be considered by the Environmental Commissioner at the DEAF: MEFT.

The findings of the ESA process are incorporated into this Scoping Report and the Draft EMP (Appendix A). These documents will be submitted as part of the ECC application to the Environmental Commissioner at the DEAF of the MEFT for consideration of the ECC.

1.3 Appointed Environmental Assessment Practitioner

To satisfy the requirements of the EMA and its 2012 EIA Regulations, The Proponent appointed a team of independent environmental consultants (Excel Dynamic Solutions (Pty) Ltd (EDS)), to conduct the required Environmental Assessment (EA) process.

The EA Study is headed by Mr. Nerson Tjelos, a qualified and experienced Geoscientist and experienced Environmental Assessment Practitioner (EAP) with over 8 years of experience in Natural Resources Consulting and Business Development. The EA Consultation process and reporting were done by Ms. Fredrika Shagama, an experienced EAP and qualified Geohydrologist with 7 years of experience in the Environmental and Groundwater Management Consulting sector. Ms. Shagama' CV is presented under Appendix B.

1.4 The Need for the Proposed Project Activities

Mining contributes about 12.5% towards Namibia's Gross Domestic Product (GDP). The mining industry is one of the largest contributors to the Namibian economy; therefore, it contributes to the improvement of livelihoods. In Namibia, exploration for minerals is done mainly by the private sector. Exploration activities have a great potential to enhance and contribute to the development of other sectors and its activities do provide temporary employment, and taxes that fund social infrastructural development. The minerals sector yields foreign exchange and account for a significant portion of gross domestic product (GDP). The mining sector forms the vital part of some of Namibia's development plans, namely: Vision 2030, National Development Plan 5 (NDP5) and Harambee Prosperity Plans (HPPs) I and II. Thus, mining is essential to the development goals of Namibia in contributing to meeting the ever-increasing global demand for minerals, and for national prosperity. Therefore, the successful exploration on the EPL would then lead to the mining of economic feasible commodities, which would contribute towards achieving the goals of the national development plans.

The description of the proposed activities is provided under Chapter 2 (next chapter).

2 PROJECT DESCRIPTION: PROPOSED EXPLORATION WORKS

The proposed activities will entail the detailed exploration activities and delineating the mineral deposits and determine whether the deposits for targeted commodities are economically feasible mining resources.

The prospecting and exploration of minerals are the first components of any potential mining project (development and eventual mining). This is done to acquire the necessary data required for further decision making and investment options. These activities are anticipated to last for about three years or more, with ground geophysical surveys done in stages on different parts of the EPL lasting several weeks. However, the overall duration for exploration would be dependent on the programmes and subsequent actual exploration processes. The description and proposed phased approach of the prospecting and exploration activities and stages to be undertaken is presented below from subheading 2.1 to 2.3. the decommissioning of exploration activities and site rehabilitation is provided under subheading 2.4.

It should be noted that these activities will only be undertaken upon the approval of the Scoping Report and Draft EMP and issuance of the ECC by the Environmental Commissioner and granting of the EPL rights by the Mining Commissioner at the Ministry of Mines and Energy (MME). The ECC applied for is for exploration only, and not mining.

Once the Proponent has been issued with the ECC and obtained all relevant and required permitting/licensing (such as consents and or land use agreements), and ready to commence with the actual exploration activities (with financial, technical, and human resources in place), the planned activities will commence on the EPL.

2.1 Pre-development Phase (Prospecting)

The reviewing of existing reports and composite stratigraphic, lithological-geochemical maps of the targeted areas are done during the prospecting as the early activities of an exploration phase. The aim is 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. It should be noted that, no physical disturbance is required. Prospecting during the advanced exploration phase will require the Proponent to assess the area covered by the

EPL through detailed geological mapping, geophysical and geochemical surveys, supported where necessary by geophysical surveys. This is done to define targets for test pitting, trenching, and drilling. Upon issuing of the ECC, the exploration program will commence with ground geophysical surveys. These surveys and associated activities are part of the exploration cycle in Figure 2-1 below, whereas post-successful exploration activities, i.e., mine development, actual mining and mine closure cycle is shown in Figure 2-2.

Figure 2-1: The mineral exploration cycle (after, Savannah Resources, 2019)

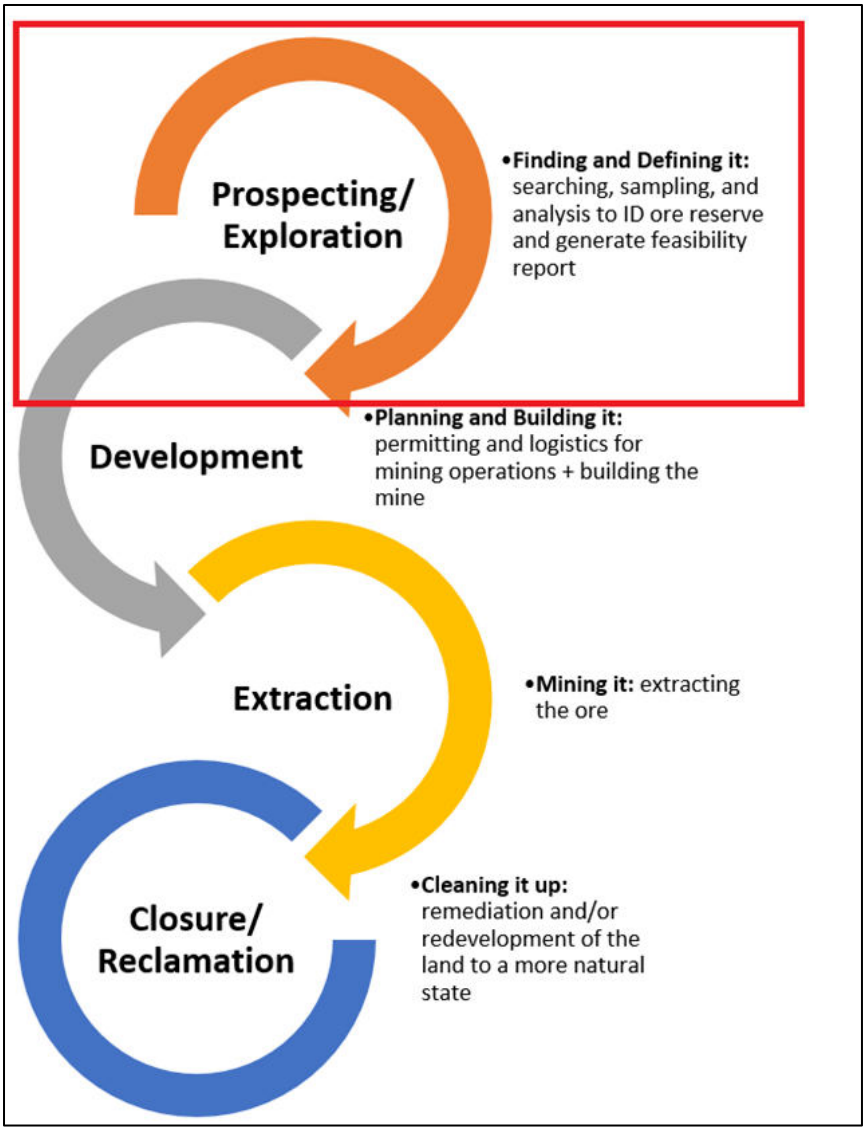

Figure 2-2: Diagram of the Life Cycle of a Mine (after Superfund Research Project, 2019). The phase covered by this study is highlighted in a red rectangle (box)

2.2 Planned Activities: Proposed Exploration Methods

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

2.2.1 Desktop Study: Geological mapping (Non-invasive Technique)

This mainly entails a desktop review of geological area maps and ground observations. This includes the review of geological maps of the area and on-site ground traverses and

observations and an update where relevant, of the information obtained during previous geological studies of the area.

2.2.2 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 commodities within the EPL 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. Soil sampling for Base & Rare Metals and Precious Metals is usually done on strategic locations (spots) near or within streams and rivers to analysis for minerals in the sediments. The typical soil sampling team and equipment on EPL with potential of such commodities (minerals) is shown in Figure 2-3.

Figure 2-3: Typical soil collection and equipment (Resilient Environmental Solutions, 2019)

The landowners, land custodians (traditional authorities) and relevant stakeholders will always be engaged, consulted and where necessary, to provide authorization where necessary.

2.2.3 Geophysical surveys

This will entail data collection of the substrata (in most cases service of an aero-geophysical contractor will be soured), 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.

Ground geophysical surveys shall be conducted, where necessary using vehicle-mounted sensors or handheld by staff members, while in the case of air surveys the sensors will be

mounted to an aircraft, which then flies over the target area. An example of how some of the geophysical survey equipment is set up for minerals exploration is shown in Figure 2-4.

Figure 2-4: An example of geophysical survey for Base & Rare and Precious Metals exploration (Resilient Environmental Solutions, 2019)

2.2.4 Detailed Exploration (Invasive Technique): Trenching and Pitting

The selection of the potential mineralization model and exploration targets will be based on the local geology, trenching, drilling, and assay results of the samples collected. The planned detailed exploration activities are aimed at delineating the mineral deposits and determine whether the deposits are economically feasible mining resources.

To verify the results obtained from soil sampling and other preceding activities, trenches will be excavated to the refusal depth of TLB excavator (hard bedrock). Samples will be collected from the trenches for analysis. The typical example of exploration trenches is as shown in Figure 2-5 below. The trenches are rightly secured for the safety of the locals and animals.

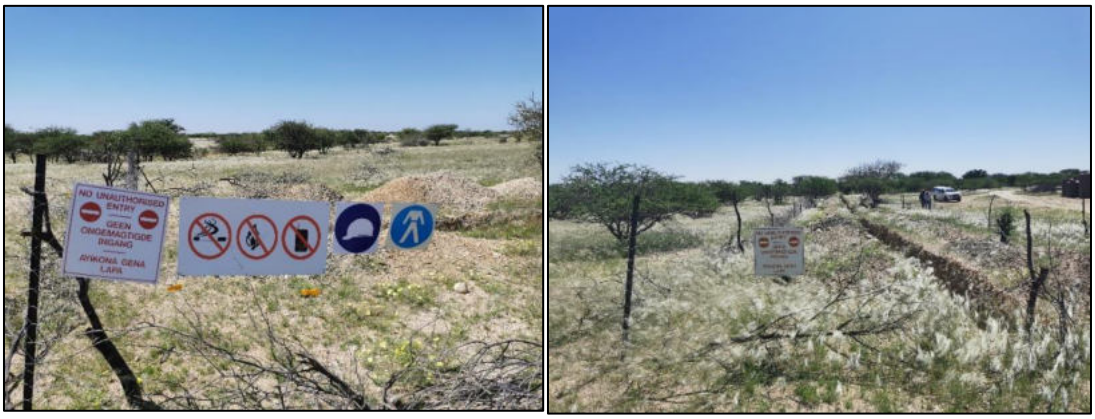

Figure 2-5: Secured exploration trenches on an active EPL in Erongo Region (photo by Author, 2022)

As necessary, and to ensure adequate risks mitigation, all major excavations will either be opened and closed immediately after obtaining the needed samples or the sites will be secured (as shown above) until the trenches or pits are closed upon completion of sampling works.

2.2.5 Detailed (Invasive Technique): Exploration Drilling

Should analyses by an analytical laboratory be positive, holes are drilled, and drill samples collected for further analysis. This will determine the depth of the potential mineralization. If necessary new access tracks to the drill sites will be created and drill pads will be cleared in which to set up the rig. Two widely used drilling options may be adopted, these are either Reverse Circulation (RC) drilling and/or diamond-core drilling. RC drilling uses a pneumatic hammer, which drives a rotating tungsten-steel bit. The technique produces an uncontaminated large volume sample, which is comprised of rock chips. It is relatively quicker and cheaper when compared to other techniques like Diamond Drilling. However, diamond drilling may also be considered for this exploration 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 drill rig for Base & Rare and Precious Metals is shown in Figure 2-6 below.

Figure 2-6: A – The common drill rigs for Base & Rare and Precious Metals exploration (Resilient Environmental Solutions, 2019), B- drill rig for Precious Metals exploration site visited in Erongo Region (photo by Author, 2022)

2.3 Project Resources, Services, and Infrastructure

The resources (in terms of human, vehicles, machinery, and equipment), services and infrastructure required for the proposed activities are presented as follows.

2.3.1 Human Resources

The project activities will require between five (5) and twenty (20) staff consisting of geologists, field assistants, geo-technicians, drilling crew and semi/unskilled personnel.

2.3.2 Project Crew Accommodation

The Project personnel will be accommodated in a camp site, which will consist of tents, caravans and/or make-shift buildings and temporary ablution facilities. The predominant type of waste that will be generated during the exploration activities, in small volumes, is domestic waste (non-hazardous). An administration, accommodation and maintenance camp shall be identified in consultation with the landowners, or land custodians (traditional authorities) and setup within the EPL' area. The campsite will be cordoned off and off-limits to those not part of the exploration team (personnel). The camp will host the above-mentioned staff members consisting of geologists, field assistants, geo-technicians, drilling crew and semi/unskilled personnel.

2.3.3 Materials, Equipment and Vehicles

The input required for the exploration program in terms of vehicles, machines and equipment but not limited to the following. These will be kept at a demarcated storage area on site that will be established within the EPL. These include:

- Two to four 4X4 pickup trucks,
- Heavy trucks for equipment transportation,
- One to two water tankers and storage tanks,
- An excavator / front-end loader to scoop up sandy overburden,
- Dozers (to clear vegetation along planned drilling site access roads, where vegetation is encountered and a hindrance)
- Drill rig and machines,
- Drilling fluids and biodegradable drilling mud additives stored in manufacturers approved containers,

- Air compressors,
- Drill samples storage containers / trays,
- One or two diesel generators for power supply, and
- Two-way radios for constant communication on site.

2.3.4 Site Accessibility (Roads)

The EPL is accessible via the C40 that passes through the EPL, and to be used for the project. As far as is practicable, all site particularly the basecamp and drill sites shall be accessed through existing tracks. Efforts will be made by the Proponent to only create new tracks next to an existing track, where necessary. Additionally, it is highly recommended that motorised access is minimised as much as practically possible, especially during geological mapping, sampling and geophysical surveys. Overall, all access by vehicles will be limited to existing tracks while all new access routes to the drill sites should be identified, agreed upon with the landowners, traditional authorities and demarcated prior to the commencement of drilling activities.

2.3.5 Services and Infrastructure

A. Water

Water will be required for different actual exploration related activities, and for domestic use. Potable water will be made available for the exploration crew (workers) on site in industry water storage tanks. The amount of water required for the different exploration activities including domestic use will be confirmed once the exploration programme has been confirmed but prior to ground works. Some of the project water needs may be supplied through existing boreholes (with the permission of the landowners or relevant authorities). If necessary new boreholes shall be developed explicitly for the exploration activities by the Proponent in which case a permit must be obtained from the Department of Water Affairs (Ministry of Agriculture, Water and Land Reform (MAWLR). However, should it come to light that the local aquifers cannot supply the project activities, the Proponent will need to enter into water supply purchase agreements with water supplier(s) from outside the Project area to truck and cart water for drilling to the Project Site.

Potable water will also be made available for the exploration crew (workers) on site. This water can be supplied by existing boreholes (with the permission of and upon reaching a water purchasing agreement with the willing landowner / local and land custodian(s)).

