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Environmental Scoping Assessment (ESA) Report:

ENVIRONMENTAL SCOPING ASSESSMENT (ESA) FOR THE PROPOSED EXPLORATION ACTIVITIES ON EXCLUSIVE PROSPECTING LICENCE (EPL) NO. 8134 LOCATED NORTH-EAST OF OTAVI IN THE OTJOZONDJUPA REGION, NAMIBIA

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Author: **Ms. Althea Brandt** Reviewer: **Ms. Rose Mtuleni** Company: **Excel Dynamic Solutions (Pty) Ltd** Telephone: **+264 (0) 61 259 530** Fax2email: **+264 (0) 886 560 836** Email: **info@edsnamibia.com / public@edsnamibia.com**	Proponent: **Franklin Ailohi Ohoizebau** Telephone: **+264 (0) 81 307 4719** Postal Address: **P.O Box 26422, Windhoek** Email: **divinelink.consult@gmail.com**

February 2022

EXECUTIVE SUMMARY

Mr. Franklin Ailohi Ohoizebau (*hereinafter referred to as The Proponent*) proposed to carry out prospecting and exploration activities on Exclusive Prospecting Licence (EPL) No. 8134. The 4,436.888 hectare EPL was applied for with the Ministry of Mines and Energy (MME) on the 7 May 2020. The EPL was granted on 19 March 2021, and expires on the 18 March 2024. The EPL is located about 36 km north-east of Otavi, in the Otjozondjupa Region. The EPL covers (overlie) farms such as Farm Keilberg - No. 1371, Farm Block - No. 648; Farm Sumas - No. 746, Farm Sumas West - No. 752, Farm Auros - No. 1372, Farm Gauss and Farm Jakkalomuramba - No. 677. The targeted commodities of this project are: Base & Rare Metals, Industrial Minerals and Precious Metals.

Prospecting and exploration 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. Subsequently, to ensure that the proposed activity is compliant with the national environmental legislation, the project Proponent, appointed an independent environmental consultant, Excel Dynamic Solutions (Pty) Ltd to undertake the required Environmental Assessment (EA) process and apply for the ECC on their behalf.

The application for the ECC was compiled and submitted to the Competent Authority (Ministry of Mines and Energy (MME)) on the 2nd February 2022. The date stamped copy of the ECC by MME was also uploaded on the online ECC Portal for the Ministry of Environment, Forestry and Tourism (MEFT) as the environmental custodian for project registration purposes. Upon submission of an Environmental Scoping Assessment (ESA) Report and Draft Environmental Management Plan (EMP), an ECC for the proposed project will be considered by the Environmental Commissioner at the MEFT's Department of Environmental Affairs and Forestry (DEAF).

Brief Project Description

Planned Activities: Proposed Exploration Methods

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

A. **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.

B. **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 Industrial Minerals are present. Also, trenches or pits may be dug depending on the commodity (in a controlled environment e.g., fencing off and labelling activity sites) adopting manual or excavator to further investigate the mineral potential. Soil sampling consists of small pits (±20cm X 20cm X 30cm) being dug where 1kg samples can be extracted and sieved to collect 50g of material. As necessary, and to ensure adequate risks mitigation, all major excavations will either be opened and closed immediately after obtaining the needed samples or the sites will be secured until the trenches or pits are closed. At all times, the landowner and other relevant stakeholder will be engaged to obtain authorisation where necessary.

C. **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.

D. **Detailed Exploration Drilling (Invasive Technique):** 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 the rig. Two widely used drilling options may be adopted; these are the 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, during advanced stages of exploration if large amounts of sample material may be required for analysis and to perform processing trials. A typical drilling site will consist of a drill-rig, drill core and geological samples store and a drill equipment parking and maintenance yard (including a fuel and lubricants storage facility).

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 I&APs 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:

- A Background Information Document (BID) containing brief information about the proposed facility was compiled and hand delivered to relevant Authoritative Ministries, and upon request to all new registered Interested and Affected parties (I&APs).
- Project Environmental Assessment notices were published in The Namibian newspaper and New Era **(Dates: 17 and 24 January 2022)** briefly explaining the activity and its locality, inviting members of the public to register as I&APs and submit their comments / concerns.

- A consultation meeting was scheduled and held with the affected farmers (landowners) on the 10th of May 2022 in Kombat at the Church/Hall at 14H00.
- The issues and concerns raised were noted and used to form a basis for the ESA Report and EMP.

Potential Impacts identified

The following potential negative impacts are anticipated:

- **Positive impacts:** Socio-economic development through employment creation (primary, secondary, and tertiary employment) and skills transfer, Open other investment opportunities and infrastructure-related development benefits, Produce a trained workforce and small businesses that can service communities and may initiate related businesses, Boosting the local economic growth and regional economic development and Increased support for local businesses through the procurement of consumable items such as Personal Protective Equipment (PPE), machinery spare parts, lubricants, etc.
- **Negative impacts:** Potential disturbance of existing pastoral systems, Physical land / soil disturbance, Impact on local biodiversity (fauna and flora) and habitat disturbance and potential illegal wildlife hunting (poaching) in the area, Potential impact on water resources and soils particularly due to pollution, Air quality issue: potential dust generated from the project, Potential occupational health and safety risks, Vehicular traffic safety and impact on services infrastructure such as local roads, Vibrations and noise associated with drilling activities may be a nuisance to locals, Environmental pollution (solid waste and wastewater), Archaeological and heritage impact and Potential social nuisance and conflicts (theft, damage to properties, etc.)

The potential negative 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, their contractors and project related employees.

The public was consulted as required by the EMA and its 2012 EIA Regulations (Section 21 to 24). This was done via the two newspapers (*New Era* and *The Namibian*) used for this environmental assessment. A consultation face-to-face meeting was held with the members of Kombat and a site visit and meeting at one of the affected farmer's farm, whereby they raised comments and concerns on the proposed project activities.

The issues and concerns raised by the registered I&APs formed the basis for this Report and the Draft EMP. The issues were addressed and incorporated into this Report whereby mitigation measures have been provided thereof 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 see the reduction in the significance of adverse impacts that cannot be avoided completely (from medium rating to low). To maintain the desirable rating, the implementation of management and mitigation measures should be monitored by the Proponent directly, or their Environmental Control Officer (ECO) is highly recommended. The monitoring of this implementation will not only be done to maintain the reduced impacts' rating or maintain low rating but to also ensure that all potential impacts identified in this study and other impacts that might arise during implementation, are properly identified in time and addressed right away too.

An Archaeological & Heritage Impact Assessment (AHIA) was done by a specialist for this ESA Study. The findings of this AHIA and the Scoping assessment (ESA) were deemed sufficient and conclude that no further detailed assessments are required to the ECC application.

Recommendations

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

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

- All the management and mitigation measures provided herein are effectively and progressively implemented.

- All required permits, licenses and approvals for the proposed activities should be obtained as required. These include permits and licenses for land use access agreements to explore and ensuring compliance with these specific legal requirements.
- The Proponent and all their project workers or contractors comply with the legal requirements governing their project and its associated activities and ensure that project permits and or approvals required undertaking specific site activities are obtained and renewed as stipulated by the issuing authorities.
- Site areas where exploration activities have ceased are rehabilitated, as far as practicable, to their pre-exploration state.
- Environmental Compliance monitoring reports should be compiled and submitted to the DEAF Portal as per provision made on the MEFT/DEAF's portal.

Conclusions

In conclusion, it is crucial for the Proponent and their contractors as well as to effectively implementation of the recommended management and mitigation measures to protect both the biophysical and social environment throughout the project duration. All these would be done with the aim of promoting environmental sustainability while ensuring a smooth and harmonious existence and purpose of the project activities in the community and environment at large.

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 Environmental Management Act (EMA) of 2007. These methodologies are described as representing good customary practice for conducting an Environmental Impact Assessment of a property 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 property conditions that could not be identified within the scope of the assessment, or which were not reasonably identifiable from the available information. The Consultant believes that the information obtained from the record review and during the public consultation processes concerning the proposed exploration work is reliable. However, the Consultant 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 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, 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 those persons contacted.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

Appendix G: Farmers' Consultation Meeting Minutes ***- uploaded separately on the Portal as required (under the ''Proof of Public Consultation'' file)***

Appendix H: Issues and Concerns received from the I&APs ***- uploaded separately on the Portal as required (under the ''Proof of Public Consultation'' file)***

Appendix I: List of the vegetation found within the EPL area ***- uploaded separately on the Portal as required (under the ''Proof of Public Consultation'' file)***

Appendix J: Registered mail sent to farmers ***- uploaded separately on the Portal as required (under the ''Proof of Public Consultation'' file)***

LIST OF ABBREVIATIONS

Abbreviation	Meaning
BID	Background Information Document
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
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
ESA	Environmental Scoping Assessment
GG & GN	Government Gazette & Government Notice
I&APs	Interested and Affected Parties
IFC	International Finance Corporation
MEFT	Ministry of Environment, Forestry and Tourism

Abbreviation	Meaning
MME	Ministry of Mines and Energy
PPE	Personal Protective Equipment
Reg / S	Regulation / Section
SASSCAL	Southern African Science Service Centre for Climatic Change and Adaptive Land Management
TOR	Terms of Reference

KEY TERMS

Terms	Definition
Alternative	A possible course of action, in place of another that would meet the same purpose and need of the proposal.
Baseline	Work done to collect and interpret information on the condition/trends of the existing environment.
Biophysical	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).

Terms	Definition
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 (I&AP)	In relation to the assessment of a listed activity includes - (a) any person, group of persons or organization interested in or affected by an activity; and (b) any organ of state that may have jurisdiction over any aspect of the activity. Mitigate - practical measures to reduce adverse impacts. Proponent – as defined in the Environmental Management Act, a person who proposes to undertake a listed activity. Significant impact - means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment.
Fauna and Flora	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.

Terms	Definition
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

Mr. Franklin Ailohi Ohoizebau (*hereinafter referred to as The Proponent*) proposes to carry out prospecting and exploration activities on Exclusive Prospecting Licence (EPL) No. 8134. The Proponent was granted the EPL on 19 March 2021, and it expires on 18 March 2024. This EPL is located about 36 km northeast of Otavi, in the Otjozondjupa Region (Figure 1). The 4,436.888-ha EPL covers (overlies) Farm Keilberg - No. 1371, Farm Block - No. 648; Farm Sumas - No. 746, Farm Sumas West - No. 752, Farm Auros - No. 1372, Farm Gauss and Farm Jakkalomuramba - No. 677 (Figure 2). The Proponent is interested in the prospecting and exploration of Base & Rare Metals, Industrial Minerals and Precious Metals. The Proponent intends to conduct mineral exploration activities within the EPL leading to the estimation and delineation of the target resources.

Section 27 (1) of the Environmental Management Act (EMA) (No. 7 of 2007) and its 2012 Environmental Impact Assessment (EIA) Regulations, provides a list of activities that may not be carried out without an Environmental Impact Assessment (EIA) undertaken and an Environmental Clearance Certificate (ECC) obtained. Exploration activities are listed among the activities that may not occur without an ECC. Therefore, individuals or organizations may not carry out exploration activities without an ECC awarded.

The Proponent appointed Excel Dynamic Solutions (Pty) Ltd (EDS, Environmental Consultant or Environmental Assessment Practitioner (EAP) hereafter), an independent team of Environmental Consultants to conduct the required Environmental Assessment (EA) and submit the ECC application and EA documents (Scoping Report and Draft EMP) to the Competent Authority, the Ministry of Mines and Energy (MME), and to Ministry of Environment, Forestry and Tourism (MEFT), on their behalf.