B. Power supply

Fuel supply for personnel use to cook): The Proponent will provide fuel to be used for food preparation by the site workers. No firewood will be collected on the farms or communal land without the landowners, or relevant authority's permission, respectively. The best option would be for the Proponent to provide and emphasize for gas liquid cookers instead of open fires using firewood.

Fuel Supply (machinery and equipment): Diesel will be used for machinery and equipment and fuel generator, per month. The various machinery and equipment required for drilling are self-powered by means diesel engines and or generators, hence there is need for on-site fuel (diesel) in either small mobile bowser or barrel drums on a concrete slab at the camp. The drill rigs will either be refuelled with Jerry cans or directly from the bowser.

C. Waste Management

Waste management: the different waste will be handled as follows:

i. **Sewage:** Mobile chemical ablution facilities will be provided on-site. The wastewater will be transported offsite for treatment at a facility. The wastewater will then be transported offsite to the treatment facility either by the Proponent or a designated/appointed external waste management contractor.
ii. **General and domestic waste:** The predominant type of waste that will be generated during the exploration activities, in small volumes, is domestic waste (non-hazardous). Therefore, sufficient waste bins (containers) will be made available at both exploration sites and campsite for waste storage. The bins will be emptied into the main onsite container for disposal at the nearest municipal approved solid waste site, when necessary (upon reaching a waste disposal agreement with the relevant local authority).
iii. **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 until such a time that it can be disposed of at the nearest approved hazardous waste management facility or removal by an external hazardous handling & management contractor.

D. **Health and safety:** Health and Safety: Adequate and appropriate Personal Protective Equipment (PPE) will be provided to every project personnel while on and working at site. A minimum of two well-furnished first aid kits will be readily available at exploration 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 center for treatment and needed care in Kamanjab or any nearby Primary Health Care center inside or in proximity of the EPL.
E. **Fire management:** A minimum of basic firefighting equipment, i.e., two well serviced and frequently serviced fire extinguishers will be readily available in vehicles, at the working sites on the EPL and campsite.
F. **Project Site Security:** Temporary storage areas for exploration equipment, material and machines will be erected at selected EPL sites. Security will be supplied on a 24-hour basis at the delegated storage sites to ensure that the project vehicles, machinery, and equipment are not stolen or vandalized. This is also to ensure that the community health is not compromised from the presence of potential hazardous exploration materials such as fuels and heavy equipment.
G. **Project Equipment, Material, Machinery, and Vehicles:** among others two or three 4X4 vehicles, drilling supporting truck, excavator / front-end loader, dozer, air compressor, drilling fluids stored in manufacturers approved containers, generator for power supply, etc.

2.4 Decommissioning and Rehabilitation Phase

The decommissioning referred to here is the cessation of exploration activities either upon discovering an economic feasible and worthy deposit or unsuccessful exploration works. Either way, the Proponent will need to properly decommission the activities to either prepare the selected areas of the EPL for the mining phase or upon an unsuccessful exploration programme, abandon the area.

Towards the end of each exploration activity on worked/explored sites of the EPL, the Proponent will carry out progressive / ongoing rehabilitation such as backfilling of trenches and leveling of stockpiled topsoil upon completion of each sampling exercise on a specific site.

Once the exploration activities on the EPL come to an end, the Proponent will need to put site rehabilitation measures in place. Decommissioning and rehabilitation are primarily reinforced through a decommissioning and rehabilitation plan, which consists of safety, health,

environmental, and contingency aspects. The economic situation or unconvincing exploration results might force the Proponent to cease the exploration program before 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 of exploration equipment and vehicles
- 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.
- 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.

The alternatives considered for the proposed Project in terms of ''No-Go'', location, methods and supporting services and infrastructures are presented under the next chapter.

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 development are discussed in the following subsections.

3.1 Types of Alternatives Considered

3.1.1 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. The key loses that may never be realized if the proposed project does not go ahead include:

- Loss of foreign direct investment.
- About twenty (20) temporary job opportunities for community members will not be realized.
- No realization of local businesses supports through the procurement of consumable items such as Personal Protective Equipment (PPE), local services, lubricants, etc.

- Loss of potential income to local and national government through land lease fees, license lease fees and various tax structures.
- Socio-economic benefits such as skills acquisition to local community members would be not realized.

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

3.1.2 Exploration Location

The areas selected for prospecting and exploration activities are dependent on the geological setting (regional and local), the economic geology, and the exploration and mining history of the license (EPL) and Proponents' preference of an area. Therefore, finding an alternative location for the planned exploration activities is not possible. This means that the mineralization of the commodities within the EPL is area-specific, which means exploration targets are primarily determined by the geology (host rocks) and the tectonic environment of the site (an ore-forming mechanism). The tenement has sufficient surface area for future related facilities should an economic mineral deposit be defined.

3.1.3 Exploration Methods

Both invasive and non-invasive exploration activities as indicated under the project description chapter are expected to take place. If an economically viable discovery is made, the project will proceed to the mining phase upon approval of a mining EIA Study (and subsequent ECC) and issuance of a mining license by the Ministry of Mines and Energy (MME). If any 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 will be implemented.

3.1.4 Supporting Services, and Infrastructures

Certain alternatives were considered for the different supporting infrastructures envisaged to ensure that the most feasible options were selected. These were weighed in terms of technological, economic, and environmental limitations in selecting the most feasible option(s). The alternative considered in this regard are presented in Table 3-1 below.

Table 3-1: Service infrastructure and structures (technical resources) alternatives considered for the project works on the EPL

Category of Infrastructure	Alternatives Considered	Justification for selected option(s)
Ablution facilities	-Install fixed facility with septic tank -Portable facilities with septic tank	-To avoid long-term visual impacts, minimize rehabilitation costs and reduce structure dismantling / removal time.
Shade Structure for working areas	-Shade structure made from temporary blue or red corrugated sheets -Shade structure made with shade net	-Shade structure made from corrugated sheets deemed most suitable due to robustness, & resistance to wind destruction and hot sun in this part of Namibia.
Water supply (for exploration drilling)	-Abstracting water from the local boreholes, but only if the at Project water demands do not deplete local water resources. -Water abstracted from the nearest existing borehole(s) through supply and purchase agreements. -Siting and drilling of new boreholes in areas of the EPL far from existing boreholes. The new borehole(s) will supply the project activities such as drilling.	-Water would be brought from the existing boreholes(s) for exploration sites in proximity of existing boreholes with good yield. An agreement should be reached with the communities (traditional authority leaders and MAWLR' Rural Water Supply). -The Proponent to drill one or two boreholes in areas that are far from the existing good yield boreholes (to cut the distance required to cart water to exploration sites and relive pressure of heavy water tanker trucks travelling to and from the boreholes).
Water supply (for domestic/drinking purposes at the campsites)	-Water abstracted from surrounding local boreholes through purchasing agreements -Water carted from elsewhere	-Drinking and washing water (domestic) to be supplied from the local boreholes by entering into purchasing agreements.
Diesel storage	-Trailer mounted diesel tank -Fixed diesel tank onsite	-A trailer mounted diesel tank for fuel storage has great mobility requirements during exploration.
Power supply	-Diesel generator set -Powerline or solar panels	-Most practical & economically viable for exploration, even when exploration works is not positive.

Category of Infrastructure	**Alternatives Considered**	**Justification for selected option(s)**
Field workstation (Offices), and accommodation	-Erect dismantlable prefabricated units for site office -Accommodation in nearby settlements -Accommodation campsite within the EPL at selected locations based on the exploration programme	Ease of installation, (b) Low installation costs and (c) Ease of dismantling & moving. -The accommodation campsite set up within the EPL is justifiable to ensure that there is a short distance to the working sites and will not impact work productivity as there will be no time wasted on the roads (when commuting). This will also prevent the risk of travelling in the early morning hours when the Project Site is within communal land and Conservancies whereby animals are mostly on the roads, risking accidents.
	Fixed or temporary buildings for offices and accommodation units (structures) on site	

The above provided Project description, associated activities and considered alternatives thereto are governed by specific legal framework, from a local, regional, national to international perspective. The presentation of these legal requirements is provided under Chapter 4.

4 LEGAL FRAMEWORK: LEGISLATION, POLICIES AND GUIDELINES

A review of applicable and relevant Namibian legislation, policies, and guidelines to the proposed development is given in this section. 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 Local and National Legal Requirements (Legislation, Acts, Policies, Ordinances, etc.

The legal obligations that are relevant to the proposed activities on the EPL and related activities are presented in Table 4-1.

Table 4-1: Applicable local, national and international standards, policies and guidelines governing the proposed prospecting and exploration activities on the EPL

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
The Constitution of the Republic of Namibia, 1990 as amended: **Government of the Republic of Namibia**	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.

Legislation / Policy / Guideline: Custodian	**Relevant Provisions**	**Implications for this project**
Environmental Management Act (No. 7 of 2007) and its 2012 Environmental Impact Assessment (EIA) Regulations (Government Gazette (GG) No. 4878 Government Notice (GN) No. 30): **Ministry of Environment, Forestry and Tourism (MEFT)**	The EMA has stipulated requirements to complete the required documentation to obtain an Environmental Clearance Certificate (ECC) for permission to undertake certain listed activities. These activities are listed under the following Regulations: *-3.1 The construction of facilities for any process or activities which requires 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 (EIA) Regulations detail requirements for public consultation within a given environmental assessment process (GN 30 Section (S) 21). The EIA regulations also outline the required details of a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15).	The ESA Study has been conducted in accordance with the EMA and its Regulation. This is presented under Chapter 6 of this Report. An ECC application has been launched with the MEFT. This Scoping Report and Draft EMP will be submitted to the Environmental Commissioner at DEAF for evaluation and consideration of the ECC.
Minerals (Prospecting and Mining) Act (No. 33 of 1992): **Ministry of Mines and Energy (MME)**	Section 52 requires mineral license holders to enter into a written agreement with affected landowners before exercising rights conferred upon the license holder. Section 52(1) mineral licence holder may not exercise his/her rights in any town or village, on or in a proclaimed road, land utilised for cultivation, within 100m of any water resource (borehole, dam, spring, drinking trough etc.) and boreholes, or no operations in municipal areas, etc.), which should individually be checked to ensure compliance. Section 54 requires written notice to be submitted to the Mining Commissioner if the holder of a mineral license intends to abandon the mineral	For private/commercial farms such as Farm Burno, the Proponent should enter into a written agreement with landowners before carrying out exploration on their land. On communal land, the Proponent should engage the Traditional Authority (/Gaio-Daman) for land use consent. The Proponent should include as part of their application for the EPL, measures by which they will rehabilitate the areas where they intend to carry out mineral

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
	license area. Section 68 stipulates that an application for an exclusive prospecting license (EPL) shall contain the particulars of the condition of, and any existing damage to, the environment in the area to which the application relates and an estimate of the effect which the proposed prospecting operations may have on the environment and the measures 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.	exploration activities. The Proponent may not carry out exploration activities within the areas limited by Section 52 (1) of this Act.
Nature Conservation Amendment Act, No. 3 of 2017: **Ministry of Environment, Forestry and Tourism (MEFT)**	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.	Most of the EPL falls within the ≠Khoadi-//Hôas Conservancy. Therefore, 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 the Project Site area. The Proponent will also be required to comply with the existing and planned local operational management plans, regulations and guidelines of the Conservancy.
The Parks and Wildlife Management Bill of 2008: **Ministry of Environment, Forestry and Tourism (MEFT)**	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.	
Mine Health & Safety Regulations, 10th Draft: **Ministry of Health and**	Makes provision for the health and safety of persons employed or otherwise present in mineral licenses area. These deal with among other	The Proponent should comply with all these regulations with respect to

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
Social Services (MHSS)	matters; clothing and devices; design, use, operation, supervision and control of machinery; fencing and guards; and safety measures during repairs and maintenance.	their employees.
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001): **Ministry of Mines and Energy (MME)**	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): **Ministry of Urban and Rural Development (MURD)**	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 perspective, 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 IAPs and must be consulted during the Environmental Assessment (EA) process. The project site falls under the Kunene Regional Council (Sesfontein Constituency Office); therefore, they should be consulted.
Traditional Authority Act (Act No. 25 of 2000): **Ministry of Urban and Rural Development (MURD)**	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 /Gaio-Daman Traditional Authority (TA). Therefore, they should be consulted throughout the Project.
Water Act 54 of 1956: **Ministry of Agriculture, Water and Land Reform (MAWLR)**	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	The protection (both quality and quantity/abstraction) of water resources should be a priority. The permits and license required thereto should be obtained from MAWLR's relevant Departments

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
	(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)).	(these permits include Borehole Drilling Permits, Groundwater Abstraction & Use Permits, and when required, the Wastewater / Effluent Discharge Permits).
Water Resources Management Act (No 11 of 2013): **Ministry of Agriculture, Water and Land Reform (MAWLR)**	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 (S68).	
National Heritage Act No. 27 of 2004: **Ministry of Education, Arts and Culture (MEAC)**	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 this Acts' requirements. The necessary management measures and related permitting requirements must be taken. This done by consulting with the National Heritage Council (NHC) of Namibia. The management measures should be incorporated into the Draft EMP.
The National Monuments Act (No. 28 of 1969): **Ministry of Education, Arts and Culture (MEAC)**	The Act enables the proclamation of national monuments and protects archaeological sites.	
Soil Conservation Act (No 76 of 1969): **Ministry of Agriculture, Water and Land Reform (MAWLR)**	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: **Ministry of**	The Act provides for the management and use of	The Proponent will apply for the relevant permit under this Act if it

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
Environment, Forestry and Tourism (MEFT)	forests and forest products. Section 22. (1) provides: "Unless otherwise authorised by this Act, or by a licence issued under subsection (3), no person shall on any land which is not part of a surveyed erven of a local authority area as defined in section 1 of the Local Authorities Act, 1992 (Act No. 23 of 1992) cut, destroy or remove - (a) vegetation which is on a 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."	becomes necessary.
Public Health Act (No. 36 of 1919): **Ministry of Health and Social Services (MHSS)**	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.
Health and Safety Regulations GN 156/1997 (GG 1617): **Ministry of Health and Social Services (MHSS)**	Details various requirements regarding health and safety of labourers.	
Public and Environmental Health Act No. 1 of 2015: **Ministry of Health and Social Services (MHSS)**	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.	The Proponent should ensure that the project infrastructure, vehicles, equipment, and machinery are designed and operated in a way that is safe, or not injurious or dangerous to public health and that the noise and dust emissions which could be considered a nuisance remain at acceptable levels. The public and environmental health should be preserved and remain uncompromised.

Legislation / Policy / Guideline: Custodian	Relevant Provisions	Implications for this project
Atmospheric Pollution Prevention Ordinance (1976): **Ministry of Health and Social Services (MHSS)**	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 on site.
Hazardous Substance Ordinance, No. 14 of 1974: **Ministry of Health and Social Services (MHSS)**	The ordinance provides for the control of toxic substances. It covers manufacture, sale, use, disposal and dumping as well as import and export. Although the environmental aspects are not explicitly stated, the ordinance provides for the importing, storage, and handling.	The Proponent should handle and manage the storage and use of hazardous substances on site so that they do not harm or compromise the site environment
Road Traffic and Transport Act, No. 22 of 1999: **Ministry of Works and Transport (Roads Authority of Namibia)**	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 (MLIREC)**	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.

4.2 International Policies, Principles, Standards, Treaties and Conventions

The international policies, principles, standards, treaties, and conventions that are deemed applicable to the proposed Project and its related activities are listed in Table 4-2 below.