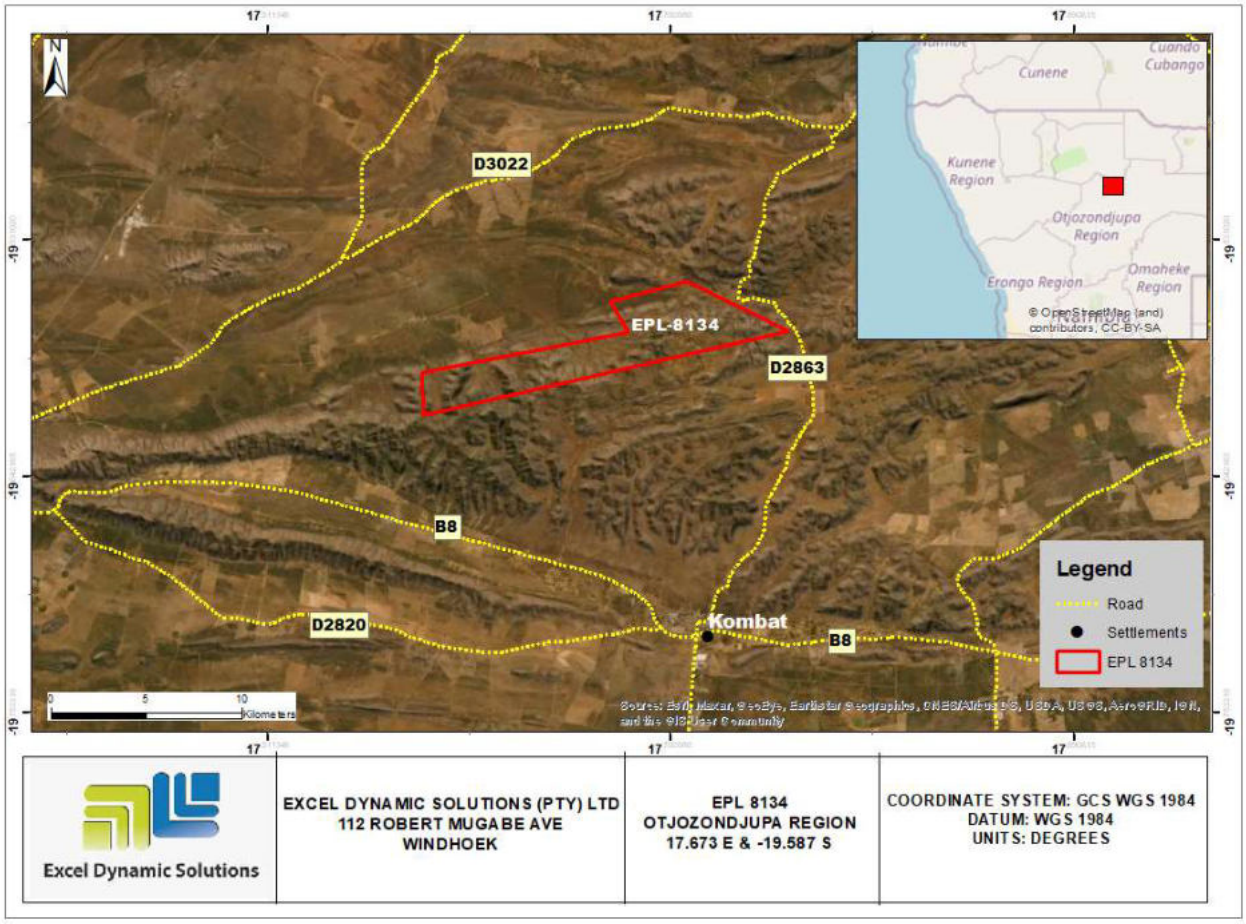


Figure 1: Location of EPL 8134 located north-east of Kombat in the Otjozondjupa Region

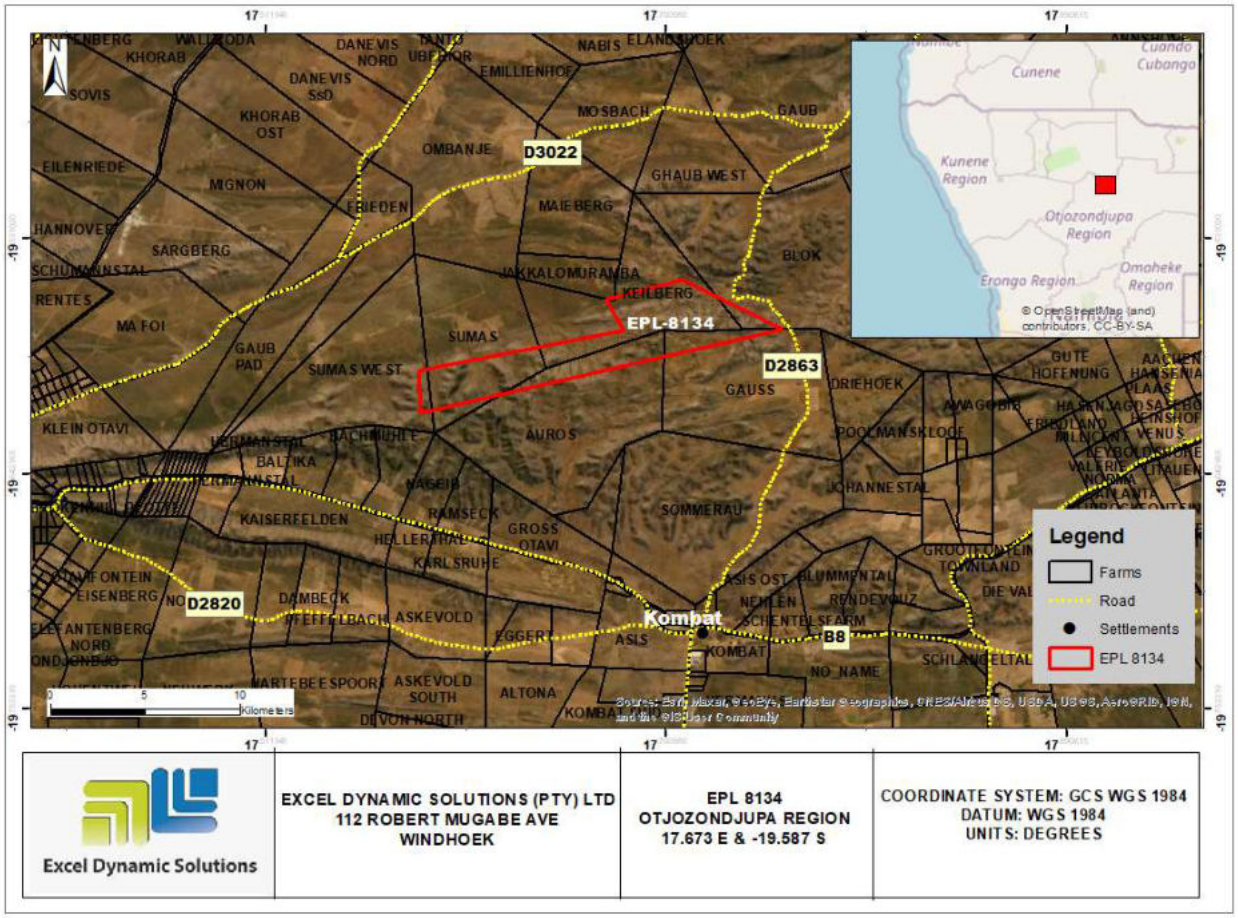


Figure 2: Farms and Land Uses covered by EPL 8134

1.2 Terms of Reference and Scope of Works

EDS has been appointed by the Proponent to undertake an environmental assessment, and thereafter, apply for an ECC for exploration work on the EPL. There were no formal Terms of Reference (ToR) provided to EDS by the Proponent. The consultant, instead, relied on the requirements of the Environmental Management Act (No. 7 of 2007) (EMA) and its Environmental Impact Assessment (EIA) Regulations (GN. No.30 of 2012) to conduct the study.

The application for the ECC was compiled and submitted to the Competent Authority (Ministry of Mines and Energy (MME)) on the 2nd February 2022. The date stamped copy of the ECC by MME **(Appendix A)** is uploaded on the online ECC Portal for the Ministry of Environment, Forestry and Tourism (MEFT) as the environmental custodian for project registration purposes. Upon submission of an Environmental Scoping Assessment (ESA) Report and Draft Environmental Management Plan (EMP), an ECC for the proposed project will be considered by the

Environmental Commissioner at the MEFT's Department of Environmental Affairs and Forestry (DEAF).

1.3 Appointed Environmental Assessment Practitioner

To satisfy the requirements of the EMA and its 2012 EIA Regulations, The Proponent appointed EDS, to conduct the required EA process on their (Proponent's) behalf. The findings of the EA process are incorporated into this report and the draft EMP – **(Appendix B)**. These documents will be submitted as part of the ECC application to the Environmental Commissioner at the Department of Environmental Affairs and Forestry (DEAF).

The EIA project is headed by Mr. Nerson Tjelos, a qualified and experienced Geoscientist and experienced EAP. The consultation process and reporting are done by Ms. Althea Brandt with support from Ms. Aili Iipinge. The CV of Mr. Nerson Tjelos is presented in **Appendix C.**

1.4 The Need for the Proposed Project

Mining sector significantly contributes to the economic development of many countries (National Planning Commission, 2021). In Namibia, mining have been the backbone of the economy since time-immemorial in view of having a positive impact on the economy. According to (Namibia Investment Center n.d.) mining contributes about 12.5% towards Namibia's Gross Domestic Product (GDP).

Exploration activities are encouraged in Namibia and the vision of the Minerals Policy attracts investment, thus exploration for minerals is mainly carried out 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). Moreover, the industry produces a trained workforce and small businesses that can serve communities and may initiate related businesses. Several associated activities that are fostered include, such as manufacturing of exploration and mining equipment, provision of engineering and environmental services and others. 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 as it contributes to the improvement of livelihoods and to the development goals of Namibia in contributing to meeting the ever-increasing global demand for minerals, and for national

prosperity. Therefore, successful exploration on EPL 8134 could lead to the mining of the targeted commodities, which would contribute towards achieving the goals of the national development plans.

2 PROJECT DESCRIPTION: PROPOSED EXPLORATION ACTIVITY

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. The proposed prospecting and exploration activities is presented below according to the phases of works as Prospecting, Exploration, and the decommissioning of exploration works.

2.1 Pre-development Phase (Prospecting)

During the prospecting and exploration phase, reviewing existing reports and composite stratigraphic, lithological-geochemical maps of the targeted areas to identify prospective lithostratigraphic packages will be vital. In addition to the literature review, fieldwork (lithological (soil/rock) mapping and sampling) will be conducted to verify desktop work. Up to this point, no physical disturbance is required. Prospecting during the advanced exploration phase will require the Proponent to assess the EPL area through detailed geological mapping, geophysical and (perhaps) geochemical surveys, 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 3** below.

Figure 3: The mineral exploration cycle (after, Savannah Resources, 2019)

2.1.1 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.

2.1.2 Lithology geochemical surveys

Rock samples shall be collected and taken for trace element analysis to be conducted by analytical chemistry laboratories to determine if enough dimension stone of interest are present. Also, trenches or pits may be dug depending on the commodity (in a controlled environment e.g.,

fencing off and labelling activity sites) adopting manual or excavator to further investigate the mineral potential.

These consists of small pits (±20cm X 20cm X 30cm) will be dug where 1kg samples can be extracted and sieved to collect 50g of material. As necessary, and to ensure adequate risks mitigation, all excavations will either be opened and closed immediately after obtaining the needed samples or the sites fenced off until the trenches or pits are closed. At all times, the landowner and other relevant stakeholder will be engaged to obtain authorisation where necessary.

2.1.3 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.

2.2 Detailed Exploration: Drilling, Sampling and Analysis Phase

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 exploration activities are aimed at delineating the mineral deposits and determine whether the deposits are economically feasible mining resources. No explosives will be used during the exploration phase.

2.3 Planned Activities: Proposed Exploration Methods

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

2.3.1 Detailed Exploration Drilling (Invasive Technique)

Should analyses by an analytical laboratory yield positive results, drilling commences, 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 the rig. To extract and remove dimension stone, stone cutting machines and hydraulic rock drilling rigs are normally used. Two widely used drilling options may be adopted, these are the 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, during advanced stages of exploration if large amounts of sample material may be required for analysis and to perform processing trials.

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

Other aspects of the exploration operations include:

- **Accessibility to Site**

The EPL is accessible from the B8 Road, which diverges into the D2863 route passing on the eastern side near the EPL. Project related vehicles will be using these existing roads to access the EPL. It is also anticipated that, if necessary, new tracks to the different targeted exploration sites within the EPL will be created on site. The Proponent may need to upgrade the site access roads to ensure that they fit to accommodate project related vehicles, such as heavy trucks.

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 must be limited to existing tracks while all new access routes to the drilling sites should be identified, agreed upon with the landowners and demarcated prior to the commencement of drilling activities.

- **Material and Equipment**

The input required for the exploration program in terms of vehicles and equipment includes two (4X4) vehicles, a truck, bull dozer, water tanks, drill rigs, and drilling machines, air compressors and a power generator. Equipment and vehicles will be stored at a storage site established within the EPL area.

- **Human Resources**

The project activities will require about 10 staff members consisting of geologists, field assistants, geo-technicians, drilling crew and semi/unskilled personnel.

- **Project Crew Accommodation**

The exploration crew will be accommodated in Kombat because the EPL is few kilometres from Kombat, upon reaching an agreement and a consent is signed between the Proponent and the respective landowner or custodian (authority) prior to setting up accommodation structures.

- **Services and Infrastructure**

A. Water

Water will be required for drilling and for dust suppression. About 10,000-litres of water will be required per month. Therefore, an option of carting water into the area for exploration activities, especially for drilling may also be considered to minimize the impact of project water demand on the available community water supply from boreholes. If and where feasible, new boreholes shall be developed explicitly for the exploration activities by the EPL holder and the contracted workers in which case a permit must be applied for before drilling.

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

B. Power supply

Fuel Supply (machinery and equipment): About 4,500-litres of 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 basecamp. The drill rigs will either be refuelled with Jerry cans or directly from the bowser.

- **Waste Management**

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

A. Sewage: Given the duration of the exploration activities, portable toilets would be the ideal option to manage sewage, as it is easy to remove (dismantle) and rehabilitate its position upon completion. Therefore, this toilet system with associated ablution facilities will be provided on site. The wastewater will then be transported offsite to the treatment facility either by the Proponent or a designated/appointed external waste management contractor.

B. **General and domestic waste:** 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 landfill site, when necessary (upon reaching full capacity of the main waste container onsite).
C. **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.

- **Health and safety**

Adequate and appropriate Personal Protective Equipment (PPE) will be provided to every project personnel while on and working at the site. A minimum of two 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 centre for treatment and needed care.