Table 4-2: International Policies, Principles, Standards, Treaties and Convention applicable to the Project

Statute	Provisions	Project Implications

Statute	Provisions	Project Implications
Equator Principles	A financial industry benchmark for determining, assessing, and managing environmental and social risk in projects (August 2013). The Equator Principles have been developed in conjunction with the International Finance Corporation (IFC), to establish an International Standard with which companies must comply with to apply for approved funding by Equator Principles Financial Institutions (EPFIs). The Principles apply to all new project financings globally across all sectors. **Principle 1:** Review and Categorization **Principle 2**: Environmental and Social Assessment **Principle 3:** Applicable Environmental and Social Standards **Principle 4:** Environmental and Social Management System and Equator Principles Action Plan **Principle 5:** Stakeholder Engagement and **Principle 6:** Grievance Mechanism **Principle 7:** Independent Review **Principle 8:** Covenants **Principle 9:** Independent Monitoring and Reporting and **Principle 10:** Reporting and Transparency	These principles are an attempt to: '…encourage the development of socially responsible projects, which subscribe to appropriately responsible environmental management practices with a minimum negative impact on project-affected ecosystems and community-based upliftment and empowering interactions.'
The International Finance Corporation (IFC) Performance Standards	The International Finance Corporation's (IFC) Sustainability Framework articulates the Corporation's strategic commitment to sustainable development and is an integral part of IFC's approach to risk management. The Sustainability Framework comprises IFC's Policy and Performance Standards on Environmental and Social Sustainability, and IFC's Access to Information Policy. The Policy on Environmental and Social Sustainability	The Performance Standards are directed towards clients, providing guidance on how to identify risks and impacts, and are designed to help avoid, mitigate, and manage risks and impacts as a way of doing business in a sustainable way, including stakeholder engagement and disclosure

Statute	Provisions	Project Implications
	describes IFC's commitments, roles, and responsibilities related to environmental and social sustainability. As of 28 October 2018, there are ten (10) Performance Standards (Performance Standards on Environmental and Social Sustainability) that the IFC requires a project Proponents to meet throughout the life of an investment. These standard requirements are briefly described below. **Performance Standard 1**: Assessment and Management of Environmental and Social Risks and Impacts **Performance Standard 2**: Labour and Working Conditions **Performance Standard 3:** Resource Efficient and Pollution Prevention and Management **Performance Standard 4:** Community Health and Safety **Performance Standard 5:** Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement **Performance Standard 6:** Biodiversity Conservation and Sustainable Management of Living Natural Resources **Performance Standard 7**: Indigenous Peoples/Sub-Saharan African Historically Undeserved Traditional Local Communities **Performance Standard 8:** Cultural Heritage **Performance Standard 9:** Financial Intermediaries (FIs) **Performance Standard 10:** Stakeholder Engagement and Information A full description of the IFC Standards can be obtained from http://www.worldbank.org/en/projects-	obligations of the Client (Borrower) in relation to project-level activities. In the case of its direct investments (including project and corporate finance provided through financial intermediaries), IFC requires its clients to apply the Performance Standards to manage environmental and social risks and impacts so that development opportunities are enhanced. IFC uses the Sustainability Framework along with other strategies, policies, and initiatives to direct the business activities of the Corporation to achieve its overall development objectives.

Statute	Provisions	Project Implications
	operations/environmental-and-social-framework/brief/environmental-and-social-standards?cq_ck=1522164538151#ess1	
The United Nations Convention to Combat Desertification (UNCCD) 1992	Addresses land degradation in arid regions with the purpose to contribute to the conservation and sustainable use of biodiversity and the mitigation of climate change. The objective is to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in affected areas to support poverty reduction and environmental sustainability.	The Project activities should not be such that they contribute to desertification.
Convention on Biological Diversity 1992	Regulate or manage biological resources important for the conservation of biological diversity whether within or outside protected areas, with a view to ensuring their conservation and sustainable use. Promote the protection of ecosystems, natural habitats, and the maintenance of viable populations of species in natural surroundings	Removal of vegetation cover and destruction of natural habitats should be avoided and where not possible minimised
Stockholm Declaration on the Human Environment, Stockholm (1972)	It recognizes the need for: "a common outlook and common principles to inspire and guide the people of the world in the preservation and enhancement of the human environment.	Protection of natural resources and prevention of any form of pollution.

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.
- World Heritage Convention, 1972.

The Project activities presented under Chapter 2, their alternatives and legal framework above will be undertaken in a specific environment, i.e., physical, biological and social environmental features as presented under the next chapter.

5 ENVIRONMENTAL: BIOPHYSICAL AND SOCIAL BASELINE

The proposed exploration works will be undertaken in specific environmental and social conditions. Understanding the pre-project conditions of the environment will aid in predicting the projections of environmental conditions after proposed works on the EPL. This knowledge also helps in identifying the sensitive environmental features that may need to be protected through the recommendations and effective implementation of mitigation measures. The summary of selected physical, biological and social baseline information about the Project area is given below.

The baseline information presented below is sourced from a variety of sources including reports of studies conducted in the Kamanjab area, and Kunene Region. Further information was obtained by the Consultant during the site visit observations and interviews with the local on the 12th of October 2022.

The climatic conditions of the area overlain by the EPL are described using the available nearest data for Kamanjab area obtained from World Weather Online and Meteoblue websites (2022).

5.1 Climate

Climate has an influence on exploration activities proposed on the EPL and understanding the climatic conditions of an area helps to determine the appropriate and/or inappropriate times to conduct certain exploration activities.

5.1.1 Temperatures

According to the average temperature information for Kamanjab and surrounding areas (World Weather Online, 2022 - Figure 5-1), the Project area experiences maximum temperature of 37°C in October of 2016 and minimum of 10°C in June 2015.

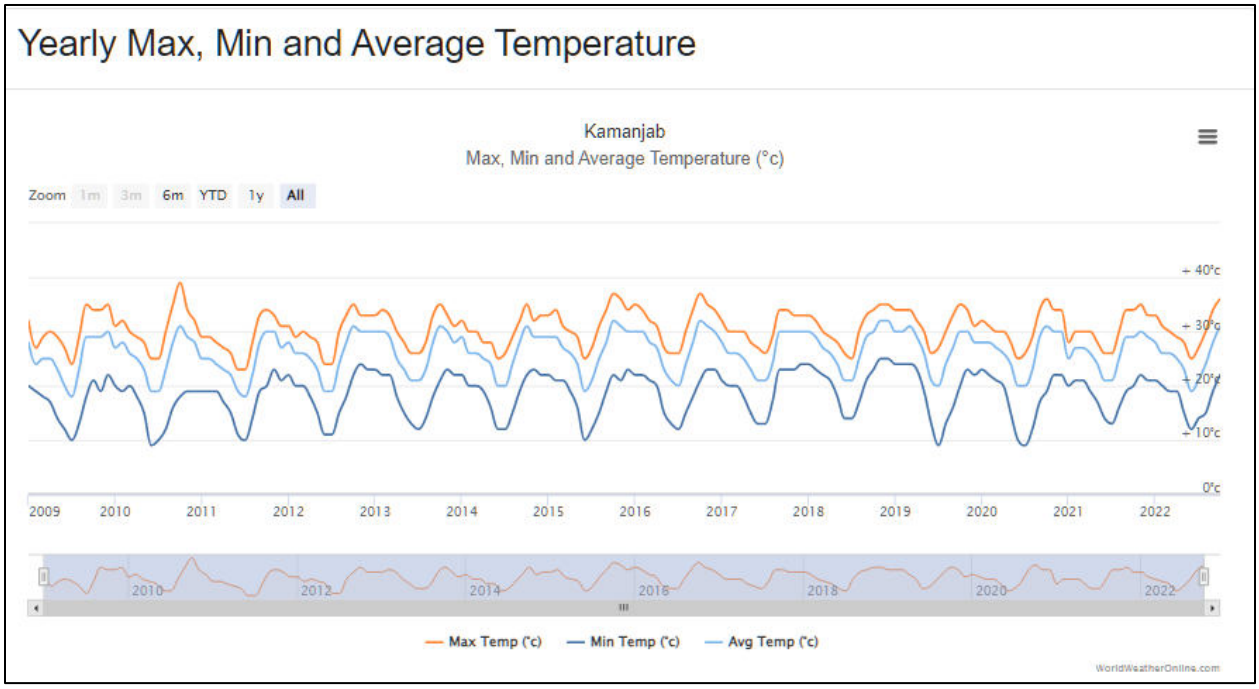

Figure 5-1: The Maximum, minimum, and average temperatures (World Weather Online, 2022)

The average low temperature for the area is 11°C in July and high temperature is 35°C in October as shown in Figure 5-2.

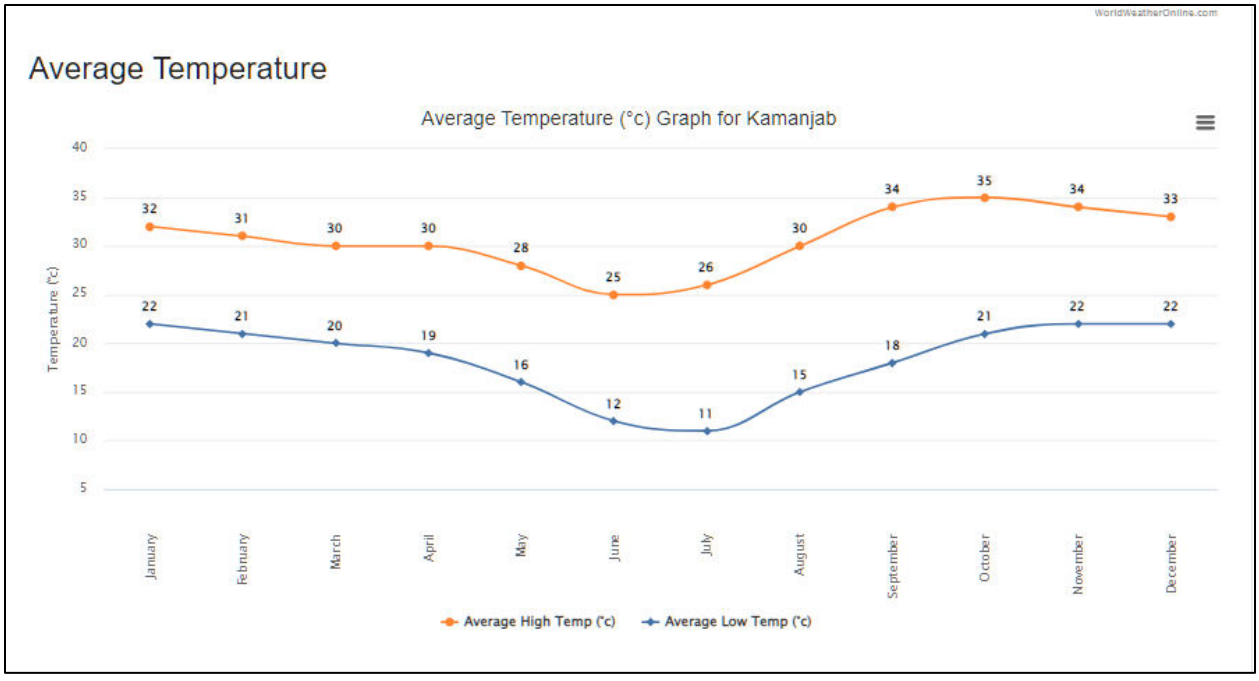

Figure 5-2: The monthly average temperatures for Kamanjab area (World Weather Online, 2022)

5.1.2 Rainfall

The average rainfall for Kamanjab area over a complete period of twelve (12) years, i.e., from 2009 to 2021 are shown in Figure 5-4. The Kamanjab area and surrounding areas including the EPL area experience good rains between December and March. According to World Weather Online (2022) annual rainfall graph (Figure 5-3) for the 12-year period, the highest rainfall was recorded in February 2009 and February 2011 at about 375mm and 332mm (rained for 5 and 8 days), respectively, followed by January 2011 with 325mm (rained for 8 days), and December 2013 with 256mm when it rained for 7 days.

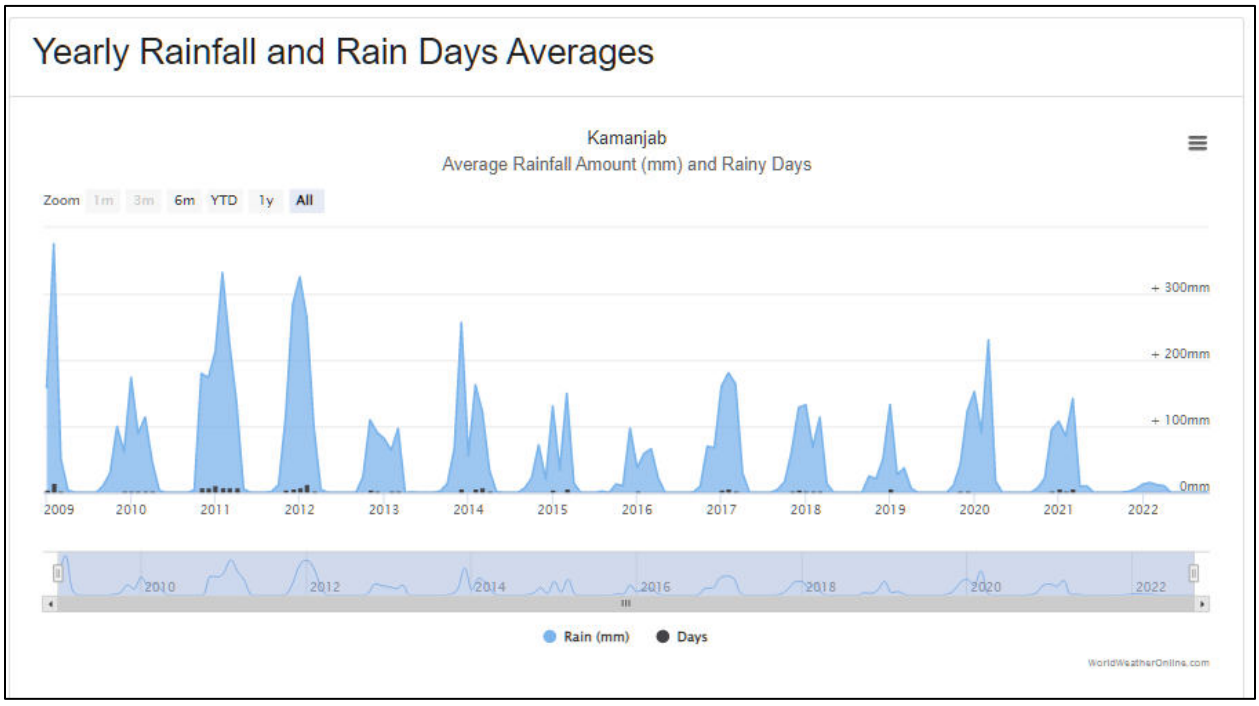

Figure 5-3: The rainfall & rainy days for Kamanjab area (World Weather Online, 2022)

The highest monthly average rainfall is 134mm in January where it rained for 4 days, followed by February with an average of 132mm (rained for 5 days) - Figure 5-4.