Fire management: A minimum of basic firefighting equipment, i.e., two fire extinguishers will be readily available in vehicles, at the working sites and campsite.

Project Site Security

Temporary storage areas for exploration equipment, material and machines will be erected at selected areas. 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. A temporary support fence surrounding the storage site will be erected to ensure local people and animals (livestock and wildlife) are not exposed to potential risks associated with certain project equipment and materials.

2.4 Decommissioning and Rehabilitation Phase

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. An unfavorable 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.

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 ten (10) 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), machinery spare parts, lubricants, etc.
- Loss of potential income to local and national government through land lease fees, license lease fees and various tax structures.
- Improved geological understanding of the site area regarding the targeted commodities.
- 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 prospecting/exploration location is dependent on the geological setting (regional and local), the economic geology, and the exploration and mining history of the EPL area. Therefore, finding an alternative location for the planned exploration activities is not possible. This means that the mineralization of the target commodities (base and rare metals, industrial minerals and precious metals) are 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.

Furthermore, the national mineral resources' potential locations are also mapped and categorized by the Ministry of Mines and Energy in exclusive prospecting licenses, mining licenses and claims, mineral deposit retention licenses, reconnaissance licenses and exclusive reconnaissance licenses. Available information on EPL 8134 **(Figure 4)** and other licenses are available on the Namibia Mining Cadastral Map here https://portals.landfolio.com/namibia/.

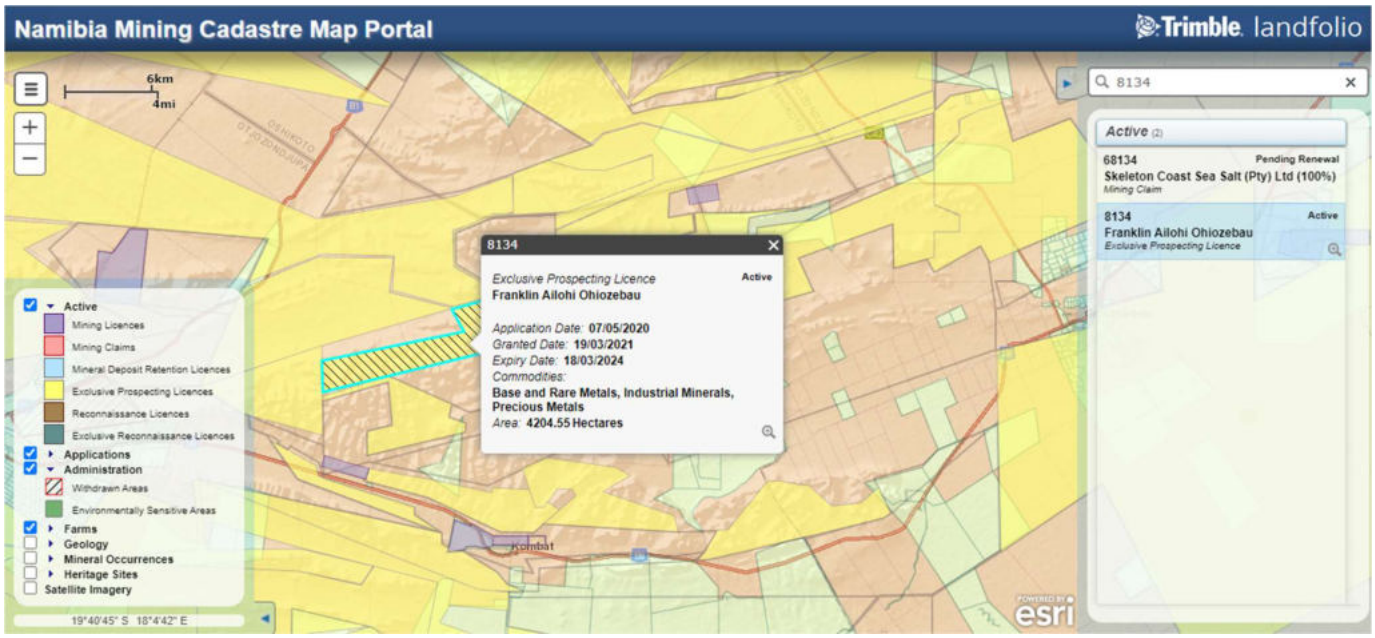


Figure 4: The location of EPL 8134 on the National Mining Cadastre Portal

3.1.3 Exploration Methods

Invasive and non-invasive exploration activities are expected to take place. If an economically viable discovery is made, the project could proceed to the mining phase upon approval of a mining EIA and issuance of a mining license. 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 can be implemented.

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 The Environmental Management Act (No. 7 of 2007)

This EIA was carried out according to the Environmental Management Act (EMA) and its Environmental Impact Assessment (EIA) Regulations (GG No. 4878 GN No. 30).

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 Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878) detail requirements for public consultation within a given environmental assessment process (GN 30 S21). The EIA regulations also outline the required details of a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15).

Other legal obligations that are relevant to the proposed activities of EPL No. 8134 and related activities are presented in **Table 1.**

Table 1: Applicable local, national and international standards, policies and guidelines governing the proposed prospecting and exploration activities.

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
The Constitution of the Republic of Namibia, 1990 as amended	The Constitution of the Republic of Namibia (1990 as amended) addresses matters relating to environmental protection and sustainable development. Article 91(c) defines the functions of the Ombudsman to include: "…the duty to investigate complaints concerning the over-utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia…" Article 95(l) commits the state to actively promoting and maintaining the welfare of the people by adopting policies aimed at the: "…Natural resources situated in the soil and on the subsoil, the internal waters, in the sea, in the continental shelf, and in the exclusive economic zone are property of the State."	By implementing the environmental management plan, the establishment will be in conformant to the constitution in terms of environmental management and sustainability. Ecological sustainability will be main priority for the proposed development.

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Nature Conservation Amendment Act, No. 3 of 2017	National Parks are established and gazetted in accordance with the Nature Conservation Ordinance, 1975 (4 of 1975), as amended. The Ordinance provides a legal framework with regards to the permission of entering a state protected area, as well as requirements for individuals damaging objects (geological, ethnological, archaeological and historical) within a protected area. Though the Ordinance does not specifically refer to mining as an activity within a protected area (PA) or recreational area (RA), it does restrict access to PA's and prohibits certain acts therein as well as the purposes for which permission to enter game parks and nature reserves may be granted.	The Proponent will be required to enhance the conservation of biodiversity and the maintenance of the ecological integrity of protected areas and other State land
The Parks and Wildlife Management Bill of 2008	Aims to provide a regulatory framework for the protection, conservation, and rehabilitation of species and ecosystems, the sustainable use and sustainable management of indigenous biological resources, and the management of protected areas, to conserve biodiversity and to contribute to national development.	
Minerals (Prospecting and Mining) Act (No. 33 of 1992)	Section 52 requires mineral license holders to enter into a written agreement with affected landowners before exercising rights conferred upon the license holder.	The Proponent should enter into a written agreement with landowners before carrying out exploration on their land. The Proponent should carry out an assessment of the impact on the receiving environment.

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
	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 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 proposed steps to be taken to prevent or minimize any such effect. Section 91 requires that rehabilitation measures should be included in an application for a mineral license.	The Proponent should include as part of their application for the EPL, measures by which they will rehabilitate the areas where they intend to carry out mineral exploration activities. The Proponent may not carry out exploration activities within the areas limited by Section 52 (1) of this Act.
Mine Health & Safety Regulations, 10th Draft	Makes provision for the health and safety of persons employed or otherwise present in mineral licenses area. These deal with among other matters; clothing and devices; design, use, operation, supervision and control of machinery; fencing and guards; and safety measures during repairs and maintenance.	The Proponent should comply with all these regulations with respect to their employees.

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)	Regulation 3(2)(b) states that "No person shall possess [sic] or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area"	The Proponent should obtain the necessary authorisation from the MME for the storage of fuel on-site.
The Regional Councils Act (No. 22 of 1992)	This Act sets out the conditions under which Regional Councils must be elected and administer each delineated region. From a land use and project planning point of view, their duties include, as described in section 28 "to undertake the planning of the development of the region for which it has been established with a view to physical, social and economic characteristics, urbanisation patterns, natural resources, economic development potential, infrastructure, land utilisation pattern and sensitivity of the natural environment.	The relevant Regional Councils are I&APs and must be consulted during the Environmental Assessment (EA) process. The project site falls under the Otjozondjupa Regional Council; therefore, they should be consulted.
Water Act 54 of 1956	The Water Resources Management Act 11 of 2013 is presently without regulations; therefore, the Water Act No 54 of 1956 is still in force: Prohibits the pollution of water and implements the principle that a person disposing of effluent or waste has a duly of care to prevent pollution (S3 (k)). Provides for control and protection of groundwater (S66 (1), (d (ii)). Liability of clean-up costs after closure/abandonment of an activity (S3 (l)). (l)).	The protection (both quality and quantity/abstraction) of water resources should be a priority.

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

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

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Hazardous Substance Ordinance, No. 14 of 1974	The ordinance provides for the control of toxic substances. It covers manufacture, sale, use, disposal and dumping as well as import and export. Although the environmental aspects are not explicitly stated, the ordinance provides for the importing, storage, and handling.	The Proponent should handle and manage the storage and use of hazardous substances on site so that they do not harm or compromise the site environment.
Road Traffic and Transport Act, No. 22 of 1999	The Act provides for the establishment of the Transportation Commission of Namibia; for the control of traffic on public roads, the licensing of drivers, the registration and licensing of vehicles, the control and regulation of road transport across Namibia's borders; and for matters incidental thereto. Should the Proponent wish to undertake activities involving road transportation or access onto existing roads, the relevant permits will be required.	Mitigation measures should be provided for, if the roads and traffic impact cannot be avoided, the relevant permits must be applied for.
Labour Act (No. 6 of 1992)	Ministry of Labour, Industrial Relations and Employment Creation is aimed at ensuring harmonious labour relations through promoting social justice, occupational health and safety and enhanced labour market services for the benefit of all Namibians. This ministry insures effective implementation of the Labour Act No. 6 of 1992.	The Proponent should ensure that the prospecting and exploration activities do not compromise the safety and welfare of workers.

4.2 International Policies, Principles, Standards, Treaties and Conventions

The international policies, principles, standards, treaties, and conventions applicable to the project are as listed in **Table 2** below.

Table 2: International Policies, Principles, Standards, Treaties and Convention applicable to the project

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 **Principle 6:** Grievance Mechanism **Principle 7:** Independent Review **Principle 8:** Covenants **Principle 9:** Independent Monitoring and Reporting **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 Performance Standards are directed towards clients, providing guidance on how to identify risks and impacts, and are

Statute	Provisions	Project Implications
	The Sustainability Framework comprises IFC's Policy and Performance Standards on Environmental and Social Sustainability, and IFC's Access to Information Policy. The Policy on Environmental and Social Sustainability describes IFC's commitments, roles, and responsibilities related to environmental and social sustainability. As of 28 October 2018, there are ten (10) Performance Standards (Performance Standards on Environmental and Social Sustainability) that the IFC requires 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	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 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
	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-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 convention objective is to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in affected areas to support poverty reduction and environmental sustainability United Nation Convention	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.	Removal of vegetation cover and destruction of natural habitats should be avoided and where not possible minimised.

Statute	Provisions	Project Implications
	Promote the protection of ecosystems, natural habitats, and the maintenance of viable populations of species in natural surroundings	
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.

Relevant international Treaties and Protocols ratified by the Namibian Government

- Convention on International Trade and Endangered Species of Wild Fauna and Flora (CITES), 1973.
- Convention on Biological Diversity, 1992.
- World Heritage Convention, 1972.

5 ENVIRONMENTAL BASELINE

The proposed exploration programme will be undertaken in specific environmental and social conditions. Understanding the pre-project conditions of the environment will aid in laying down background "information" of the status quo and future projections of environmental conditions after proposed works on the EPL. This also helps the EAP with identifying the sensitive environmental features that may need to be protected through the recommendations and effective implementation of mitigation measures provided. The summary of selected biophysical and social baseline information about the prospecting area is given below.

The baseline information presented below is sourced from a variety of sources including reports of studies conducted in the Otjozondjupa Region, as well as those done in the surrounding areas. Further information was obtained by the Consultant during the site visit. The climatic conditions of the EPL 8134 are described using the Mannheim Weather Station which is near the EPL. The project baseline that is deemed necessary to the project activities are as follows:

5.1 Climate

Climate has a major influence on the exploration activity proposed for the EPL. Understanding of climatic conditions helps to determine the appropriate and/or inappropriate times to conduct exploration activity.

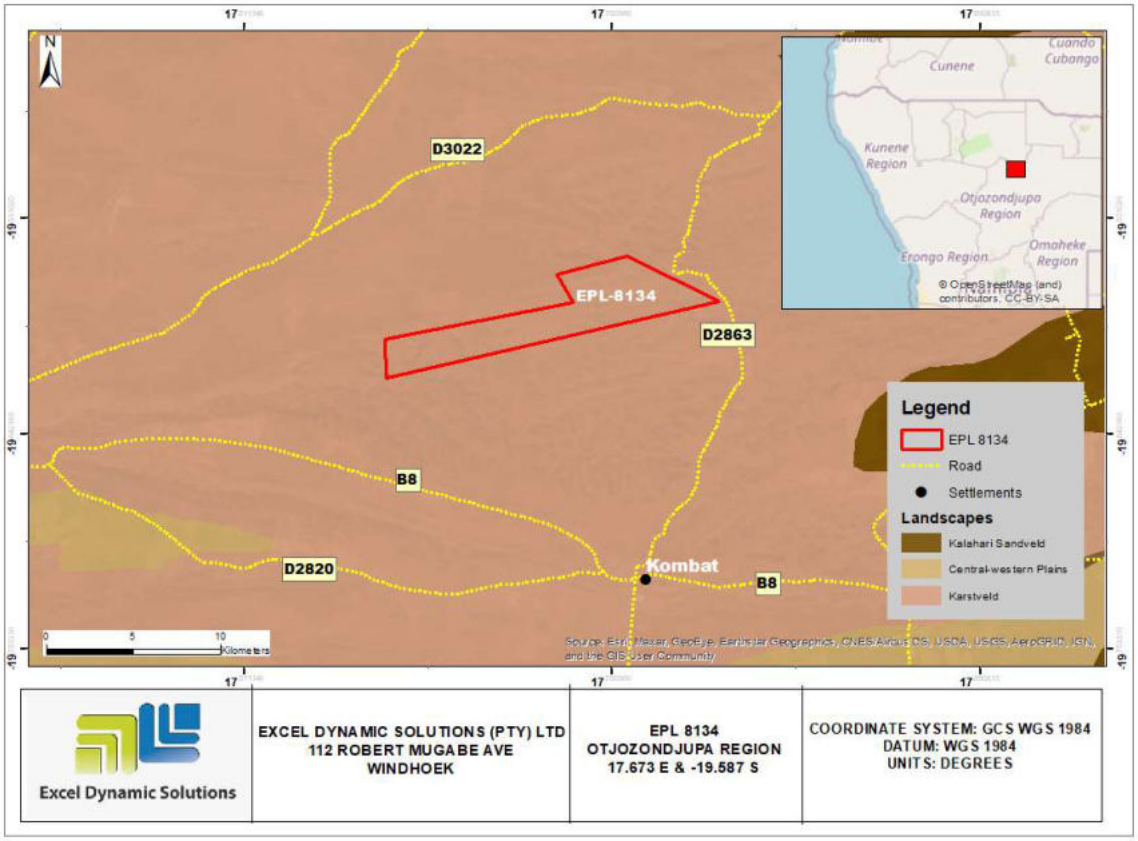
Precipitation are the highest in January with 167mm in the area and the driest month is between May (1mm), June, July and August (0mm). The average temperatures vary during the year by 9.5 °C. The month with the highest relative humidity is February (63.68 %). The month with the lowest relative humidity is September (18.10 %). On average, the area experiences rainiest days in January (16.43 days). The month with the lowest number of rainy days is June (0.07 days). See below in **Figure 5**.

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C (°F)	22 °C (71.7) °F	21.3 °C (70.3) °F	20.6 °C (69.1) °F	19.4 °C (66.9) °F	17.5 °C (63.5) °F	14.8 °C (58.7) °F	14.6 °C (58.2) °F	18.1 °C (64.5) °F	21.9 °C (71.3) °F	24.1 °C (75.4) °F	23.4 °C (74.1) °F	22.7 °C (72.8) °F
Min. Temperature °C (°F)	17.2 °C (63) °F	16.7 °C (62) °F	16.2 °C (61.2) °F	14.4 °C (57.9) °F	11.7 °C (53.1) °F	8.7 °C (47.6) °F	8.2 °C (46.7) °F	10.9 °C (51.6) °F	14.1 °C (57.3) °F	16.9 °C (62.4) °F	17.1 °C (62.7) °F	17.2 °C (62.9) °F
Max. Temperature °C (°F)	27.4 °C (81.2) °F	26.4 °C (79.5) °F	25.6 °C (78.1) °F	24.9 °C (76.8) °F	23.8 °C (74.9) °F	21.7 °C (71) °F	21.6 °C (70.9) °F	25.5 °C (77.9) °F	29.4 °C (84.9) °F	31.2 °C (88.1) °F	29.9 °C (85.8) °F	28.5 °C (83.3) °F
Precipitation / Rainfall mm (in)	167 (6.6)	146 (5.7)	126 (5)	37 (1.5)	1 (0)	0 (0)	0 (0)	0 (0)	6 (0.2)	33 (1.3)	81 (3.2)	132 (5.2)
Humidity(%)	58%	64%	63%	52%	37%	34%	30%	22%	18%	23%	37%	50%
Rainy days (d)	12	12	12	5	0	0	0	0	1	4	9	11
avg. Sun hours (hours)	9.8	9.1	8.6	9.3	10.0	9.8	9.9	10.3	10.7	11.1	11.1	10.8

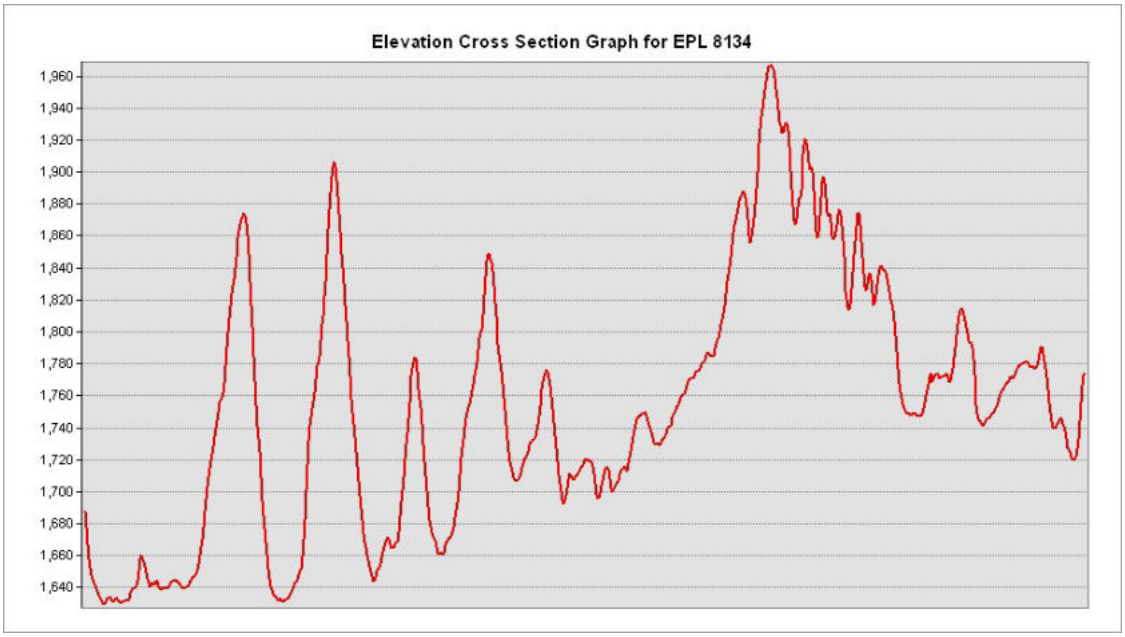
Figure 5: Climatic conditions of Kombat

5.2 Topography

The EPL lies between elevation levels of 1,620 m and 1,960 m above the sea level (AMSL). **Figures 6a** and **6b** shows the landscape and elevation model cross section graph of the EPL, respectively.



(a)



(b)

Figure 6: The landscape (a) and (b) elevation cross section graph of EPL 8134

5.3 Geology and Soil

Otavi area falls under what is called the Otavi Mountain Land (OML) (Red- Consulting CC, 2019). The OML is widely studied due to its mineral rich occurrences. The area is formed up of Dolomites and Limestones which were folded and faulted during the Damara Orogen and forms a fold belt which extend across northern Namibia. Sediment-hosted base metal sulfide deposits in the Otavi Mountain Land occur in most stratigraphic units of the Neoproterozoic Damara Supergroup, including the basal Nosib Group, the middle Otavi Group and the uppermost Mulden Group (Kamona, 2007). The Kombat area is rich in minerals such as Copper, Lead and Zinc (Cu–Pb–Zn).

The dolomites of the Otavi Group crop out in a series of east-west striking ridges that constitutes the Otavi Mountains. The origin of the Otavi Mountains is associated with the ancient sea between the Congo and Kalahari Cratons (Environmental Compliance Consultancy, 2020). Over millions of years a lime and dolomite rock mass of up to 5,000 m thick was formed, which was pressed upwards and folded intensely as the result of a gigantic collision between the two main lands. Later the landscape was subject to a prolonged period of erosion, and only some of its higher parts preserved a mountainous character. The erosion affected the water-soluble limestones in particular, creating a karst landscape marked by several synclinal and anticlinal axes, and underlain by carbonate rocks (mainly silicified dolomites). Dissolution is common, creating cavities, caves and sinkholes, but because of the karst environment no surface run-off into rivers is possible (Environmental Compliance Consultancy, 2020).

The geology of EPL 8134 is mainly Dolomite, Limestone, Shale, Chert, and Quartzite. **Figure 7** is a representation of the geology of the area.

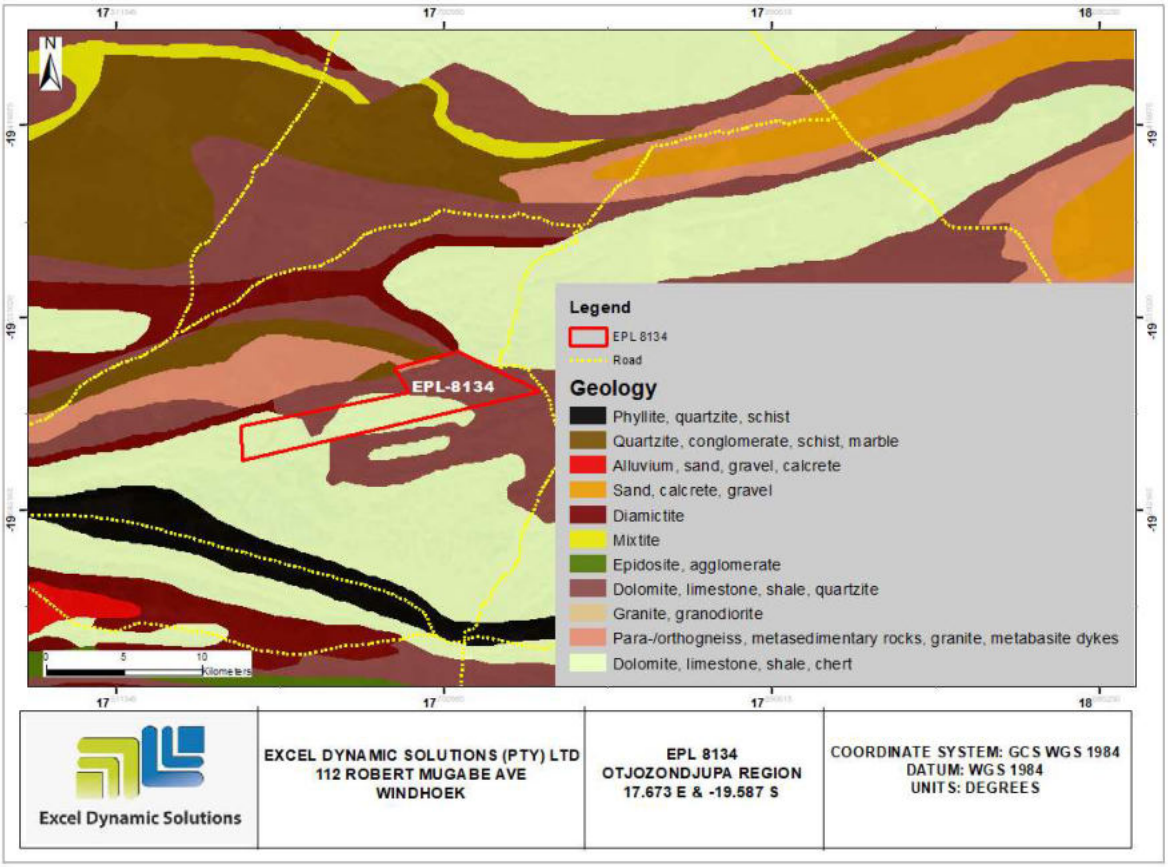


Figure 7: The geology of the EPL and surrounding project area

Topsoil is largely absent where the surface is covered with rocky outcrops, especially in the west and east with cambisols covering the largest part of the flatter central area **(Figure 8)**. Mollic leptosols, typically associated with eroding hilly and undulating landscapes, is the dominant soil type near the mountainous areas, and also the south-west and north-west of the EPL. These soils are marked by a shallow soil profile (indicating little influence of soil-forming processes), and contain large amounts of gravel. Leptosols are coarse-textured, underlain by solid rock within 30 cm from the surface. The soil is thus poorly developed and thin, lacks appreciable quantities of accumulated clay and organic material and is susceptible to erosion during the rainy season, especially in the beginning of the rainy season when vegetation cover is sparse. As the topsoil is loose and thin, it is also susceptible to wind erosion, especially when the vegetation cover is sparse (Mendelsohn et al, 2002).