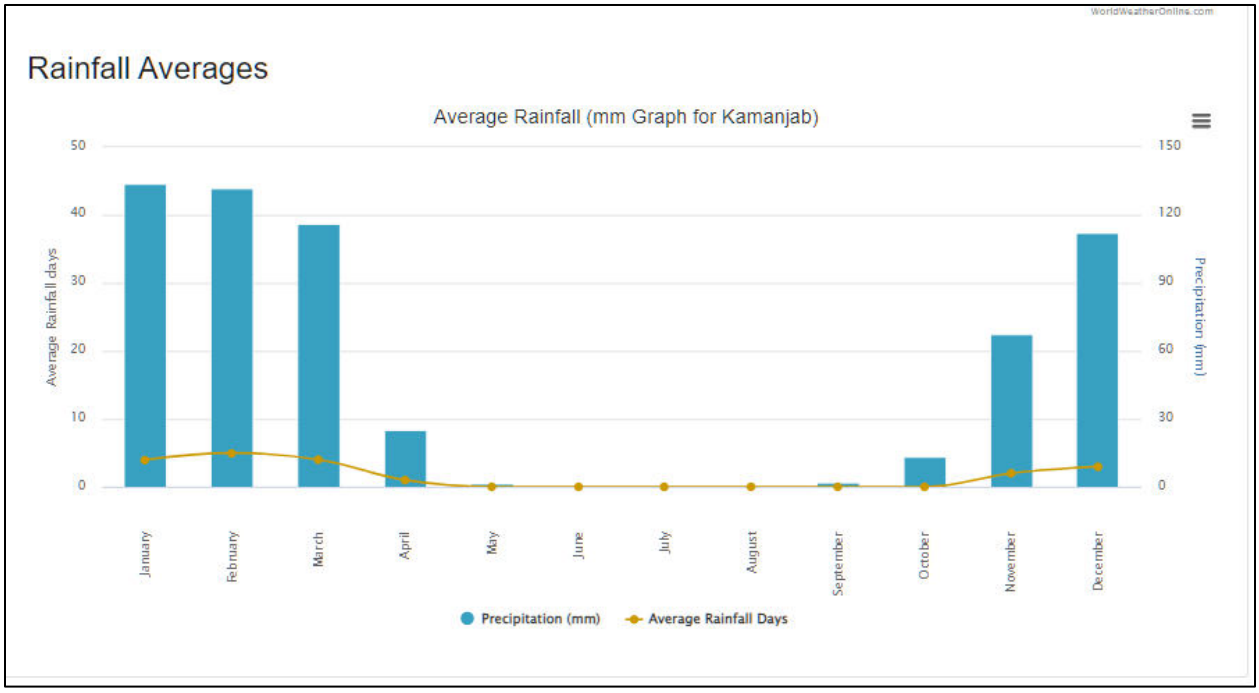

Figure 5-4: The Monthly average rainfall for Kamanjab area (World Weather Online, 2022)

5.1.3 Air and Wind

Air: the current known sources of air pollution in the area are dust emissions from unpaved district and access roads within the area, and emissions from heavy vehicles on the local roads particularly in dry and windy months.

Wind: the wind speed chart for Kamanjab from the Meteoblue modelled climate are shown Figure 5-5. High wind speeds (of more than 28 kilometers per hour (km/h)) are experienced between the months of April and August for about 10 days as indicated in the chart below. The wind speed of 19km/h and more is experienced throughout the year for more than 10 days - Figure 5-5.

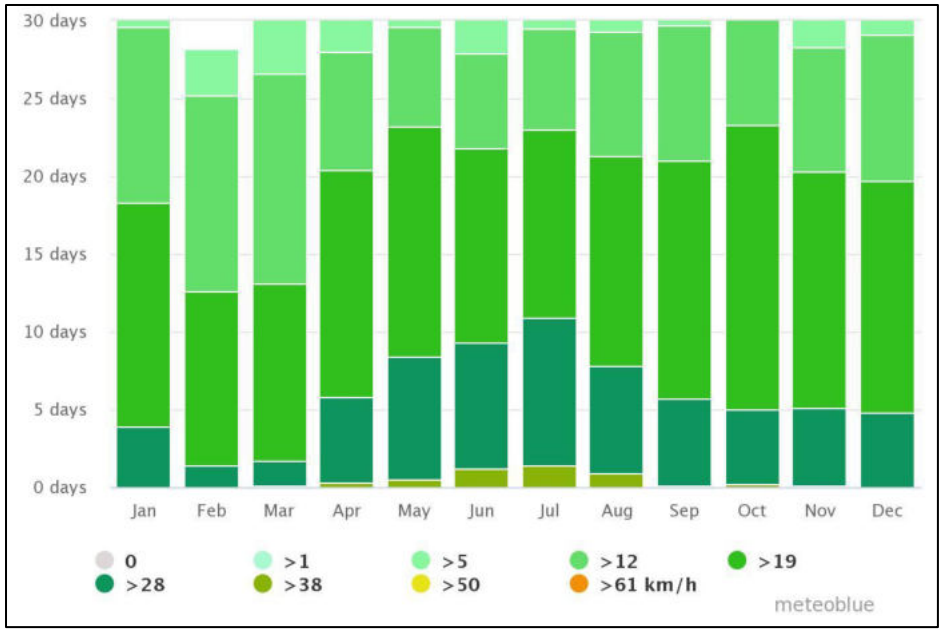

Figure 5-5: The wind speed chart for Kamanjab area (Meteoblue, 2022)

The wind rose is shown in Figure 5-6 and indicates that the wind is dominantly blowing from Southwest (SW) to Northeast (NE) with the speed of 12km/h, 19km/h and more.

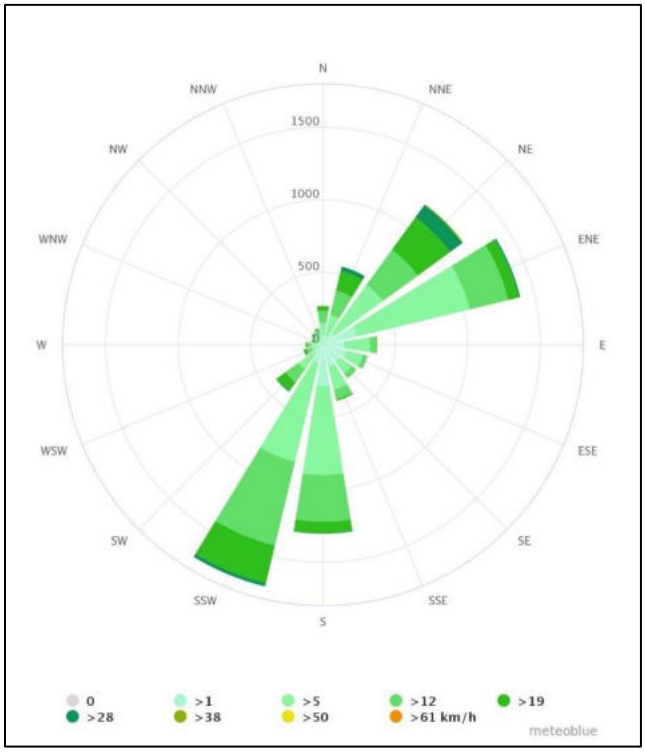

Figure 5-6: The wind rose for Kamanjab area (Meteoblue, 2022)

5.2 Landscape and Topography

The Kunene Region's physical geography is one of the virgin landscapes in the entire country. The natural mountainous landscape, rocks, minerals, soil, underground water, springs and rivers represent the region's valuable resources (Kunene Regional Council, 2015)

In the terms of landscape, the EPL is within the Kamanjab Plateau as shown on the map in Figure 5-7. According to Mendelson *et al* (2002), most of this area is underlain by granites and gneiss rocks, some of which are Namibia's oldest rocks. The area is drained by the Huab and Ombonde rivers, which deeply dissect the western areas as they cut their way down to the coast. Elsewhere, the terrain consists largely of flat to rolling ground, with some granite inselbergs breaking the surface in places (Mendelson *et al*., 2002).

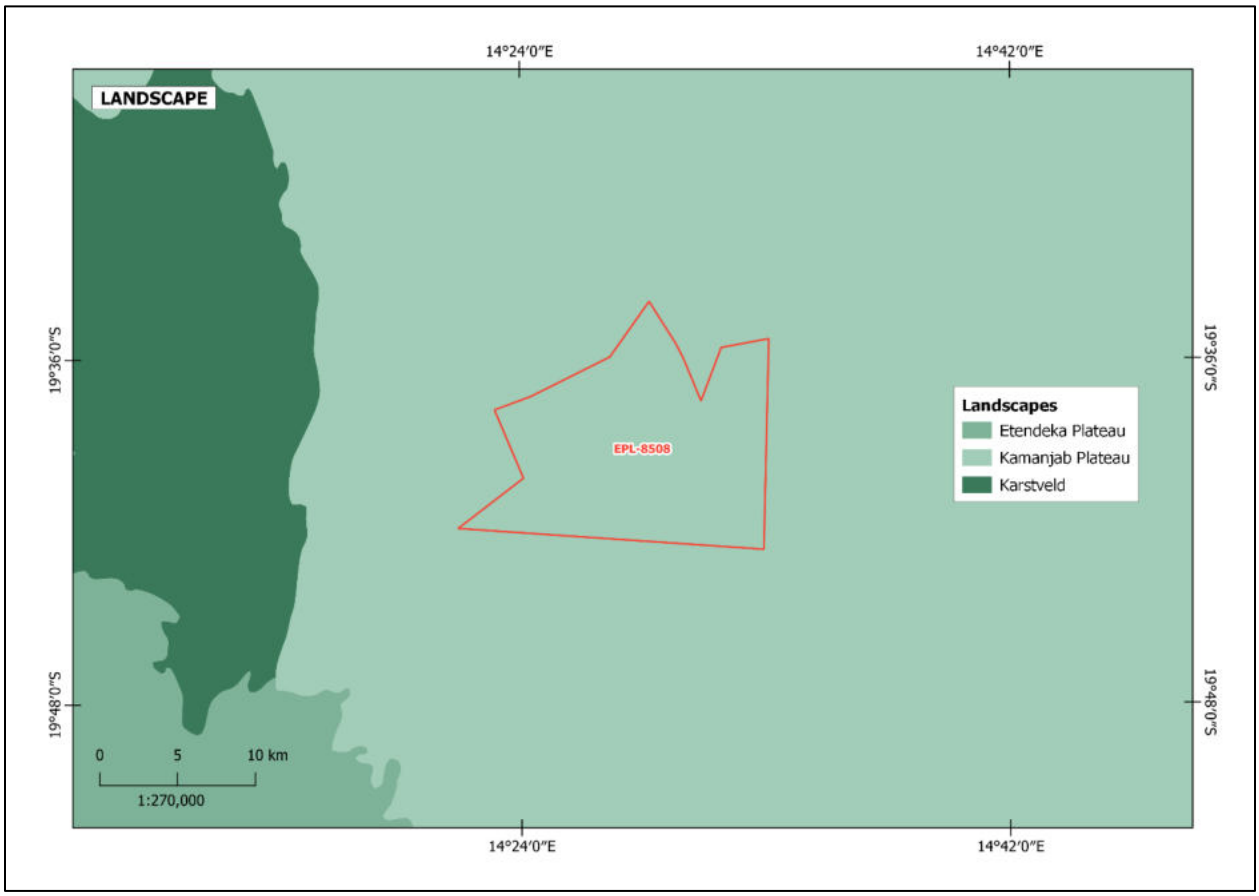

Figure 5-7: The Landscape within the EPL and surroundings

In the terms of topography, the EPL is situated in a flat area with have elevations ranging between 1,000 and 1,300 meters above sea level as shown on topographic map in Figure 5-8.

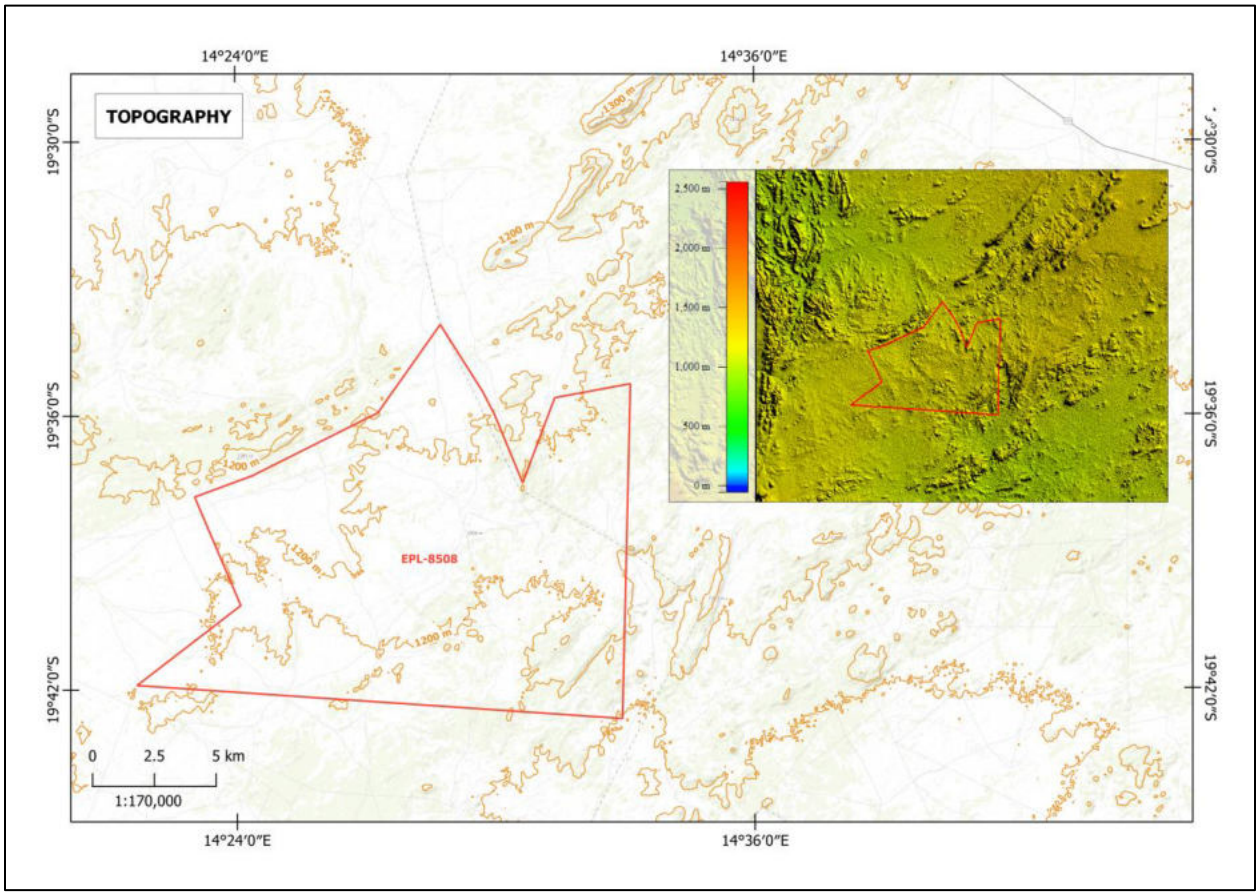

Figure 5-8: The Topographic map of the area covered by the EPL

5.3 Geology and Soils

The Project area is overlain by a layer of sand, gravel and calcrete and underlain mainly by the biotitic granite units from the western side to central east. The south-eastern side of the EPL is underlain by rock units of schists and granites. There are also some granodiorite and conglomerates units to the western and northeast, respectively. The geological map of the EPL and surrounding is shown in Figure 5-9. The geological settings of the area (the rock units and their nature to potentially host ores of the mineral commodities) triggered the need to prospect and explore within the EPL.