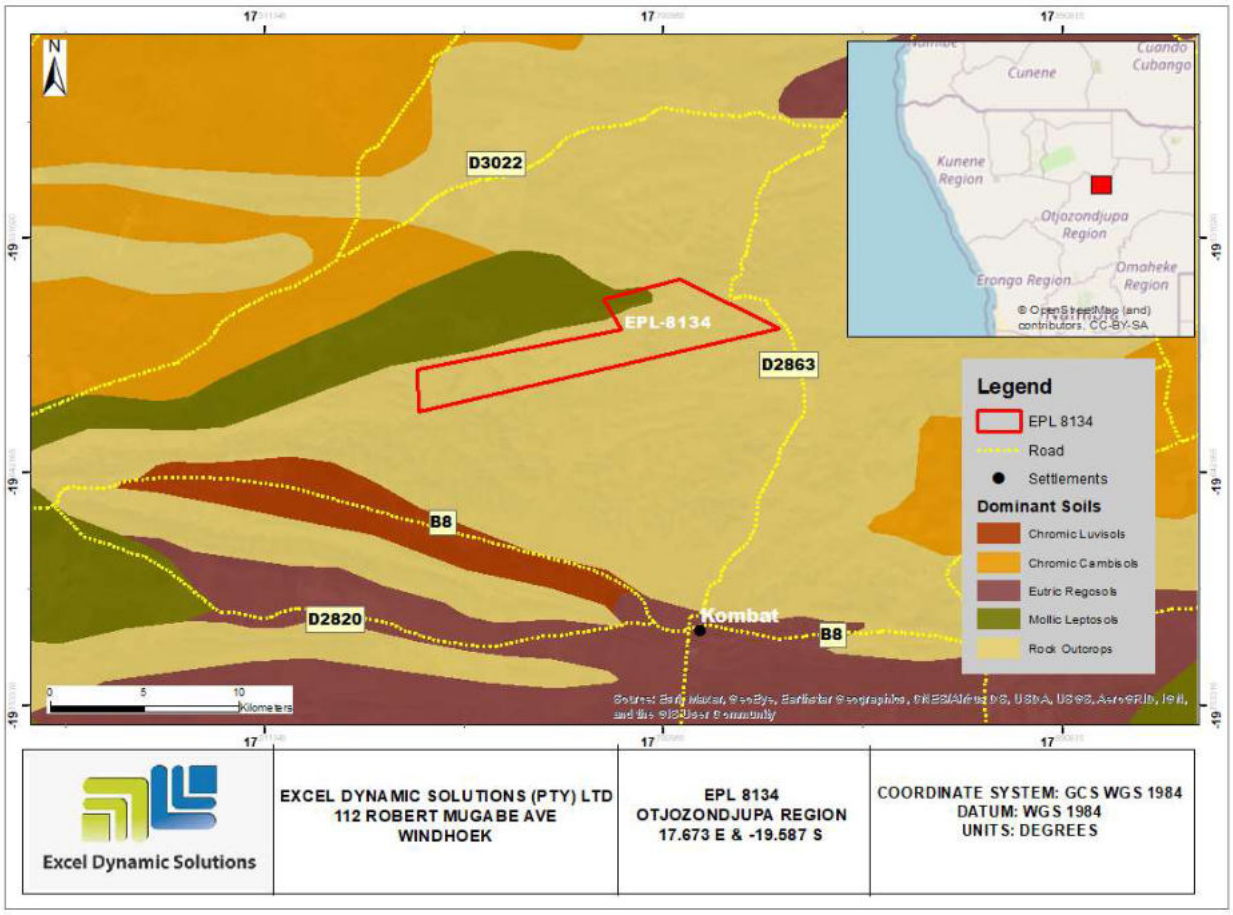


Figure 8: Dominant soil types found within EPL 8134

5.4 Water Resources: Hydrology and Groundwater

In terms of water sources (surface water/hydrology), there are about three (3) visible boreholes within the EPL area and also several boreholes around EPL 8134. In addition to this, EPL 8134 has a moderate potential of aquifer which are fractured, thus the rock that are found within the EPL are good for water sources. **Figure 9** shows the Hydrology and Groundwater potential map of the project area.

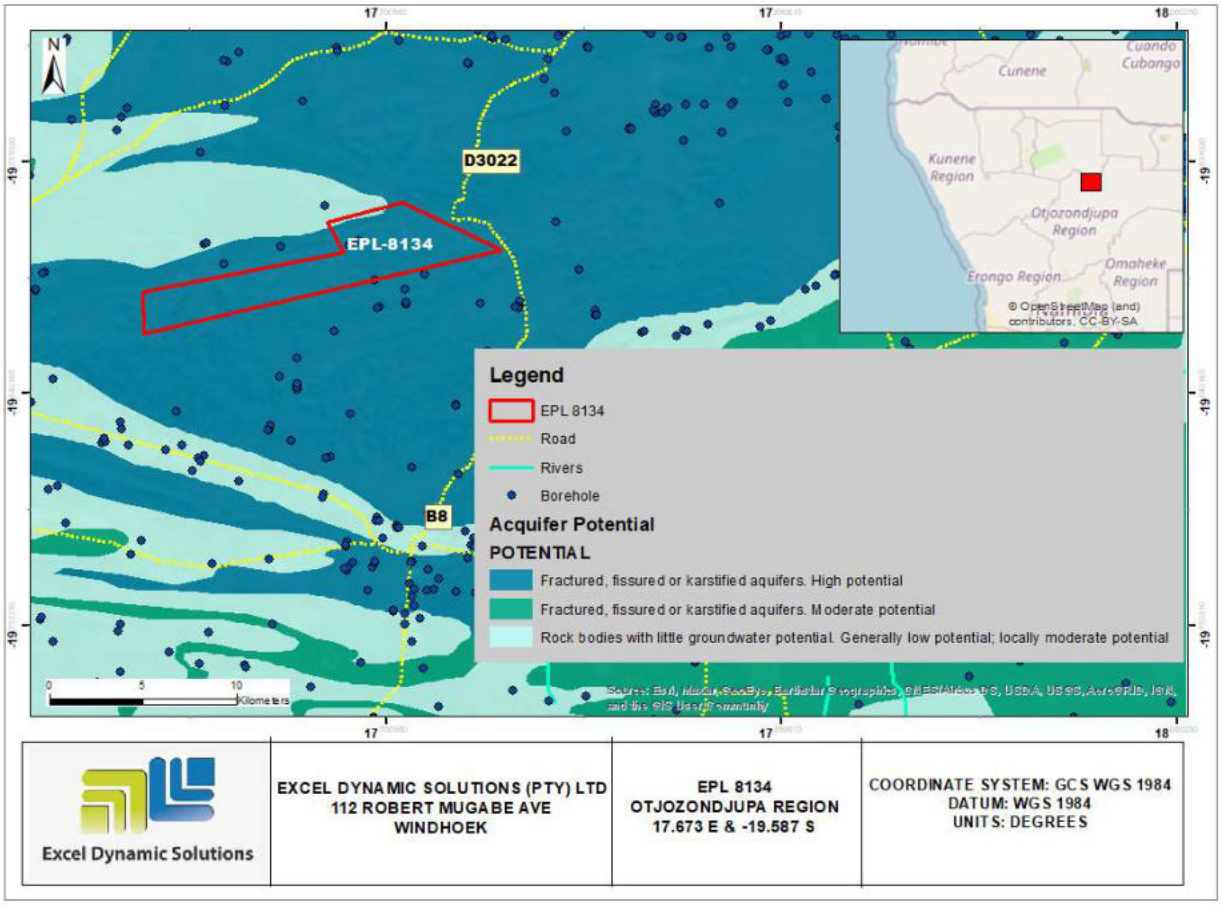


Figure 9: The hydrology and groundwater map of the project area

The EPL lie in an area of a moderate level of sensitivity to groundwater drought as shown in **Figure 10**.

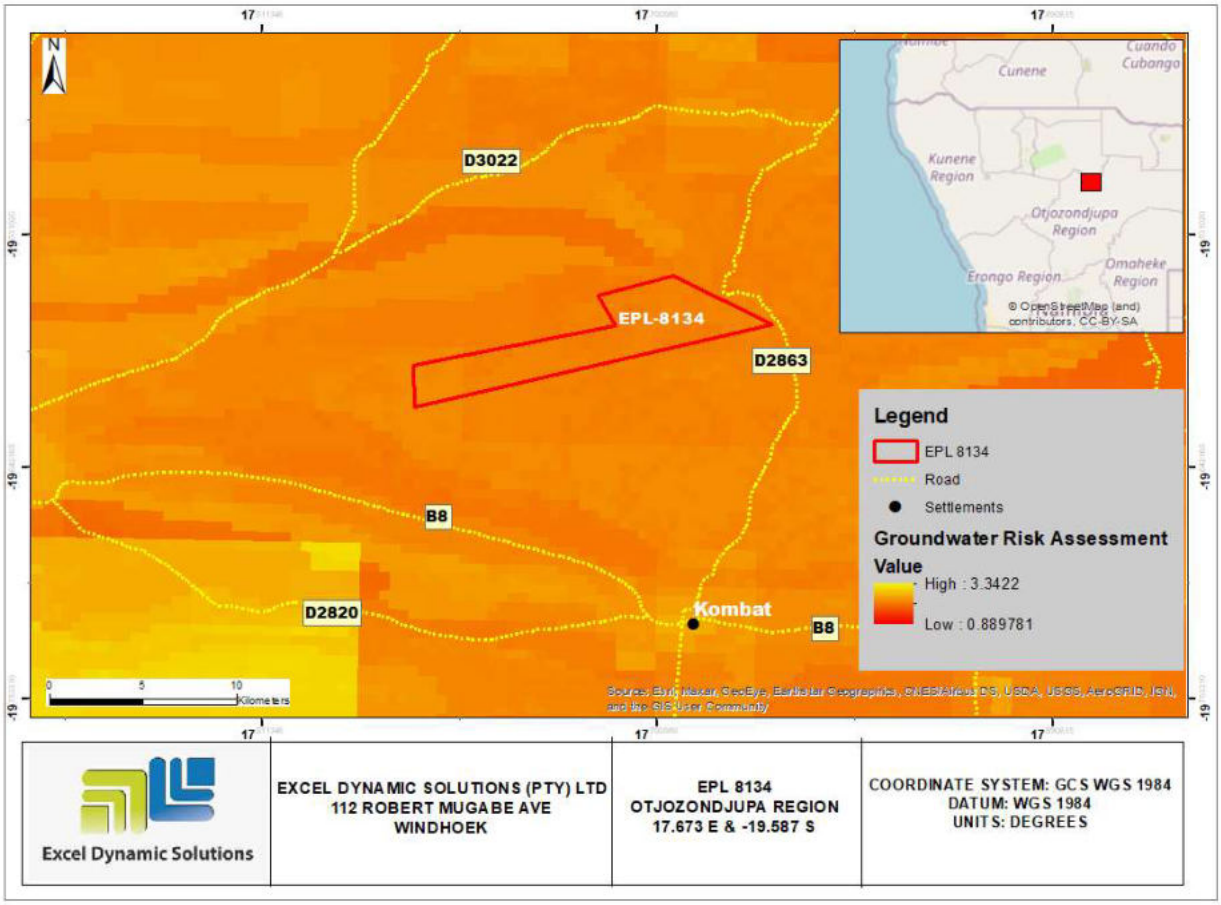


Figure 10: Groundwater Drought Risk map around the project area

5.5 Flora and Fauna

The general vegetation type of the Otavi area could be described as Karstveld type of the Acacia Tree-and-shrub Savanna Biome. It is broadly classified as a woodland, with vegetation dominated by relatively dense stands of woody shrubs and trees (Environmental Compliance Consultancy, 2020). In some places plant growth become progressively shrubby, especially where the soils are shallower, slopes are steeper and where it is hillier and rocky (Mendelsohn et al, 2002). The trees are tallest in areas of deeper sand in the east, with plant growth becoming progressively shrubby further west where the soil are shallower and the landscape is rocky, (Mannheimer, 2005). In the EPL 8134, *Colophospermum mopane* dominates the EPL area **(Figure 11).**

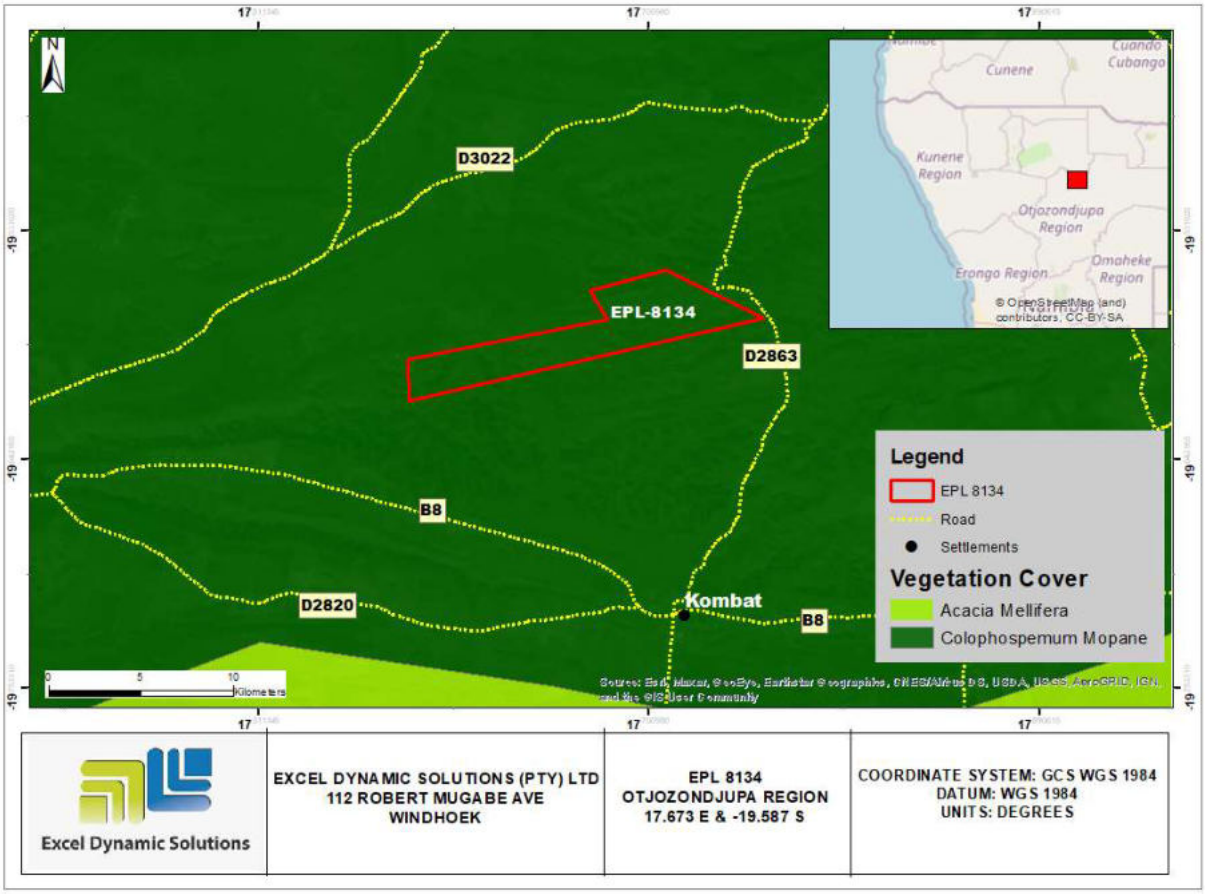


Figure 11: Dominant vegetation within and around the EPL

Additional species information was requested from and provided by the National Botanical Research Institute (NBRI). See below the list (summary) of species of significance (near endemic, endemic, protected, etc.) found within the EPL area. The full list of plant species of significance is provided in **Appendix I**.

Table 3: List of species of significance found within EPL 8134

Species	Near Endemic	Endemic	Protected	Near Threatened
Aloe hereroensis Engl. var. hereroensis				
Aspilia eenii S.Moore				
Boscia albitrunca (Burch.) Gilg & Gilg-Ben.				
Brachystelma stenophyllum (Schltr.) R.A.Dyer				
Burkea africana Hook.				
Commicarpus decipiens Meikle				

Commiphora glaucescens Engl.				
Crassocephalum coeruleum (O.Hoffm.) R.E.Fr.				
Cyphostemma juttae (Dinter & Gilg) Desc.				
Elephantorrhiza schinziana Dinter				
Eragrostis scopelophila Pilg.				
Euphorbia otavimontana Swanepoel				
Ficus cordata Thunb. subsp. cordata				
Geigeria otaviensis (Merxm.) Merxm.				
Heteromorpha papillosa C.C.Towns.				
Jamesbrittenia fragilis (Pilg.) Hilliard				
Leucas pechuelii (Kuntze) Gürke				
Maerua schinzii Pax				
Monechma genistifolium (Engl.) C.B.Clarke subsp. genistifolium				
Peltophorum africanum Sond.				
Petalidium variabile (Engl.) C.B.Clarke var. spectabile Mildbr.				
Plectranthus dinteri Briq.				
Pteronia eenii S.Moore				
Ruelliopsis damarensis S.Moore				
Tragia dinteri Pax				

In terms of Fauna, The EPL area is mainly surrounded with livestock (large, medium to small livestock) and wildlife on the farms (Mendelsohn, 2006).

5.6 Archaeology and Heritage

In Namibia, several mountains are closely coupled to heritage values, and it is possible that this applies to the same area of EPL 8134, which lies within the Otavi Mountains land. This area contains numerous historic mines, including the Tsumeb copper-lead-zinc mine and smelter complex, plus the Kombat copper mine. The EPL 8134 covers some farms such as Farm Keilberg

No. 1371, Farm Block No. 648; Farm Sumas No. 746, Farm Sumas West No. 752, Farm Auros No. 1372, Farm Gauss and Farm Jakkalomuramba No. 677. Therefore, it is possible that the mountains' areas where the EPL is located were inhabited or visited in prehistoric and historic times. In addition, the Otavi Mountains are known for the occurrence of fossils, caves and an intriguing palaeontology, which makes it possible that more of these sites can be discovered, hence in cases where archaeological or heritage sites are discovered the Chance Find Procedure will be used. If any historical importance or heritage sites on or around the project area encountered during prospecting and exploration activities will be reported to the National Heritage Council, and the site will be left untouched for further investigation from the qualified Archaeologist or Authority.

5.7 Surrounding Land Uses

Land use within the proposed project area is limited to livestock grazing (that has been severely degraded by bush encroachment) and burning of the encroached bush. The area has an extremely low population density. The area has no unique scenic features that could be of interest to tourists

Furthermore, the EPL falls within 100 % of farmland **(Figure 2)**. **Figure 12** below shows one of the farms that falls within the EPL. The Proponent is required to secure a signed agreement from the affected landowners and farmers to gain access to the areas of interest for prospecting and exploration investigations as per the Section 52 of the Minerals (Prospecting and Mining) Act No. 33 of 1992 and Section 2.2.3 of the Minerals Policy of Namibia.

1. *Section 52 (1) The holder of mineral licence shall not exercise any rights conferred upon such holder by this Act or under any terms and conditions of such mineral licence –*

    (a) In, on or under any and until such time as such holder has entered into an agreement in writing with the owner of such land containing terms and conditions relating to the payment of compensation, or the owner of such land has in writing waked any right to such compensation and has submitted a copy of such agreement or waiver to the Commissioner.

Section 2.2.3 of the Draft Minerals Policy of Namibia states that the Licence Holder and/or mineral explorers currently must negotiate a contract with landowners to gain access for or mining purposes.

Figure 12: Gate to farm Gaus which covers a portion of the EPL.

5.8 Socio-Economic conditions

5.8.1 Demography

According to National Housing and Population Census in 2011, the population for Otjozondjupa Region was 143 903 (70 001 females and 73 902 males) (Namibia Statistics Agency, 2011). Otavi is smaller, recording only 5,200 residents in 2011 and an estimated population of 7,400 in 2020. Kombat, at its peak, had over 1,000 residents.

5.8.2 Mining

Mining plays a pivotal role in the economy of Namibia. Since independence, it has consistently been the biggest contributor to Namibia's economy in terms of revenue. The main commodities are uranium, gold, diamonds, copper, zinc, lead, salt and dimension stone. Employees in mining receive the highest wages by industry (NSA, 2019). Several mining activities are occurring in the Otjozondjupa Region and had a strong influence on the regional demography and economy – not only as a result of the establishment of the Otjikoto Gold Mine of B2Gold between Otavi and Otjiwarongo, but also as a result of other mining projects such as Okoruso, Okanjande, the Whale Rock cement factory of Cheetah Cement near Otjiwarongo and Ohorongo Cement near Otavi. In Tsumeb the smelter of Dundee Precious Metals Tsumeb (Pty) Ltd is also an influencer in the sector. Trigon Metals is also found within the area of Kombat and it is a publicly-traded Canadian company with its core business focused on copper production and exploration in mine-friendly African jurisdictions. The company's projects include copper production at the Kombat Mine in Namibia, coupled with Silver Hill, a highly prospective copper and silver exploration project in Morocco (Trigon Metals, 2022).

5.8.3 Infrastructure and Services

The vicinity of the project area has basic infrastructures which are necessary for transportation (i.e., national road), and covers satisfactory telecommunication coverages (i.e.,3G Universal Mobile Telecommunication System (UMTS) and 2G Global System for Mobile Communication (GSM)). Among many other infrastructures are schools, and clinics around the vicinity of the project area.

5.8.4 Farming

The economy of the Otjozondjupa Region is predominantly agriculture-based. Extensive livestock farming forms the livelihood of many people, and is one of the reasons for the low intensity land use over much of the 105,460 km^2 the region covers, the total low population of (154 342 in 2016) as well as the low population density (about 1.5 persons per km^2). See below in **Figure 13**. Large parts of the region are covered by commercial and communal farms, mainly for cattle ranching. Guest farms and hunting farms are also common. On both commercial and communal land, bush encroachment decreased the carrying capacity of the farms markedly over the last four decades. The invader bush is managed in several ways, one of which is the production of charcoal for export.

Figure 13: Farming activities within the vicinity EPL 8134

6 PUBLIC CONSULTATION PROCESS

Public consultation forms an important component of an Environmental Assessment (EA) process. It provides potential Interested and Affected Parties (I&APs) 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 (I&APs)

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

newspapers, were registered as I&APs upon their request. Newspaper advertisements of the proposed exploration activities were placed in two widely read national newspapers in the region (*The Namibian* Newspaper and *New Era* Newspaper). The project advertisement/announcement ran for two consecutive weeks inviting members of the public to register as I&APs and submit their comments. The summary of pre-identified and registered I&APs is listed in **Table 4** below and the complete list of I&APs is provided in **Appendix D**.

Table 4: Summary of Interested and Affected Parties (I&APs)

National (Ministries and State-Owned Enterprises)
Ministry of; Environment, Forestry & Tourism, Ministry of Mines & Energy, Agriculture, Water & Land Reform, Works & Transport, National Heritage Council of Namibia
Regional, and Local Authorities
Otjozondjupa Regional Council
Otavi Constituency
General Public
Landowners / Farmers Interested members of the public

6.2 Communication with I&APs

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

- A Background Information Document (BID) containing brief information about the proposed facility was compiled **(Appendix E)** and emailed to relevant Authoritative Ministries, and upon request to all new registered Interested and Affected parties (I&APs)
- Project Environmental Assessment notices were published in *The Namibian newspaper* and *New Era* **(17 January 2022** and **24 January 2022) (Appendix F)**, briefly explaining the activity and its locality, inviting members of the public to register as I&APs and submit their comments/concerns.

- A consultation meeting was scheduled and held with the interested people of Kombat and affected farmers (landowners) on the **11th of May 2022** at the Kombat Church/Hall at 14:00. The consultation meeting minutes were taken and are attached as **Appendix G.**
- Registered mail together with the BID was also shared with farmers covered by the EPL on the 3rd of February 2022 **(Appendix J)**.

Figure 14: Meeting with the owner of Farm Jakkalomuramba

Figure 15: Site notices placed at (1) Kombat Hall and the (2) Kombat Post Office

6.3 Feedback from Interested and Affected Parties

Issues were raised by I&APs (from the consultation meeting) and these issues have been recorded and incorporated in the ESA Report and EMP. The summary these key issues are presented in **Table 5** below. The issues raised and responses from the I&APs are attached under **Appendix H**.

Table 5: Summary of main issues and comments received throughout the public consultation phase

Issue	Concern
Unemployment and training	The people of Kombat do not have jobs and therefore they should be first priority when jobs are created.
Historical findings	Historical data and the fact that the EPL is situated on a mountain.
Vegetation	The EPL is situated in an area that houses a number of plant species of conservation concern. The potential of finding more, as yet unrecorded "special" plants in the area is high, since the Otavi mountains are a unique habitat and are an understudied area for plants. This area will contain many plants of importance. Any destruction of vegetation therefore needs careful consideration and possible rescue of identified plant species.

7 IMPACT IDENTIFICATION, ASSESSMENT AND MITIGATION MEASURES

7.1 Impact Identification

Proposed developments/activities are usually associated with different potential positive and/or negative impacts. For an environmental assessment, the focus is placed mainly on the negative impacts. 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 of the project activities. The potential positive and negative impacts that have been identified from the prospecting activities are listed as follow:

Positive impacts:

- Socio-economic development through employment creation (primary, secondary, and tertiary employment) and skills transfer,
- Open other investment opportunities and infrastructure-related development benefits,
- Produce a trained workforce and small businesses that can service communities and may initiate related businesses,
- Boosting the local economic growth and regional economic development.
- Increased support for local businesses through the procurement of consumable items such as Personal Protective Equipment (PPE), machinery spare parts, lubricants, etc.

Negative:

- Potential disturbance of grazing land areas,
- Physical land / soil disturbance
- Impact on local biodiversity (fauna and flora) and habitat disturbance and potential illegal wildlife hunting (poaching) in the area.
- Potential impact on water resources and soils particularly due to pollution,
- Air quality issue: potential dust generated from the project.
- Potential occupational health and safety risks
- Vehicular traffic safety and impact on services infrastructure such as local roads
- Vibrations and noise associated with drilling activities may be a nuisance to locals
- Environmental pollution (solid waste and wastewater)
- Archaeological and heritage resources impact
- Potential social nuisance and conflicts (theft, damage to properties, etc).