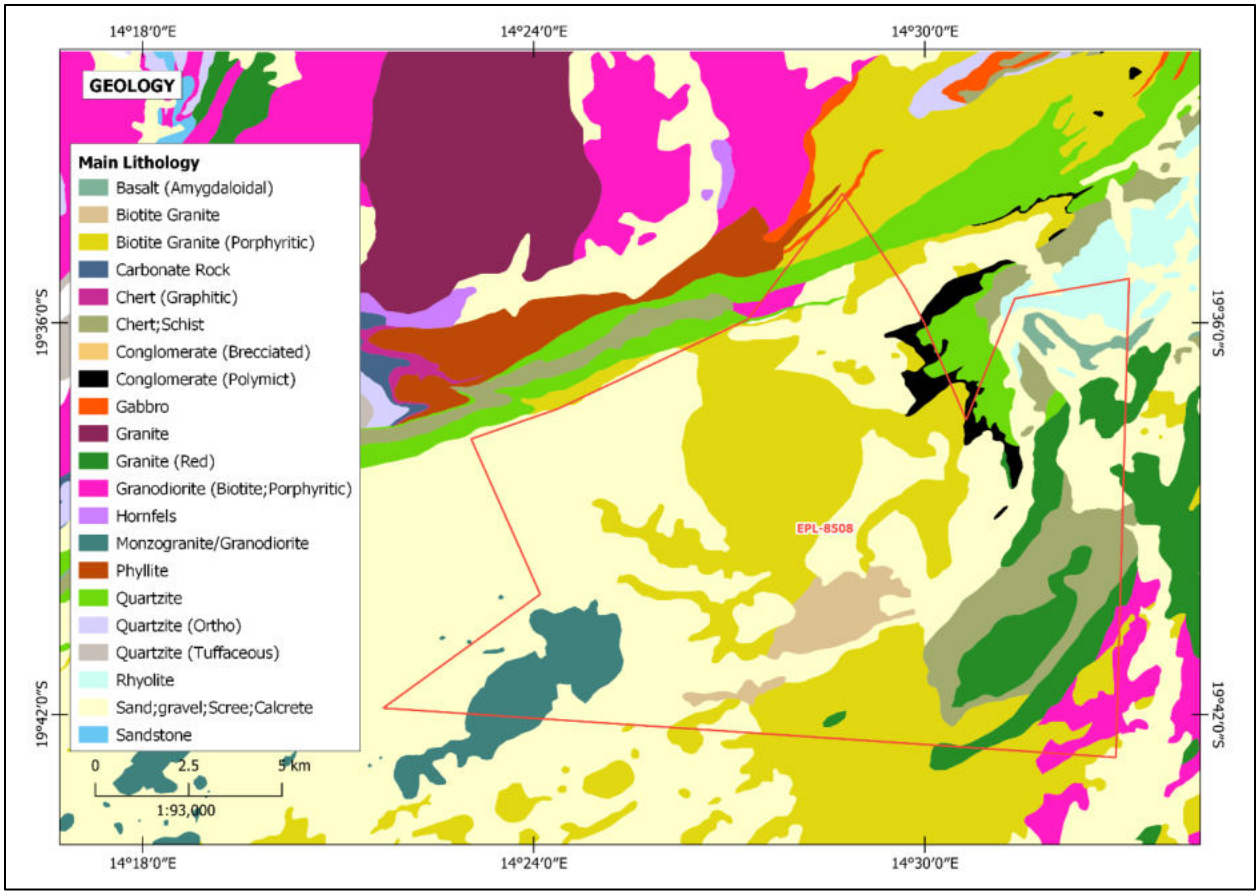

Figure 5-9: The geology of the EPL and surrounding areas

The EPL area is mainly covered by rock units as shown on the map in Figure 5-10.

Figure 5-10: The rock units within the EPL (dominated by granites and quartzite mainly to the east of the EPL)

In terms of soils, the EPL is dominated by rock outcrops on the surface with thin soil covers as shown on the soil map in Figure 11.

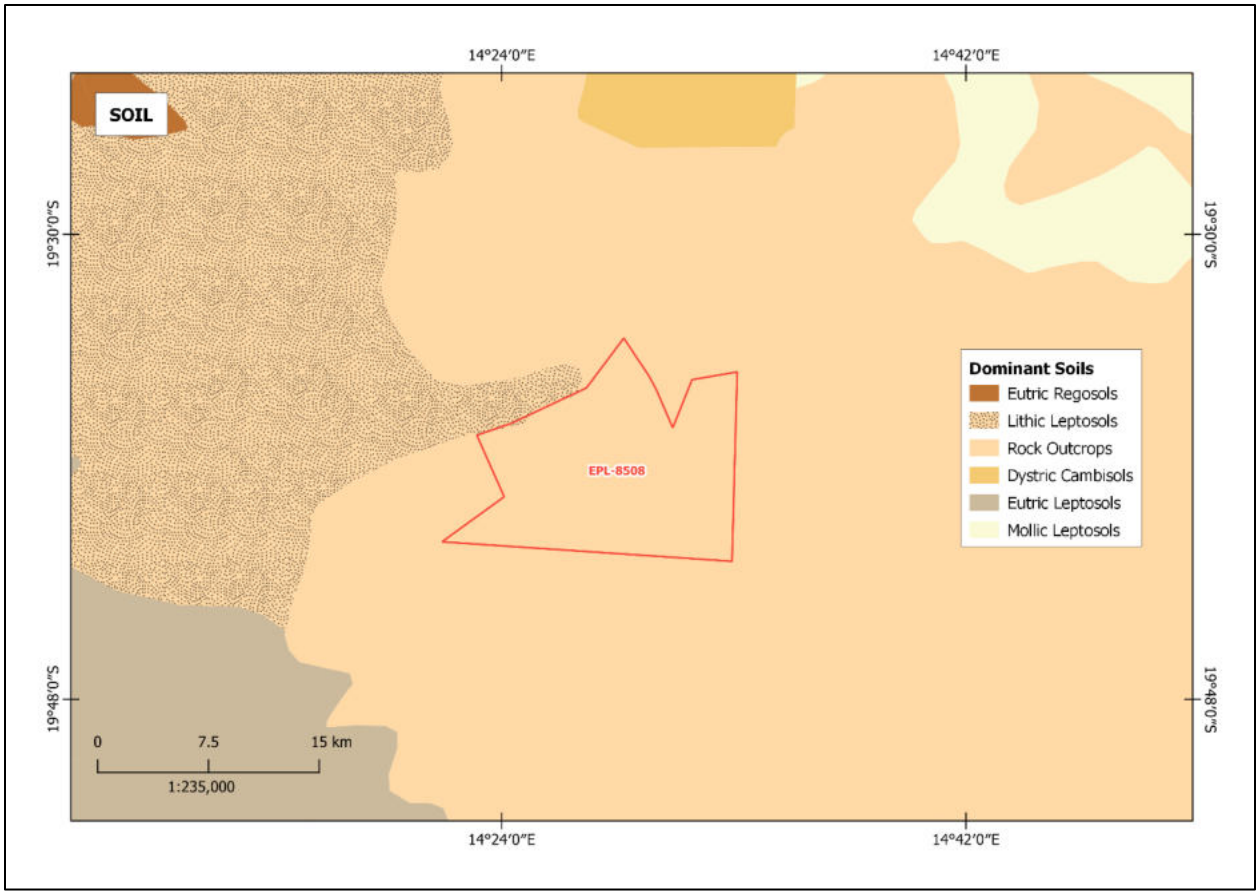

Figure 5-11: The dominant soil types found within the EPL

Some EPL areas are overlain by sandy soils (particularly near river valleys and streams), sandy loamy, gravely sandy and gravely calcrete in some areas as shown on some photos in Figure 5-12.

Figure 5-12: The sandy loamy and rocky ground of some areas within the EPL

5.4 Water Resources: Groundwater and Surface Water

In terms of surface water, there is not much water on the surface in Namibia. This is because the little rain that falls, especially on the coastal area of the country either evaporates, seeps into the ground or is rapidly drained by ephemeral rivers that dominate natural surface water systems inside the country. Water is only held for longer periods are perennial rivers on Namibia's borders with other neighbouring countries. These rivers that can hold surface water are extremely varied, ranging from great rivers to a host of smaller rivers and channels that flow at varying frequencies (Mendelson *et al*., 2002). There are many streams running around the EPL with Ombonde river crossing the EPL on the northeastern and Kakatwsa disappearing into the EPL from the southwest - Figure 5-13.

In terms of Groundwater, the EPL is within an area with limited groundwater as depicted on the map in Figure 5-13, that groundwater in the area is hosted in rock bodies with little groundwater potential. On the same map below, groundwater resources have a moderate vulnerability to both over-abstraction and pollution.

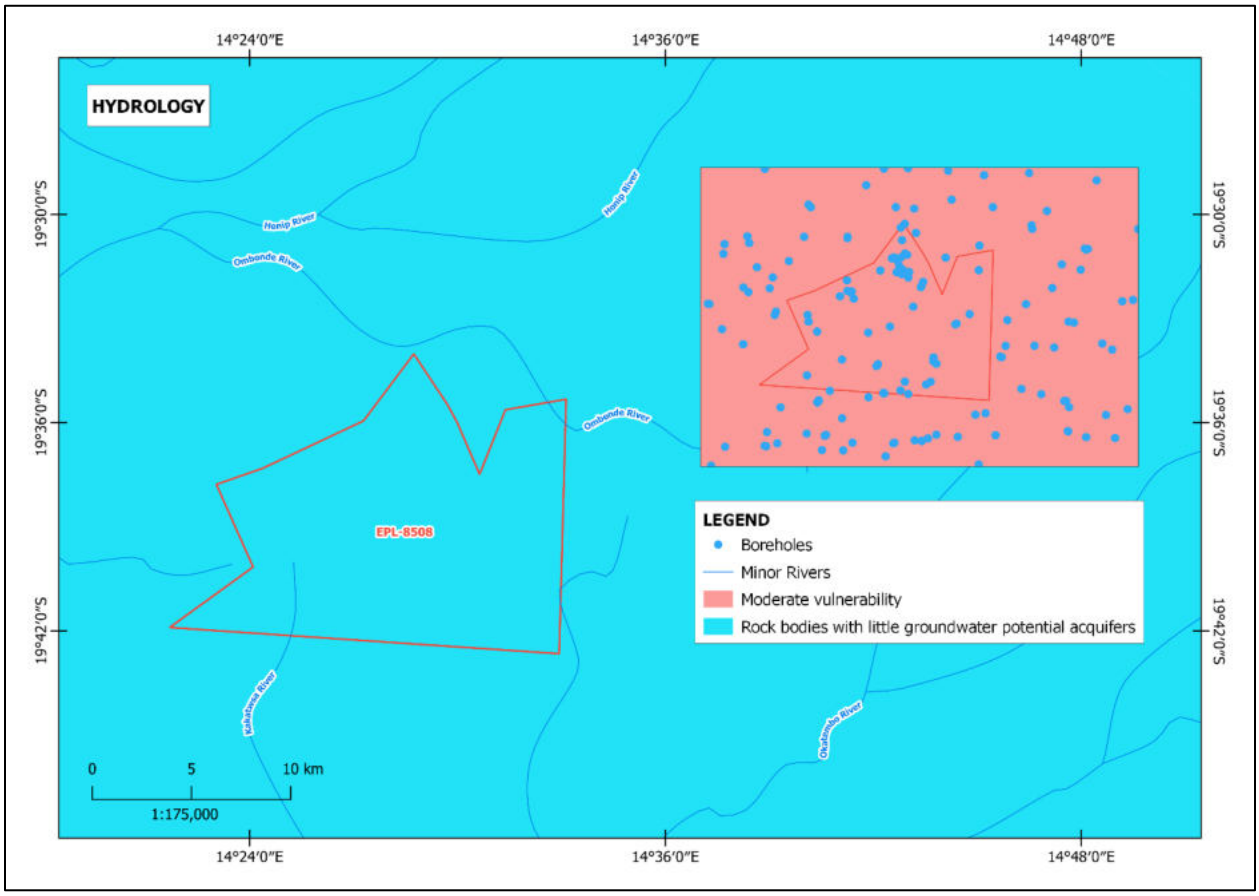

Figure 5-13: The hydrology and groundwater of the Project area

There is a densely distributed boreholes mapped within the EPL that are said to supply good yield for the local communities.

5.5 Biodiversity: Fauna and Flora

According to GCS Water and Environmental Consultants (2017) after the Atlas of Namibia, the Kunene region is vast and made up of various landscapes and soils with grassland and scattered tree structures. Its distinct vegetation type is described as western highlands mostly defined by a broad band of small sparse shrubs and small trees (mostly Acacia (Vachellia) and Commiphora trees) stretching from the south-east to the northeast.

5.5.1 Fauna

A. Livestock (domestic animals)

The Project area is mainly communal land with subsistence farming, which is done with large and small livestock. The known livestock occurrence are cattle horses, sheep, goats, and donkeys as well as horses. The upper northeastern part of the EPL (Farm Bruno) is commercial area, which probably keep the same type of livestock, although mainly just cattle, sheep, goats and horses. Some livestock observed on some farms on the EPL are shown in Figure 5-14 and Figure 5-15.

Figure 5-14: Farm cattle observed during the site visit within the northern parts of the EPL (along the C40)

Figure 5-15: Some farm goats and horse observed within the EPL during the site visit

B. Wildlife

The EPL falls within ≠Khoadi-//Hôas Conservancy, which according to the NACSO is home to the Elephant, black rhino, leopard, mountain zebra, kudu, gemsbok, ostrich, springbok, steenbok, giraffe, duiker, klipspringer, warthog, spotted hyaena, black-backed jackal, and cheetah. One of the local Conservancy management members who attended the consultation meeting in Anker, indicated that there are no exclusive wildlife areas within the EPL.

5.5.2 Flora

The area is medium to high vegetated by young and older trees and shrubs of the *Vachellia* ((*Acacia) reficiens*) or red thorn/camelthorn and mopane (*Colophospermum mopane*). Both the camelthorn and mopane tree species are protected. Therefore, a permit to remove them, where necessary and obstructing the exploration activities should be obtained from the nearest Forestry Directorate Office. The vegetation on the EPL is shown in Figure 5-16 which indicates that the EPL area is covered by the mixed shrubland of Khorixas granite hills.

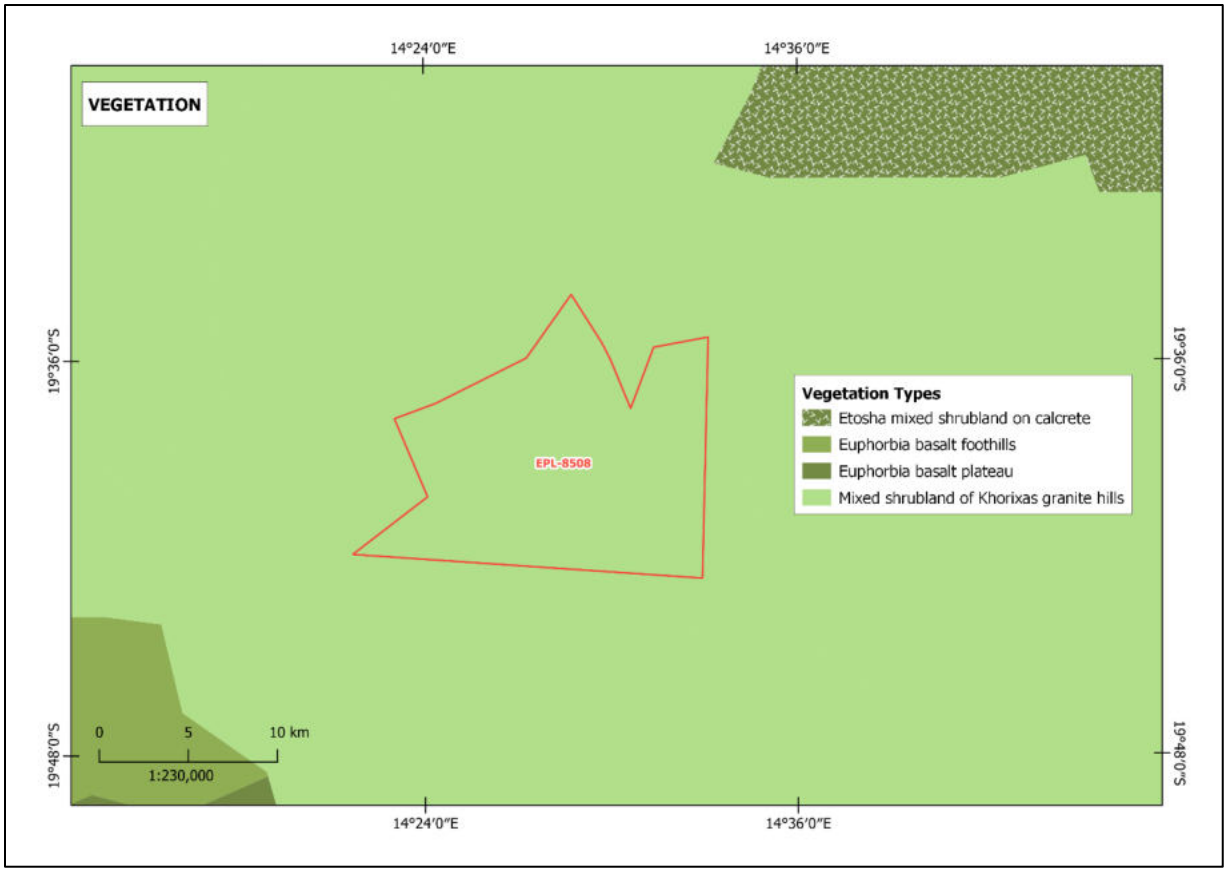

Figure 5-16: The dominant vegetation type within the EPL area

Some photos of the common vegetation species (camelthorn and mopane shrubs and trees) observed within the Project Site are shown in Figure 5-17.

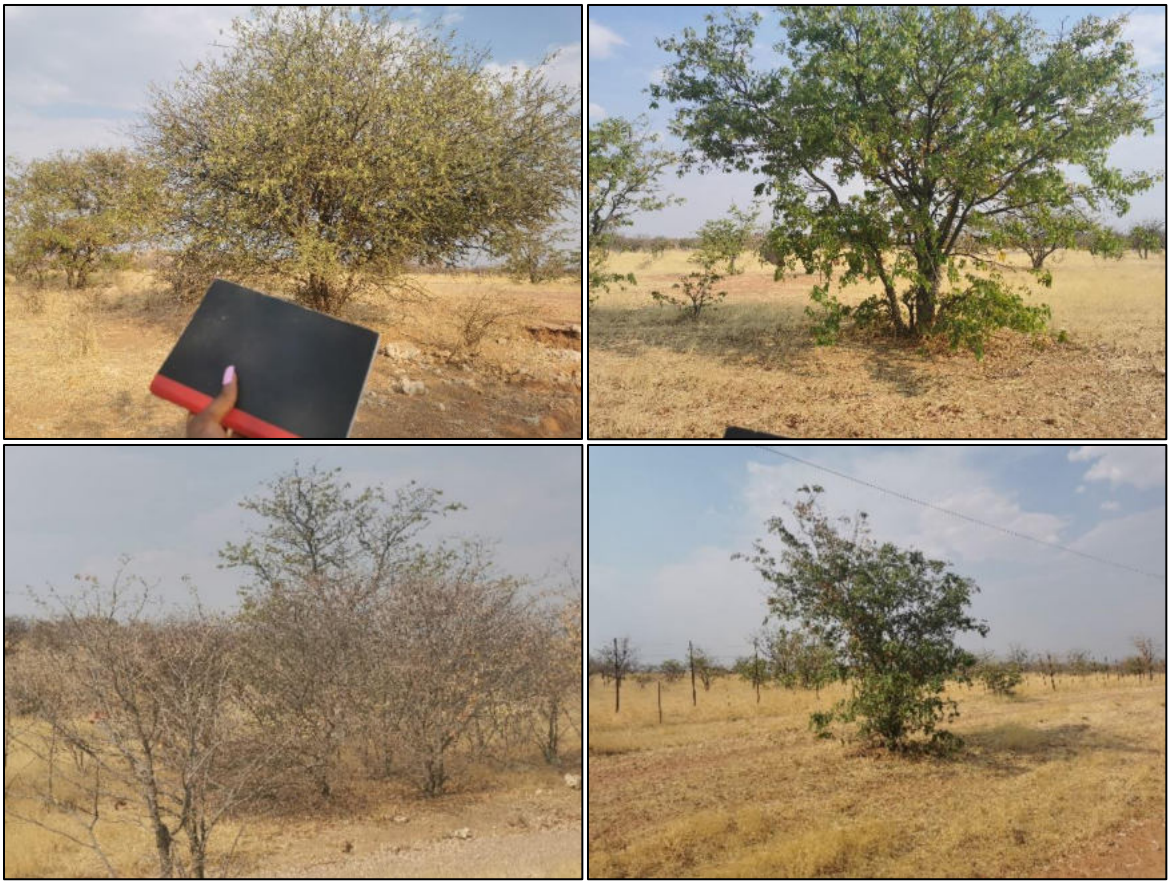

Figure 5-17: The camelthorn and mopane shrubs and young trees within the EPL area

5.5.3 Conservancies

There are currently 37 registered communal conservancies in the Kunene Region, representing 46% of the total registered conservancies in the country of 79 (Kunene Regional Council, 2015). The EPL covers most of a local Conservancy which overlies communal farms and bordering the northeastern commercial farms (Figure 5-18). The Conservancy, ≠Khoadi-//Hôas is named after the Khoekhoegowab phrase for *'elephant's corner'*

The ≠Khoadi-//Hôas Conservancy was registered in July 1998 and covers a surface area of 3,364km^2 with a population of 5,440 (NACSO, 2022).

The major wildlife that can be found within the Conservancy are Elephant, black rhino, leopard, mountain zebra, kudu, gemsbok, ostrich, springbok, steenbok, giraffe, duiker, klipspringer, warthog, spotted hyaena, black-backed jackal, cheetah ((NACSO, 2022).

Figure 5-18: The border of the Conservancy (end of communal land) on the northern east side of the EPL area via C40 towards Farm Ombonde and Bruno

5.6 Social Conditions

5.6.1 Demography

The Kunene Region has a total population of 86,856 as per the 2011 National Population and Housing Census. Of the total population, 43,253 were females and 43,603 were males (Namibia Statistics Agency, 2011).

The EPL is within the Sesfontein constituency which covers an area of 20,198km^2 with a population of 8,434 of which 52% are male (4,392) and 48% female (4,042). Sesfontein has the lowest population (0.4 per km^2) density in Kunene Region. The constituency has a high literacy rate of 72%, with 60% having left school. Approximately 64% of the inhabitants in the constituency are economically active of which 54% are formally employed and 46% unemployed (Kunene Regional Council, 2015).

5.7 Economic Activities

According to the Namibia Statistics Agency (2011), the main source of income in households in the Sesfontein Constituency is farming (30%), wages and salaries (37%), cash remittance (6%), business and non-farming (6%) and pension (17%).

5.7.1 Agriculture and Farming

Livestock production is one of the key sources of livelihood to many rural households of the Kunene Region (Kunene Regional Council, 2015). The trading of animals during formal auctions

especially in Outjo, Kamanjab, Khorixas and informal sales in Opuwo, creates a source of income for farmers residing in these constituencies. The exportation of animals from Kunene Region to neighboring countries continues to boost the economy of the Region. In support of the industry, the Government established five Quarantine camps to improve the quality and health of animals marketed namely, at Swartbooi Drift, Ehomba, Khowarib, Condor, Palmwag, Otjakati and Omutambo-maowe, which is situated in Omusati Region but under the jurisdiction of Opuwo state veterinary office (Kunene Regional Council, 2015).

From a local perspective, the communal farms keep livestock such as cattle, sheep, goats, donkeys as well as horses.

5.7.2 Mining

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

According to the Namibia Chamber of Mines' 2013 annual review, the Koako Base Metals Project have discovered Okanihova Copper targets and confirmed that there is a body of Iron-Ore at Otuziru (e.g. Lead, Zinc and Silver deposits). In addition, Teck Namibia Limited have also been exploring for Copper in the Kunene Region (Kunene Regional Council, 2015).

Apart from some exploration licenses in the area, there are several small-scale miners who own and operate mining claims in the area and winder area of the Kunene Region. Through the mining claims the communities generate minimal income through mined element (i.e., Copper, Zinc, Iron, etc.) sales.

5.7.3 Tourism

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

Eco-tourism in joint operations with community-based natural resource management is likely to be one of the region's major economic drivers. This is due to the continuous increase in the region's wildlife numbers, which has led to the region becoming a major eco-tourism destination. The creation of conservancies has boosted direct economic benefit to the communities' region-wide, to the communal areas of Kunene Region. There are currently 37 registered communal conservancies in the Kunene Region, representing 46% of the total registered conservancies in the country of 79 (Kunene Regional Council, 2015).

5.8 Archaeology, Cultural and Heritage Aspects

5.8.1 Regional Context

According to Kinahan (2013), the Kunene Region is not well explored archaeologically. Early investigations by MacCalman (1972) and MacCalman and Grobbelaar (1965) drew attention to the presence of late Pleistocene evidence from the area, and more spectacularly, observations on stone tool use by contemporary hunter-gatherer groups. More recent investigations have documented a late Holocene occupation sequence (Albrecht *et al* 2001 as cited by Kinahan, 2013) and some of the detailed archaeological characteristics of nomadic pastoral settlement patterns in the area (Kinahan 2001 as cited by Kinahan 2013).

5.8.2 Local Context

During the first consultation meeting held on the 12th of October 2022, the communities indicated that there are existing archaeological and heritage sites such as old graves on the Anker side, but they are outside the EPL. During the second consultation meeting on the 29th of November 2022, archaeological sites occurring within the EPL on farms such as Condor, Emmanuel and Atlanta include graves, some rock engraving and a significant community tree. Some of these sites were visited and mapped by the Archaeologist for protection during prospecting and exploration. Regardless, some archaeological sites around the EPL that have been recorded over time have been mapped as shown in Figure 5-19.

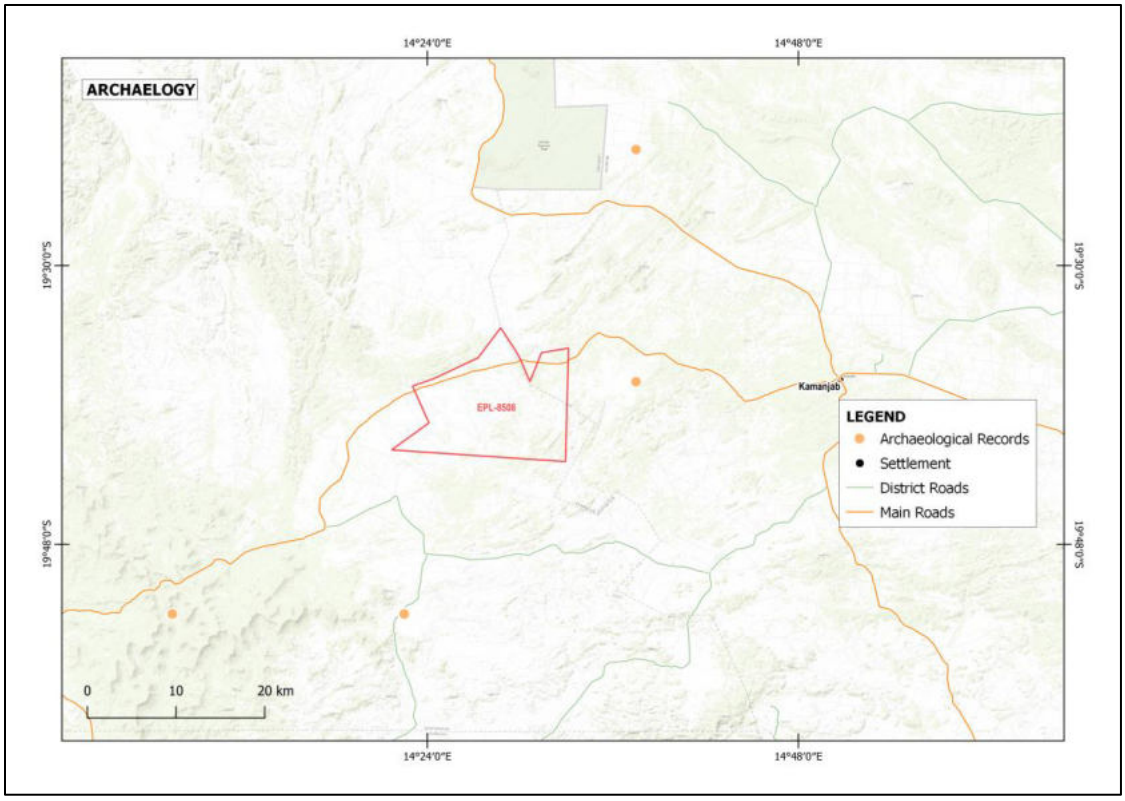

Figure 5-19: The existing recorded archaeological sites around the EPL

5.9 Infrastructure and Services

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

In terms of other services and infrastructure on a local perspective, the EPL area is well equipped, and the following crucial services are as follows:

- Road network: The EPL is accessed from the C40 via the local farm roads into the EPL.
- Electricity supply and water supply: The communities use solar energy for power supply. The community boreholes supply water to the community and according to the communities the water is sufficient for their domestic needs.

- Telecommunication services: some areas of the EPL do not have good network coverage neither Telecom nor MTC Namibia. The main providers of this service in the area are Telecom Namibia and MTC Namibia.
- Other basic services: There is a health centre and schools in Anker as well as within the EPL/farms.

To fulfil the requirements of the EMA and its 2012 EIA Regulations (Public Consultation: Section 21 to 24), the EDS Consultants consulted and engaged the stakeholders (interested and affected parties) as presented under the next chapter.

6 PUBLIC CONSULTATION PROCESS

Public consultation forms an important component of an Environmental Assessment (EA) process. It provides potential Interested and Affected Parties (IAPs) with an opportunity to comment on and raise any issues relevant to the project for consideration as part of the assessment process, thus assisting the Environmental Assessment Practitioner (EAP) in identifying all potential impacts and to what extent further investigations are necessary. Public consultation can also aid in the process of identifying possible mitigation measures. Public consultation for this project has been done under the EMA and its EIA Regulations.

6.1 Pre-identified and Registered Interested and Affected Parties (IAPs)

Relevant and applicable national, regional, and local authorities, local leaders, and other interested members of the public were identified. Pre-identified IAPs were contacted directly, while other parties who contacted the Consultant after project advertisement notices in the newspapers, were registered as IAPs upon their request. Newspaper advertisements of the proposed exploration activities were placed in two widely read national newspapers in the region (*The Namibian* and *New Era* Newspapers). The project advertisement/announcement ran for two consecutive weeks inviting members of the public to register as IAPs and submit their comments. The summary of pre-identified and registered IAPs is listed below.