7.2 Impact Assessment Methodology

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

The identified impacts were assessed in terms of scale/extent (spatial scale), duration (temporal scale), magnitude (severity) and probability (likelihood of occurring), as presented in **Table 7, Table 8, Table 9** and **Table 9**, respectively.

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:

7.2.1 Extent (spatial scale)

Extent is an indication of the physical and spatial scale of the impact. **Table 6** shows rating of impact in terms of extent of spatial scale.

Table 6: Extent or spatial impact rating

Low (1)	Low/Medium (2)	Medium (3)	Medium/High (4)	High (5)
Impact is localized 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

7.2.2 Duration

Duration refers to the timeframe over which the impact is expected to occur, measured in relation to the lifetime of the project. **Table 7** shows the rating of impact in terms of duration.

Table 7: Duration impact rating

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

7.2.3 Intensity, Magnitude / severity

Intensity refers to the degree or magnitude to which the impact alters the functioning of an element of the environment. The magnitude of alteration can either be positive or negative. These ratings were also taken into consideration during the assessment of severity. **Table 8** shows the rating of impact in terms of intensity, magnitude, or severity.

Table 8: Intensity, magnitude or severity impact rating

Type of criteria	Negative				
	H- (10)	M/H- (8)	M- (6)	M/L- (4)	L- (2)
Qualitative	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.

7.2.4 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. **Table 9** shows impact rating in terms of probability of occurrence.

Table 9: Probability of occurrence impact rating

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.

7.2.5 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 6, Table 7, Table 8** and **Table 9)** 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 10)**.

Table 10: 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

Significance	*Environmental Significance Points*	*Colour Code*
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 an 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.

The assessment of the exploration phases is done for pre-mitigation and post-mitigation.

The risk/impact assessment is driven by three factors:

- Source: The cause or source of the contamination.
- Pathway: The route taken by the source to reach a given receptor
- Receptor: A person, animal, plant, eco-system, property, or a controlled water source. If contamination is to cause harm or impact, it must reach a receptor.

A pollutant linkage occurs when a source, pathway and receptor exist together. Mitigation measures aim firstly, avoid risk and if the risk cannot be avoided, mitigation measures to minimize the impact are recommended. Once mitigation measures have been applied, the identified risk would reduce to lower significance (Booth, 2011).

This assessment focuses on the three project phases namely, the prospecting, exploration, and decommissioning. The potential negative impacts stemming from the proposed activities of the EPL are described, assessed and mitigation measures provided thereof. Further mitigation measures in a form of management action plans are provided in the Draft Environmental Management Plan.

7.3 Assessment of Potential Negative (Adverse) Impacts

The significant negative impacts potentially associated with the proposed prospecting and exploration of Dimension stones are assessed below:

7.3.1 Disturbance to the grazing areas

The EPL is overlying farms that practice livestock and game farming, 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 farms' livestock and wildlife, and since the farmers 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 and eventual losses.

The effect of exploration work on the land (when done over a wider spatial extent), if not mitigated, may hinder animal husbandry in the area and its surrounding. The project area might experience loss of its pastoral system over time. Losing grazing pastures for livestock and wildlife 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 11** below.

Table 11: 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

Mitigations and recommendation to lower the possibility of disturbance and loss of the Pastoral system

- Any unnecessary removal or destruction of grazing land, due to exploration activities should be avoided
- Vegetation found on the site, but not in the targeted exploration areas should not be removed but left to preserve biodiversity and grazing land.
- Workers should refrain from driving off road and creating unnecessary tracks that may contribute to the loss of grazing land.
- Environmental awareness on the importance of the preservation of grazing land for local livestock should be provided to the workers.

7.3.2 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 present on the explored farms. Not only the disturbance due to human and vehicle movements, but also potential 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).

Another potential activity that will impact the faunal community is the unrehabilitated and or unfenced boreholes, trenches and pits used for exploration (once they are no longer in use). If these holes and pits/trenches are not fenced off or closed off by rehabilitating them, they could pose a high risk of site domestic and wild animals falling into these holes and pits, causing injuries and potentially mortalities.

Flora: According to Kanime and Kamwi (2021), the direct impacts on flora and vegetation communities will 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. Some loss of vegetation is an inevitable consequence of the development. However, given the abundance of the shrubs and site-specific areas of exploration on the EPL, the impact will be localized, therefore manageable.

Under the status, the impact can be of a medium significance rating. With the implementation of appropriate mitigation measures, the rating will be reduced to a low significance rating. The impact is assessed in **Table 12** below.

Table 12: Assessment of the impacts of exploration on biodiversity

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

Mitigations and recommendation to minimize the loss of biodiversity

- The Proponent should avoid unnecessary removal of vegetation, thus promoting a balance between biodiversity and their operations.
- Vegetation found on the site, but not in the targeted exploration site areas should not be removed but left to preserve biodiversity on the site.
- Shrubs or trees found along trenching, drilling, or sampling spots on sites should not be unnecessarily removed.
- Movement of vehicle and machinery should be restricted to existing roads and tracks to prevent unnecessary damage to the vegetation.
- No onsite vegetation should be cut or used for firewood related to the project's operations. The Proponent should provide firewood for his onsite camping workers from authorized firewood producer or seller.
- Even if a certain shrub or tree is found along exploration sites, this does not mean that it should be removed. Therefore, care should be taken when exploring without destroying the site vegetation.
- Design access roads appropriately in a manner that disturbs minimal land areas as possible.
- Vegetation clearing to be kept to a minimum. The vegetation of the site is largely low and open and therefore whole-sale vegetation clearing should only be applied where necessary and within the EPL footprint.
- Formulate and implement suitable and appropriate operational management guidelines for the cleared areas. Incorporated in the guidelines are the progressive rehabilitation measures. These should consider:
- Workers should refrain from disturbing, killing or stealing farm animals and killing small soil and rock outcrops' species found on sites.
- Poaching (illegal hunting) of wildlife from the area is strictly prohibited.
- Environmental awareness on the importance of biodiversity preservation should be provided to the workers.

7.3.3 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 hot and dry environment, loose and sandy nature of the substrate and low vegetation cover causes ambient fugitive dust levels. Additionally, activities carried out as part of the exploration works such as drilling would contribute to the dust levels in the air. The medium significance of this impact can be reduced to a low significance rating by properly implementing mitigation measures. The impact is assessed in **Table 13** below.

Table 13: Assessment of the impacts of exploration 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

Mitigations and recommendation to minimize dust

- Exploration vehicles should not drive at a speed more than 40 km/h to avoid dust generation around the area.
- The Proponent should ensure that the exploration schedule is limited to the given number of days of the week, and not every day. This will keep the vehicle-related dust level minimal in the area.
- Reasonable amount of water should be used on gravel roads, using regular water sprays on gravel routes and near exploration sites to suppress the dust that may be emanating from certain exploration areas on the EPL.

7.3.4 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 (communal farmers and livestock) 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 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 for.

The drilling method to be employed for this project's exploration activities is Reverse Circulation. The required water for exploration is about 10,000 litres per month amounting. This water will be used for drilling purposes such cooling and washing drilling equipment, drinking and other domestic purposes. Given the low to medium groundwater potential of some project site areas, the Proponent may consider carting some of the water volumes from outside the area and stored in industry standard water reservoirs/tanks on site. Although exploration may be requiring this much water, this would also be dependent on the duration of the exploration works and number of exploration boreholes required to make reliable interpretation on the commodities explored for. The exploration period is limited with regards to timing, therefore, the impact will only last for the duration of the exploration activities and ceases upon their completion.

Without the implementation of any mitigation measures, the impact can be rated as medium, but upon effective implementation of the recommended measures, the impact significance would be reduced to low as presented in the **Table 14** below.

Table 14: 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

Mitigations and recommendation to manage water use

- Drinking water abstracted from boreholes or supplied by carting should be used efficiently, and recycling and re-using of water on certain site activities should be encouraged, where necessary and possible.
- The Proponent should consider carting water for drilling from elsewhere outside the site area such as Otavi to relieve pressure of the available resources. Agreements of water supply should be made between the willing water supplier and the Proponent.
- Water reuse/recycling methods should be implemented as far as practicable such that the water used to cool off exploration equipment should be captured and used for the cleaning of project equipment, if possible.
- Water storage tanks should be inspected daily to ensure that there is no leakage, resulting in wasted water on site.
- Water conservation awareness and saving measures training should be provided to all the project workers in both phases so that they understand the importance of conserving water and become accountable.

7.3.5 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.

Pre-mitigation measure implementation, the impact significance is low to moderate and upon implementation, the significance will be reduced to low. The impact is assessed in **Table 15** below.

Table 15: 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

Mitigations and recommendation to manage soil and water pollution

- Spill control preventive measures should be in place on site to management soil contamination, thus preventing and or minimizing the contamination from reaching water resources bodies. Some of the soil control preventive measures that can be implemented include:
    - Identification of oil storage and use locations on site and allocate drip trays and polluted soil removal tools suitable for that specific surface (soil or hard rock cover) on the sites.
    - Maintain equipment and fuel storage tanks to ensure that they are in good condition thus preventing leaks and spills.
    - The oil storage and use locations should be visually inspected for container or tank condition and spills.
- All project employees should be sensitized about the impacts of soil pollution and advised to follow appropriate fuel delivery and handling procedures.

- The Proponent should develop and prepare countermeasures to contain, clean up, and mitigate the effects of an oil spill. This includes keeping spill response procedures and a well-stocked cache of supplies easily accessible.
- Ensure employees receive basic Spill Prevention, Control, and Countermeasure (SPCC) Plan training and mentor new workers as they get hired.
- Project machines and equipment should be equipped with drip trays to contain possible oil spills when operated on site.
- Polluted soil should be removed immediately and put in a designate waste type container for later disposal.
- Drip trays must be readily available on this trailer and monitored to ensure that accidental fuel spills along the tank trailer path/route around the exploration sites are cleaned on time (soon after the spill has happened).
- Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility.
- Washing of equipment contaminated hydrocarbons, as well as the washing and servicing of vehicles should take place at a dedicated area, where contaminants are prevented from contaminating soil or water resources.
- Toilet water should be treated using chemical portable toilets and periodically emptied out before reaching capacity and transported to a wastewater treatment facility.

7.3.6 Waste Generation

During the prospecting and exploration phase, domestic and general waste is produced on site. If the generated waste is not disposed of in a responsible way, land pollution may occur on the EPL or around the site. The EPL is in an area of moderate sensitivity to pollution. Improper handling, storage and disposal of hydrocarbon products and hazardous materials at the site may lead to soil and groundwater contamination, in case of spills and leakages. Therefore, the exploration programme needs to have appropriate waste management for the site. To prevent these issues, biodegradable and non-biodegradable wastes must be stored in separate containers and collected regularly for disposal at a recognized landfill/dump site. Any hazardous waste that may have an impact on the animals, vegetation, water resources and the general environment should be handled cautiously. Without any mitigation measures, the general impact of waste generation has a medium significance. The impact will reduce to low significance, upon implementing the mitigation measures. The assessment of this impact is given in **Table 16**.

Table 16: 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

Mitigations and recommendation to waste management

- Workers should be sensitized to dispose of waste in a responsible manner and not to litter.
- After each daily works, the Proponent should ensure that there are no wastes left on the sites.
- All domestic and general operational waste produced daily should be contained onsite until such that time it will be transported to designated waste sites.
- No waste may be buried or burned on site or anywhere else.
- The exploration site should be equipped with separate waste bins for hazardous and general/domestic waste.
- Sewage waste should be stored as per the portable chemical toilets supplied on site and regularly disposed of at the nearest treatment facility
- Oil spills should be taken care of by removing and treating soils affected by the spill.
- A penalty system for irresponsible disposal of waste on site and anywhere in the area should be implemented.
- Careful storage and handling of hydrocarbons on site is essential.
- Potential contaminants such as hydrocarbons and wastewater should be contained on site and disposed of in accordance with municipal wastewater discharge standards so that they do not contaminate surrounding soils and eventually groundwater.
- An emergency plan should be available for major/minor spills at the site during operation activities (with consideration of air, groundwater, soil, and surface water) and during the transportation of the product(s) to the sites.

7.3.7 Occupational Health and Safety Risks

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 site safety of all

personnel will be the Proponent's responsibility and should be adhered to as per the requirements of the Labour Act (No. 11 of 2007) and the Public Health Act (No. 36 of 1919). 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 domestic 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, given the fact that the project sites are within farms, where children reside too. This is true because, the local children may try to access the active site areas and play with dangerous materials and equipment.

The impact is probable and has a medium significance rating. However, with adequate mitigation measures, the impact rating will be reduced to low. This impact is assessed in **Table 17** below and mitigation measures provided.