- National Ministries and Institutions: Ministry of Mines & Energy, Ministry of Agriculture, Water and Land Reform, Ministry of Works and Transport (Roads Authority of Namibia), Ministry of Urban and Rural Urban, Ministry of Education, Arts and Culture (National Heritage Council of Namibia)
- Regional and local authorities (regional council and constituencies and traditional authorities): Kunene Regional Council, Kamanjab Village Council and traditional authorities (/Gaio-Daman Traditional Authority).
- Affected communities, communal and private landowners as well as interested members of the public.

6.2 Communication with Stakeholders (Interested and Affected Parties)

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 IAPs with regards to the proposed Project was facilitated through the following means and in this order:

6.2.1 Stakeholders (Interested and Affected Parties)' Database

A non-technical summary of the Project activities containing brief information about the Proposed activities was compiled and hand delivered to the competent authorities (for ECC application and Project registration) and circulated to all pre-identified stakeholders.

6.2.2 Compilation of the Background Information Document (BID)

A non-technical summary of the Project activities containing brief information about the Proposed activities was compiled and hand delivered to the competent authorities (for ECC application and Project registration) and circulated to all pre-identified and all new registered IAPs (upon request).

6.2.3 Newspaper Advertising (Public Notification)

Project Environmental Assessment notices were published in *The Namibian* and *New Era* Newspapers dated 13th, 14th and 20th of September 2022 (Appendix C), briefly explaining the activity and its locality, inviting members of the public to register as IAPs and submit their comments/concerns.

6.2.4 First Consultation Meeting

A consultation meeting was scheduled and held with the affected communities on the 12th of October 2022 in Anker (Aker Community Hall). The meeting was scheduled for 09h30 and started at 10h45/11h00. Some photos taken from the meeting are shown in Figure 6-1. The meeting was attended by twenty-four (24) people.

Figure 6-1: First Consultation Meeting in Anker Settlement on 12 October 2022

6.2.5 Second Consultation Meeting

A second consultation meeting was scheduled and held with the affected communities on the 29th of November 2022 in Pos 2 of Farm Emmanuel (the central point of the EPL area). The meeting was scheduled at 10h00 for 11h00, however it only started at 12h00. The meeting was attended by forty (40) people and some photos taken from the meeting are shown in Figure 6-2.

Figure 6-2: Second Consultation Meeting at Farm Emmaneul Pos 2 (Koekemur) on 29 November 2022

The minutes from the consultation meetings were taken and are attached as Appendix D.

6.2.6 Public Notices (Posters) and Public Comments Period

A3 size printed posters were placed in Anker at the /Gaio-Daman Traditional (TA) Head Office notice board (entrance door) as shown in Figure 6-3. Further notices were placed at the

Kamanjab Village Council and Kunene Regional Council notice boards in Kamanjab (Figure 6-4) and Opuwo (Figure 6-5), respectively.

Figure 6-3: Public Notice at the /Gaio-Daman Traditional Office in Anker Settlement

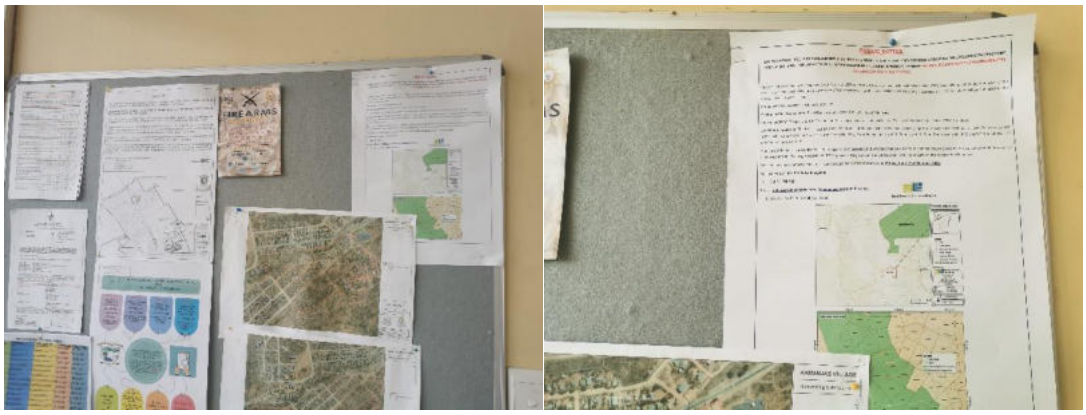

Figure 6-4: Public Notice at the Kamanjab Village Council notice board

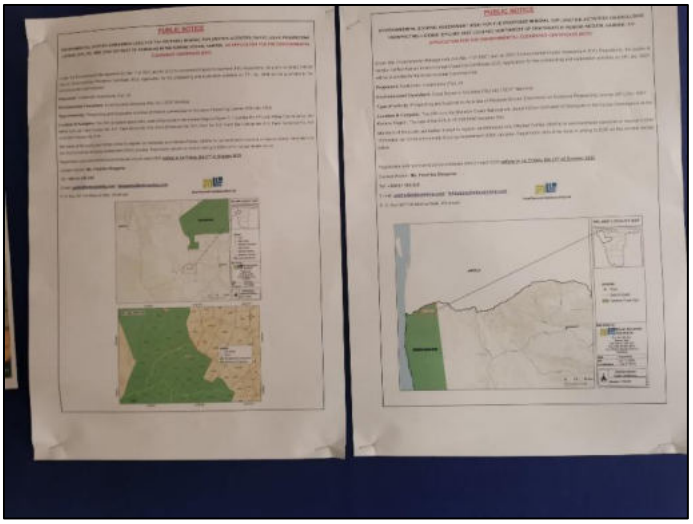

Figure 6-5: Public Notice at the Kunene Regional Council notice board

The comments and registration request period ran from 13 September to 30 November 2022.

6.3 Feedback from Interested and Affected Parties

Issues were raised and comments submitted by IAPs from the consultation meeting. These have been recorded and incorporated into the Scoping Report and EMP. The summary these key issues are presented in Table 6-1 below.

Table 6-1: Summary of main comments (and or issues) received during the consultation meetings

Aspects	Summary of the Concern / Issue
First Consultation Meeting in Anker (12 October 2022)	
The absence of the Proponent in the meeting and some communities are not represented in the meeting	The Proponent needs to meet the community to answer questions that the Environmental Consultant cannot answer. Some farmers from farms like Emmanuel, Condor and Atlanta are not in the meeting. Therefore, another meeting needs to be rescheduled.
The benefits of the communities who are surviving on mining claims that may fall within the EPL.	The Proponent should aim to also assist the communities once they are on the ground.
Employment of locals	The employment of locals should be prioritized
The corporate social responsibility (CSR)	The Proponent should implement visible CSR within the communities to benefit all. This should be done by letting the communities propose the ways on how they can be assisted. Therefore, a Social Plan should be

Aspects	Summary of the Concern / Issue
	drawn.
Local employment	The Proponent should consider local communities for jobs that they can do, and not bring outsiders for this.
Rehabilitation of exploration trenches and holes	The disturbed areas need to be rehabilitated and holes as well as trenches backfilled.
Timely communication and engagement with traditional authority, and other local leaders before and during implementation	The Proponent should keep open communication and continued engagements with the communities and leaders to avoid conflicts in the communities.
Second Consultation Meeting on Farm Emmamuel (29 November 2022)	
Possibility of relocating communities from their homes if minerals are found near their houses and who would be responsible for the relocation of affected people	The community was concerned about the possibility of being relocated from their homes, if exploration activities yield positive results for mining.
Preference of local community members for employment opportunities	Th concern was on whether the Proponent would bring in their own workforce or they would use the local labourers and skills if available for the project.
The community asked if relocation of people for mining is always necessary	The issue of relocating during mining stage was explained to the community that people are usually relocating mainly for their own health and safety if they are too close to the mining works.
The determining factor in applying for an EPL in an area	The community wanted to know how one knows that they can apply for an EPL in an area. This was explained to them (based on the geology and potential type of mineralization).
Water challenges in the EPL area	The need to assist communities with water supply issues while onsite during exploration would be appreciated.
Existing community land uses	The community requested the following areas to be excluded from disturbance by exploration activities: - planned campsite area -community horse racing open space, and -soccer field. The exclusion of sites will also apply to the archaeological and cultural sites such as the graveyards, rock painting/engraving on some farms, the significant tree (on Farm Condor) and other related sites.

7 IMPACT IDENTIFICATION, ASSESSMENT AND MITIGATION MEASURES

7.1 Identification of Key Impacts

Exploration activities are usually associated with different potential positive and/or negative impacts. Therefore, the impacts should be assessed, and mitigation measures provided thereto. This is done to ensure that these impacts are addressed by providing adequate mitigation measures such that an impact's significance is brought under control, while maximizing the positive impacts (benefits). The potential positive and negative impacts that have been identified from the prospecting activities are listed as follow:

Positive impacts:

- Socio-economic development: temporary employment creation and skills transfer.
- Investment opportunities/infrastructure-related development benefits,
- Produce a trained workforce and small businesses that can service the communities.
- Boosting the local economic growth through corporate social responsibility (CSR).
- Increased support for local businesses through the procurement of locally available goods and services.

Negative impacts:

- Disturbance of existing communal grazing areas,
- Physical land/soil disturbance and prone to erosion
- Impact on fauna and flora (habitat disturbance and poaching).
- Water resources (over-abstraction of water) and soils pollution.
- Air quality issue owing to dust generation
- Occupational and community health and safety risks/hazards
- Vehicular traffic safety and services infrastructure (local roads).
- Vibrations and noise associated with drilling activities.
- Environmental pollution from poor waste management,

- Archaeological or cultural heritage impact
- Potential social nuisance and land use conflicts.

7.2 Impact Assessment Methodology and Criteria

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 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 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 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 section, for this assessment, the significance of the impact without prescribed mitigation actions is 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:

SIGNIFICANCE POINTS (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: Significance rating scale

Significance	***Environmental Significance Points***	***Colour Code***
High (positive)	>60	H
Medium (positive)	30 to 60	M
Low (positive)	1 to 30	L
Neutral	0	N
Low (negative)	-1 to -30	L
Medium (negative)	-30 to -60	M
High (negative)	<-60	H

Positive (+) – Beneficial impact

Negative (-) – Deleterious/ adverse Impact

Neutral – Impacts are neither beneficial nor adverse

For a potential negative impact with a significance rating of high (-ve), mitigation measures are recommended to reduce the impact to a medium (-ve) or low (-ve) 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.

For a potential positive impact with a significance rating of a medium (-ve) or low (-ve), mitigation measures are recommended to enhance the impact to a high (+ve) significance rating.

This assessment is based on the three project phases namely, the prospecting, exploration, and decommissioning. The potential impacts stemming from the proposed activities on the EPL are described, assessed and mitigation measures provided in the Draft EMP.

Further mitigation measures in a form of management action plans are provided in the Draft EMP.

7.4 Assessment of Potential Positive Impacts

The potential positive impacts (benefits) of the proposed Project activities are described and assessed as follows.

7.4.1 Employment Opportunities and Procurement of Goods and Services

Although temporary, the Project activities will improve the livelihoods of the local communities through contract employment. Other opportunities will include possible procurement opportunities for the provision of different services and goods procured from different suppliers on services like local site clearing, security services, provision of lubricants and personnel protective equipment (PPE), food caterings and earthmoving contractors as well as food (provision of meat products). These opportunities will include the provision of lubricants, PPE, cleaning services and external maintenance services, if necessary. The unfairness and discrimination in employment and procurement opportunities of overlooking locals for outsiders would bring conflicts. The impact is assessed in Table 7-3 below.

Table 7-3: Assessment of Employment and Procurement Opportunities

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre-mitigation	L/M - 2	L/M - 2	L/M - 4	L - 1	L – 8
Measures to maximize the significance of the impact are provided in the EMP					

Post-mitigation	M/H - 4	H - 5	M - 6	H - 5	H - 75

7.4.2 Corporate Social Responsibility (CSR): Community projects and Water Supply

The Project has potential to uplift the local communities with projects through a Trust Fund. These projects would include the funding some components of the children's education and the youth as well as assisting the respective communities. Furthermore, the Project would potentially contribute indirectly towards the maintenance and rehabilitation of local infrastructures such as community water supply boreholes, roads, etc. the Proponent should also commit to strengthen the unskilled and semi-skilled locals, the youth with further skills through trainings.

The exploration boreholes where water is encountered will be handed to the Rural Water Supply Office for further development and handed over to the communities to avoid privatization of communal water. This impact is assessed in Table 7-4.

Table 7-4: Assessment of the project activities on procurement of services and goods

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre-mitigation	L/M - 2	L/M - 2	L/M - 4	L - 1	L – 8
Post-mitigation	M/H - 4	H - 5	M - 6	H - 5	H - 75

7.4.3 Regional and National Economic Development: Taxes, Levies and Investments

The project has potential to contribute towards broader regional and national developmental goals through the injection of capital investments, land use leasehold fees, and government revenue realised through various forms of taxes such as income tax, and value added tax to the Namibia Revenue Agency and license levies to the Ministry of Mines and Energy etc. More investors may develop interests to invest further in the Namibia's exploration and mining sector.

The impact has been assessed in Table 7-5 below and its significance can be improved by implementing the measures provided below.

Table 7-5: Assessment of the project activities on national economic development and investment opportunities

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre-mitigation	L/M- 2	L/M - 2	L/M - 4	L - 1	L – 8
Post-mitigation	M/H - 4	H - 5	M - 6	H - 5	H - 75

7.5 Assessment of Potential Negative (Adverse) Impacts

The significant negative impacts potentially associated with the proposed prospecting and exploration of commodities on the EPL are assessed below. The mitigation measures are provided in the EMP.

7.5.1 Disturbance to the grazing areas

The EPL overlies communal farms and one commercial farm (Bruno) that practice livestock farming and possibly game farming, respectively. The invasive exploration activities such as site clearing, trenching, and drilling can potentially lead to the disturbance of grazing land. This will potentially affect the grazing areas available to the livestock and wildlife (within the wider areas of the Conservancy), and since the locals greatly depend on these types of farming for subsistence and commercial purposes (income generation), this would have an impact on their livelihood through potential feeding/grazing for animals.

The clearing of land areas to enable the establishment of exploration equipment and machinery would lead to the loss of grazing areas. Losing grazing pastures for livestock minimizes the number of animals on the farms and overall farming activity in the area, and lead to loss of livelihoods. Under the status, the impact can be of a low significance rating. With the implementation of appropriate mitigation measures, the rating will be reduced to a lower significance. The impact is assessed in Table 7-6.

Table 7-6: Assessment of the impacts of exploration on grazing areas

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre-mitigation	M - 3	M - 3	M/L - 4	M/H - 4	M - 40
Post-mitigation	L/M - 2	L/M - 2	L/M - 4	L/M - 2	L - 16

7.5.2 Land Degradation and Loss of Biodiversity

Fauna: The trenching, pitting and drilling activities done for detailed exploration would result in land degradation, leading to habitat loss for a diversity of flora and fauna ranging from microorganisms to large animals and vegetation. Endemic species are most severely affected since even the slightest disruption in their habitat can results in extinction or put them at high risk of being wiped out.