Table 17: 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

Mitigations and recommendation to minimize health and safety issues

- The Labour Act's Health and Safety Regulations should be complied with.
- The Proponent should commit to and make provision for bi-annual full medical check-up for all the workers at site to monitor the impact of project related activities on them (workers).
- As part of their induction, the project workers should be provided with an awareness training of the risks of mishandling equipment and materials on site as well as health and safety risk associated with their respective jobs.
- When working on site, employees should be properly equipped with adequate personal protective equipment (PPE) such as coveralls, gloves, safety boots, earplugs, dust masks, safety glasses, etc.

- Heavy vehicle, equipment and fuel storage site should be properly secured, and appropriate warning signage placed where visible.
- Drilled boreholes that will no longer be in use or to be used later after being drilled should be properly marked for visibility and capped/closed off.
- Ensure that after completion of exploration holes and trenches, drill cuttings are put back into the hole and the holes filled and levelled, and trenches backfilled respectively.
- An emergency preparedness plan should be compiled, and all personnel appropriately trained.
- Workers should not be allowed to drink alcohol prior to and during working hours nor allowed on site when under the influence of alcohol as this may lead to mishandling of equipment which results into injuries and other health and safety risks.
- The site areas that are considered temporary risks should be equipped with "danger" or "cautionary" signs.

7.3.8 Vehicular Traffic Use and Safety

The district roads such as B8, and D2863 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 towns such as Otavi and Kombat. Therefore, traffic volume will increase on these district roads during exploration as the project would need a delivery of supplies and services on site. These service and supplies will include but not limited to water, waste removal, procurement of exploration machinery, equipment, and others.

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 such as farms (via local access gravel and single-track roads). This would add additional pressure on the roads.

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. Pre-mitigation, the impact can be rated medium and with the implementation of mitigation measures, the significance will be low as assessed in **Table 18** below.

Table 18: 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

Mitigations and recommendation to minimize impact on road safety and related vehicular traffic issues

- The transportation of exploration materials, equipment and machinery should be limited to once or twice a week only, but not every day to reduce the pressure on local roads.
- The heavy truck loads should comply with the maximum allowed speed limit for respective vehicles while transporting materials and equipment/machinery on the public and access roads (40km/h).
- The potential carted water to the site (from other source of water supply) should be done once or twice a week in container that can supply and store water for most of the week, thus reducing the number of water-carting trucks on the road daily.
- Drivers of all project phases' vehicles should be in possession of valid and appropriate driving licenses and adhere to the road safety rules.
- Drivers should drive slowly (40km/hour or less) and be on the lookout for livestock and wildlife as well as residents/travelers.
- The Proponent should ensure that the site access roads are well equipped with temporary road signs conditions to cater for vehicles travelling to and from site throughout the project's life cycle.
- Project vehicles should be in a road worthy condition and serviced regularly to avoid accidents owing to mechanical faults.
- Vehicle drivers should only make use of designated site access roads provided and as agreed.
- Vehicle's drivers should not be allowed to operate vehicles while under the influence of alcohol.
- No heavy trucks or project related vehicles should be parked outside the project site boundary or demarcated areas for such purpose.
- To control traffic movement on site, deliveries from and to site should be carefully scheduled. This should optimally be during weekdays and between the hours of 8am and 5pm.

- The site access road(s) should be upgraded to an unacceptable standard to be able to accommodate project related vehicles as well as farm vehicles.

7.3.9 Noise and vibrations

Prospecting and exploration work (especially drilling) may be a nuisance to surrounding communities due to the noise produced by the activity. 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. Without any mitigation, the impact is rated as of medium significance. To change the impact significance from the pre-mitigation significance to low rating, the mitigation measures should be implemented. This impact is assessed in **Table 19** below.

Table 19: 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

Mitigations and recommendation to minimize noise

- Noise from operations' vehicles and equipment on the sites should be at acceptable levels.
- The exploration operational times should be set such that no exploration activity is carried out during the night or very early in the mornings.
- Exploration hours should be restricted to between 08h00 and 17h00 to avoid noise and vibrations generated by exploration equipment and the movement of vehicles before or after hours.
- When operating the drilling machinery onsite, workers should be equipped with personal protective equipment (PPE) such as earplugs to reduce exposure to excessive noise.

7.3.10 Disturbance to Archaeological and Heritage resources

According to Mushi (2021), the desktop archaeological assessment, and field-based survey which was conducted on the 10th of May 2022 indicates that some sections and within the boundaries of the proposed project site area are highly sensitive and archaeologically significant in terms of heritage resources that characterizes the need of a detailed investigation of any other existing archaeological cultural materials in the areas.

Therefore, this impact can be rated as medium significance if there are no mitigation measures in place. Upon implementation of the necessary measures, the impact significance will be reduced to a lower rating. The impact is assessed in **Table 20**.

Table 20: Assessment of the impacts of exploration on archaeological & heritage resources

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

Mitigations and recommendation to minimize impact on archaeological and heritage resources

- A “No-Go-Area” should be put in place where there is evidence of archaeological site, historical, rock paintings, cave/rock shelter or past human dwellings. It can be a demarcation by fencing off or avoid the site completely by not working closely or near the known site.
- On-site personnel (s) and contractor crews must be sensitized to exercise and recognize “chance finds heritage” in the course of their work.
- During the prospecting and exploration works, it is important to take note and recognize any significant material being unearthed and making the correct judgment on which actions should be taken (refer to CFP Appendix attached to the EMP).
- The footprint impact of the proposed prospecting and exploration activities should be kept to minimal to limit the possibility of encountering chance finds within the EPL boundaries. The Proponent should keep a buffer of 50 meters on all the archaeological/cultural sites observed within the project site and broader area throughout their stay (duration of their presence) in the area.
- A landscape approach of the site management must consider culture and heritage features in the overall planning of exploration infrastructures within and beyond the license boundaries.
- The Proponent and Contractors should adhere to the provisions of Section 55 of the National Heritage Act in event significant heritage and culture features are discovered while conducting exploration works.

- Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project Archaeological Management Plan (AMP)/EMP should be complied.
- An archaeologist or Heritage specialist should be onsite to monitor all significant earth moving activities that may be implemented as part of the proposed project activities.
- When the removal of topsoil and subsoil on the site for exploration purposes, the site should be monitored for subsurface archaeological materials by a qualified Archaeologist.
- Show overall commitment and compliance by adapting “minimalistic or zero damage approach”.
- In addition to these recommendations above, there should be a controlled movement of the contractor, exploration crews, equipment, setting up of camps and everyone else involved in the prospecting and exploration activities to limit the proliferation of informal pathways, gully erosion and disturbance to surface and sub-surface artifacts such as stone tools and other buried materials etc.

7.3.11 Impact on Local Roads

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) that already struggled on the roads before they got worse. This will be a concern if maintenance and care is not done during the exploration phase. The impact would be short-term (during exploration only) and therefore, manageable.

Without any management and or mitigation measures, the impact can be rated as medium and to reduce this rating to low, the measures will need to be effectively implemented. The assessment of this impact is presented in **Table 21**.

Table 21: 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

Mitigations and recommendation to minimize the impact on local services

- The heavy trucks transporting materials and services to site should be scheduled to travel at least twice or thrice a week to avoid daily travelling to site, unless on cases of emergencies.
- The Proponent should consider frequent maintenance of local roads on the farms to ensure that the roads are in a good condition for other roads users such as farmers, and travelers from and outside the area.

7.3.12 Social Nuisance: Local Property intrusion and Disturbance or Damage

The presence of some out-of-area workers may lead to social annoyance to the local community. This could particularly be a concern when they or some of those workers enter or damage properties of the locals. The private properties of the locals (farmers) could be houses, fences, vegetation, or domestic and wild animals (livestock and wildlife) or any properties of economic or cultural value to the farm/landowners or occupiers of the land. The damage or disturbance to properties may not only be private but local public properties. The unpermitted and unauthorized entry to private properties may cause crashes between the affected property (land) owners and the Proponent.

Pre-implementation of mitigation measures, the impact is rated as of medium significance. However, upon mitigation (post-mitigation), the significance will change from medium to low rating. The impact is assessed below **(Table 22)**.

Table 22: 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

Mitigations and recommendation to minimize the issue of damage to or intrusion of properties

- The Proponent should inform their workers on the importance of respecting the farmers' properties by not intruding or damage their houses, fences or snaring and killing their livestock and wildlife.
- Any workers or site employees that will be found guilty of intruding peoples 'privately owned properties should be called in for disciplinary hearing and/or dealt with as per their employer' (Proponent)'s code of employment conduct

- The project workers should be advised to respect the community and local's private properties, values, and norms.
- No worker should be allowed to wander in people's private yards or fences without permission.
- The project workers are not allowed to kill or in any way disturb local livestock and wildlife on farms.
- The cutting down or damaging of vegetation belonging to the affected farmers or neighbouring farms is strictly prohibited.

7.3.13 Social Nuisance: Job seeking and Differing Norms, Culture and Values

The proposed project activities could attract a potential influx of people from outside the project area in search of job opportunities. Such influxes during the exploration phase may lead to social annoyance to the local community as well as conflicts. This is generally considered a concern given the current unemployment rate of youth in Namibia, that people from other areas in different regions may learn of the project intentions through EIA notices in the newspapers and be forced to go look for work opportunities in the area. Different people may come with different ways of living to the area, which could interfere with the local norms, culture, and values. This could potentially lead to social crashes between the locals and outsiders (out-of-area job seekers).

The influx of people into the project area may also lead to sexual relations between these out-of-area workers and the locals. This would lead to the spreading of sexual transmitted diseases (i.e., HIV/AIDS) when engaging in unprotected sexual intercourse.

Pre-implementation of mitigation measures, the impact is rated as of medium significance. However, upon mitigation (post-mitigation) – see mitigation measures below, the significance will change from medium to low rating. The impact is assessed in **Table 23** below.

Table 23: Social impact assessment of outsiders' influx into the area (job seeking related)

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

Mitigations and recommendation measure to reduce the influx of outsiders into the area

- The Proponent should prioritize the employment of more local people, and only if necessary and due to lack of skills in the area, out-of-area people can be given some of the work. This is to avoid the influx of outsiders into the area for works that can be done the locals.
- The locals employed during exploration should be provided with the necessary training of skills required for the project to avoid bringing in many non-residents employees. This way, skills development and transfer is ensured in the local community.
- The workers should be engaged in health talks and training about the dangers of engaging in unprotected sexual relations which results in contracting HIV/AIDS and other sexual related infections.
- Out-of-area workers that may be employed (due to their unique work skills) on site should be sensitized on the importance of respecting the local values and norms, so that they can co-live-in harmony with the local communities during the duration of their employment period on site.

7.4 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, one cumulative impact to which the proposed project and associated activities potentially contribute is the:

- **Impact on road infrastructure:** The proposed exploration activity contributes cumulatively to various activities such as farming activities and travelling associated with tourism and local daily routines. The contribution of the proposed project to this cumulative impact is however not considered significant given the short duration, and local extent (site-specific) of the intended mineral exploration activities.
- **The use of water:** While the contribution of this project will not be significant, mitigation measures to reduce water consumption during exploration are essential.

7.5 Mitigations and Recommendations for Rehabilitation

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

- Backfilling of trenches and or pits in such a way that subsoil is replaced first, and topsoil replaces 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 and equipment as well as vehicles to designated offsite storage facilities.

8 RECOMMENDATIONS AND CONCLUSIONS

8.1 Recommendations

The potential positive and negative impacts stemming from the proposed exploration activities on EPL No. 8134 were identified, assessed and appropriate management and mitigation measures (to negative impacts) made, thereof, for implementation by the Proponent, their contractors and project related employees.

The issues and concerns raised by the registered I&APs formed the basis for this Report and the Draft EMP. The issues were addressed and incorporated into this Report whereby mitigation measures have been provided thereof 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 of the recommended management and mitigation measures, this project will particularly see the reduction in the significance of adverse impacts that cannot be avoided completely (from medium rating to low). To maintain the desirable rating, the implementation of management and mitigation measures should be monitored by the Proponent directly, or their Environmental Control Officer (ECO). The monitoring of this implementation will not only be done to maintain the reduce impacts' rating or maintain low rating but to also ensure that all potential impacts identified in this study and other impacts that might arise during implementation are properly identified in time and addressed right away too.

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

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

- All the management and mitigation measures provided herein are effectively and progressively implemented.
- All required permits, licenses and approvals for the proposed activities should be obtained as required. These include permits and licenses for land use access agreements to explore and ensuring compliance with these specific legal requirements.
- The Proponent and all their project workers or contractors comply with the legal requirements governing their project and its associated activities and ensure that project permits and or approvals required to undertake specific site activities are obtained and renewed as stipulated by the issuing authorities.
- Site areas where exploration activities have ceased are rehabilitated, as far as practicable, to their pre-exploration state.

8.2 Conclusion

In conclusion, it is crucial for the Proponent and their contractors to ensure effective implementation of the recommended management and mitigation measures to protect both the biophysical and social environment throughout the project duration. All these would be done with the aim of promoting environmental sustainability while ensuring a smooth and harmonious existence and purpose of the project activities in the community and environment at large. This ensures that all potential impacts identified in this study and other impacts that might arise during implementation are properly identified in time and addressed. Lastly, should the ECC be issued, the Proponent will be expected to be compliant with the ECC conditions as well as legal requirements governing the mineral exploration and related activities.

9 REFERENCES

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