The presence and movement of the exploration workforce and operation of project equipment and heavy vehicles would disturb not only the domestic animals (livestock) grazing at the

explored sites of the EPL, but also the wildlife in the vicinity. There is also a potential of illegal hunting (poaching) of local wildlife by project related workers. This could lead to loss or number reduction of specific faunal species which also impacts tourism in the community (for tourists who are interested in wildlife seeing when driving through the area).

The unrehabilitated and or unfenced boreholes, trenches and pits used for exploration could pose a high risk of site domestic and wild animals falling into these holes and pits, causing injuries and potentially mortalities.

Flora: the direct impacts on flora and vegetation communities would mainly occur through clearing for the exploration access roads and associated infrastructure. The dust emissions from drilling may affect surrounding vegetation through the fall of dust, which not only affect the functionality of vegetation but also hindering the feeding of animals on the plant leaves. The abundance of the shrubs and site-specific areas of exploration on the EPL means that the impact will be localized, therefore manageable.

The area covered by the EPL is a habitat to the protected tree species such as the camelthorn. Therefore, the unnecessary and unmanaged removal and destruction of these trees would lead to their demise in the area, resulting in the loss of this floral diversity. If no mitigation measures are in place, the impact significance would be medium, but upon the implementation of the mitigation measures (avoiding unnecessary removal of such species and adherence to the vegetation permit conditions from Forestry Office) would reduce the significance to low. The impact is assessed in Table 7-7.

Table 7-7: Assessment of the impacts of exploration on biodiversity (fauna and flora)

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre-mitigation	M - 3	M - 3	M - 6	M/H - 4	M - 48
Post-mitigation	L/M - 2	L/M - 2	L/M - 4	L/M - 2	L - 16

7.5.3 Generation of Dust (Air Quality)

Dust emanating from site access roads when transporting exploration equipment and supply (water) to and from site (time-to-time) may compromise the air quality in the area. Vehicular movements from heavy vehicles such as trucks would potentially create dust even though it is not always so severe. The Project activities carried out as part of the exploration works such as drilling would contribute to the dust levels in the air. The impact is assessed in Table 7-8.

Table 7-8: Assessment of the impacts of exploration activities on air quality

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre-mitigation	M - 3	M - 3	M/L - 4	M/H - 4	M - 40
Post-mitigation	L - 1	L - 1	L - 2	L - 1	L - 4

7.5.4 Water Resources Use

Water resources is impacted by project developments/activities in two ways, namely through pollution (water quality) or over-abstraction (water quantity) or at times both.

The abstraction of more water than it can be replenished from low groundwater potential areas would negatively affect the local communities 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 volumes required by each project activity. Commonly exploration activities use a lot of water, mainly diamond drilling. However, this depends on the type of drilling methods employed (diamond drilling is more water-consuming compared to drilling methods such as reverse circulation for instance) and the type of mineral being explored.

Given the low to medium groundwater potential of most areas of the EPL area, the groundwater resources may be significantly impact if no measures are put in place. The exploration period is limited, timewise, therefore, the impact will only last for the duration of the exploration activities and ceases upon their completion.

The assessment of this impact is presented in the Table 7-9 below.

Table 7-9: Assessment of the project impact on water resource use and availability

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre-mitigation	M - 3	M/H - 4	L/M - 4	M/H - 4	M - 44
Post-mitigation	L/M - 2	L/M - 2	L - 2	L/M - 2	L - 12

7.5.5 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 infiltrate into the ground and pollute the fractured or faulted aquifers on site, and with time reach further groundwater systems in the area. However, it should be noted that the scale and extent/footprint of the activities where potential sources of pollution will be handled is relatively small. Therefore, the impact will be moderately low. The impact is assessed in Table 7-10 below.

Table 7-10: Assessment of the project impact on soils and water resources (pollution)

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre-mitigation	M - 3	M/H - 4	M - 6	M - 3	M – 39
Post-mitigation	L - 1	L - 1	L - 2	L/M - 2	L - 8

7.5.6 Waste Generation

During the prospecting and exploration phase, domestic and general (solid) waste is produced on site. If the generated waste is not disposed of in a responsible way, solid waste would be scattered in the area resulting in environmental pollution (land degradation) on the EPL or around the Site. 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. Another impact on the environmental is poor handling and storage of wastewater that may not only pollute the ground surface but also the water resources when infiltration and runoff occur. The assessment of this impact is given in Table 7-11.

Table 7-11: Assessment of waste generation impact

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre-mitigation	L/M - 2	L/M - 2	M - 6	M - 3	M – 30
Post-mitigation	L - 1	L - 1	L - 2	L/M - 2	L - 8

7.5.7 Occupational and Community Health and Safety

Project personnel (workers) involved in the exploration activities may be exposed to health and safety risks. These are in terms of accidental injury, owing to either minor (i.e., superficial physical injury) or major (i.e., involving heavy machinery or vehicles) accidents. The heavy vehicle, equipment and fuel storage area should be properly secured to prevent any harm or injury to the Proponent's personnel or local animals. 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 equipment and vehicles too.

If machinery and equipment are not properly stored and packed, the safety risk may not only be a concern for project workers but residents too, especially children. The open trenches and holes, if not closed off and backfilled could pose a serious risk of people and animals falling in these leading to injuries and even fatalities. This impact is assessed in Table 7-12 below.

Table 7-12: Assessment of the impacts of exploration on health and safety

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre-mitigation	M - 3	M - 3	M - 6	M/H - 4	M – 48
Post-mitigation	L/M - 2	L/M - 2	L - 2	L/M - 2	L - 12

7.5.8 Vehicular Traffic Use and Safety

The district roads are the main transportation routes for all vehicular movement in the area and provide access to the EPL and connect the Project area to other areas such as Kamanjab Village to the near east and Uis Settlement further to the south. Therefore, traffic volume will increase on these district roads during exploration as the Project would need a delivery of supplies and services. These service and supplies will include but not limited to water, waste removal, procurement of exploration machinery, equipment, goods, etc.

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. The impact would not only be felt by the district road users but also the local road users. This would add additional pressure on the roads and cause road damages by heavy trucks which would makes it difficult for small cars to travel on.

However, only so many times a week or even monthly that the exploration related heavy trucks will be transporting materials and equipment from and to site during exploration. Therefore, the

risk is anticipated to be short-term, not frequent, and therefore of medium significance. The impact is assessed in Table 7-13 below.

Table 7-13: Assessment of the impacts of exploration on road use (vehicular traffic)

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre-mitigation	M - 3	M/H - 4	L/M - 4	M/H - 4	M - 44
Post-mitigation	L/M - 2	L/M - 2	L - 2	L/M - 2	L - 12

7.5.9 Noise and vibrations

Exploration activities such as especially drilling create noise which can be a nuisance to surrounding communities. Excessive noise and vibrations can be a health risk to workers on site. The exploration equipment used for drilling on site is of medium size and the noise level is bound to be limited to the site only, therefore, the impact likelihood is minimal. This impact is assessed in Table 7-14 below.

Table 7-14: Assessment of the impacts of noise and vibrations from exploration

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	L/M - 2	L/M - 2	M - 6	M/H - 3	M – 30
Post mitigation	L - 1	L/M - 2	L - 2	L/M -2	L - 10

7.5.10 Disturbance to Archaeological and Heritage resources

During the site visit and personal interviews with the locals, there are archaeological and heritage sites such as historical graves and other few sites of cultural and heritage significance within the EPL. These sites will need to be protected from exploration activities. However, the absence of such sites on the surface on some EPL areas does not conclude the overall absence of such in the subsurface, that can be discovered through inadvertent destruction during invasive exploration (trenching and or drilling). The impact is assessed in Table 7-15.

Table 7-15: Assessment of the impacts of exploration on archaeological & heritage resources

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M/H - 4	M - 3	M - 6	M - 3	M – 39

Post mitigation	L/M - 2	L/M - 2	L - 2	L/M - 2	L - 12

7.5.11 Impact on Local Roads, Buried Cables and Pipelines

These types of projects are usually associated with movements of heavy trucks and equipment or machinery that use locals frequently. The heavy trucks travelling on the local roads and exert more pressure on them. These local roads in remote areas are normally not in a good condition already for light vehicles, and the additional vehicles such as heavy ones may make it worse and difficult to be used by small (vehicles).

Another potential impact is the damaging of buried cables and pipelines in the project area. If not identified and reported on time, these may be damaged by trenching and drilling activities. The assessment of this impact is presented in Table 7-16.

Table 7-16: Assessment of exploration on local services (roads and water)

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M/H - 4	M - 3	M - 6	M - 3	M – 39
Post mitigation	L - 1	L - 1	M/L - 4	M/L - 2	L - 12

7.5.12 Social Nuisance: Property intrusion and Disturbance or Damage

If no locals or only few locals are employed on the Project, the presence of some out-of-area personnel may lead to social tension to the local communities. This could particularly be a concern when the out-of-area workers damage properties of the locals. The private properties of the locals could be houses, fences, vegetation, or domestic and wild animals or any properties of economic or cultural value to the landowners or occupiers of the land.

The damage or disturbance to properties may not only be private but local public properties too. The unpermitted and unauthorized entry to private properties may cause crashes between the affected property owners and the Proponent. The impact is assessed below (Table 7-17).

Table 7-17: Assessment of social impact of community property damage or disturbance

Mitigation Status	Extent	Duration	Intensity	Probability	Significance
Pre mitigation	M - 3	M - 3	M - 6	M/H - 4	M – 48
Post mitigation	L - 1	L - 1	M/L - 4	M/L -2	L - 12

7.6 Cumulative Impacts Associated with 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, the cumulative impacts to which the proposed Project and associated activities potentially contribute are as follows:

- **Impact on road infrastructure:** The proposed exploration activities on the EPL will cumulatively contribute to various activities such as farming activities and travelling associated with tourism and daily routines in the area`. The contribution of the proposed project activities to this cumulative impact is however not considered significant given the short duration, and local extent (site-specific) of the intended mineral exploration activities.
- **The use of water**: While the contribution of the project activities to the impact will not be significant, mitigation measures to reduce water consumption for activities are essential.
- **Poaching**: One of the Senior Traditional Councilors mentioned that there has been incidents of poaching within the area even by some community members, possibly due to the lack of job opportunities in the area. Therefore, this is likely to continue when the exploration starts. However, the impact will be reduced by the biodiversity education awareness and implementation of anti-poaching measures by the Proponent.

7.7 Mitigations and Recommendations for Rehabilitation

The rehabilitation of explored (disturbed) sites will include but not limited to the following:

- Backfilling of trenches/pits in such a way that subsoil is replaced first, and topsoil last.
- Closing off and capping of all exploration drilling boreholes. The boreholes should not only be filled with sand alone, as wind will scour the sand and re-establish the holes.
- Carrying away all waste generated from the last disposal to the last days on site.
- Transporting all machinery, equipment and vehicles to designated storage facilities.
- Dismantling of temporary structures such as campsite and office spaces and donate them to the communities or if cannot be donated, these structure materials should be transported to the municipal dumpsite in Kamanjab (upon prior consultation and approval by the Village Council).

8 RECOMMENDATIONS AND CONCLUSIONS

The potential impacts that are anticipated from the proposed project activities were identified, described, and assessed. For the significant adverse (negative) impacts with medium rating, appropriate management and mitigation measures were recommended for implementation by the Proponent, and the aim is to maximize the positive impacts of the proposed exploration.

The interested and affected parties (stakeholders) were consulted as per the EMA and its 2012 EIA Regulations (Section 21 to 24). This was done via the *New Era* and *The Namibian* newspapers used for this environmental assessment. The consultation meetings were held with the communities and leaders from the area on 12 October & 29 November 2022. Some comments and concerns were made and raised on the proposed project activities, respectively. These comments were noted down and incorporated into the Scoping Report and Draft EMP.

The issues and concerns addressed and incorporated into this Scoping Report have been addressed and mitigation measures provided thereto to avoid and/or minimize their significance on the environmental and social components. Most of the potential impacts were found to be of medium rating significance. With the effective implementation the recommended management and mitigation measures, this will particularly reduce the significance of adverse impacts that cannot be avoided completely (i.e., reduce the significance from medium rating to low). To maintain the desirable rating, the implementation of management and mitigation measures, it is highly recommended that the Proponent or their Environmental Control Officer (ECO) conduct the EMP implementation monitoring. Monitoring will not only be done to avoid impacts or maintain their desired rating, but to also ensure that all potential adverse impacts identified in this study and other impacts that might arise during Project implementation are properly and timely identified and addressed accordingly.

The Scoping assessment is deemed sufficient and conclude that no further detailed assessments are required to the ECC application.

8.1 Recommendations

The EDS 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. This would also be improved by more effort and commitment towards monitoring the implementation of these measures.

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

- All the management and mitigation measures provided herein and Draft EMP are effectively and progressively implemented.
- All required permits, licenses and approvals / consents for the proposed activities should be obtained as required. These include permits and licenses for land use agreements to explore and ensuring compliance with these specific legal requirements.
- The Proponent and all their personnel 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.
- The disturbed areas created from the project activities areas are rehabilitated, as far as practicable, to their pre-exploration state.
- Environmental Compliance monitoring reports should be compiled and submitted to the DEAF every 6 months from the date of ECC issuance (as required).

8.2 Conclusions

In conclusion, with that being done, it is crucial for the Proponent and their workers and contractors to effectively implementation of the recommended management and mitigation measures to protect both the biophysical and social environment throughout the project duration. The aim is to promote environmental and social sustainability while ensuring a harmonious existence and proposed activities in the communities and environment.

9 LIST OF REFERENCES

1. GCS Water & Environmental Consultants. (2017). Environmental Scoping Assessment Report for the Proposed Copper Processing Facility near Omao Village in Kunene Region. Windhoek. Ministry of Environment, Forestry and Tourism.
2. Kinahan, J. (2013). The Archaeological Desktop Assessment of EPL-330, 3301 and 4361 in the Kunene Region.
3. Kunene Regional Council. (2015). Kunene Regional Development Profile 2015: The Ultimate Frontier. Available from https://kunenerc.gov.na/documents/53359/0/Dev_profile.pdf/e20fcb44-46e3-effa-6344-2189605e1c7f. accessed 15 November 2022.
4. Mendelson 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.
5. Meteoblue (2022). Meteoblue Weather: Simulated historical climate & weather data for Kamanjab Area. Available from https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/kamanjab_namibia_3356469 Accessed 11 November 2022.
6. NACSO. (2022). Conservancies: ≠Khoadi-//Hôas Conservancy Quick Facts. Available from https://www.nacso.org.na/conservancies/khoadi-hoas. Accessed 15 November 2022.
7. Namibia Statistics Agency. (2011). 2011 Population and Housing Census: Kunene Profile 2011, Census Regional Profile. Windhoek: Namibia Statistics Agency.
8. Resilient Environmental Solutions. (2019). Environmental Assessment for Exclusive Prospecting License (EPL) 7264 near Talismanis in the Omaheke Region. Windhoek: Resilient Environmental Solutions.
9. World Weather Online. (2022). Kamanjab - Kunene Region, Namibia Weather. Available from: https://www.worldweatheronline.com/kamanjab-weather/kunene/na.aspx#google_vignette. Accessed 15 November 2022.

APPENDIX A: DRAFT ENVIRONMENTAL MANAGEMENT PLAN (EMP)

APPENDIX B: CV OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

APPENDIX C: NEWSPAPER ADVERTS (*THE NAMIBIAN & NEW ERA*)

APPENDIX D: CONSULTATION MEETING MINUTES AND ATTENDANCE REGISTERS