APP-006668
EXPLORATION ACTIVITIES ON EXCLUSIVE PROSPECTING LICENSE (EPL) AREA 10045 IN THE KHOMAS AND HARDAP REGIONS

ENVIRONMENTAL ASSESSMENT SCOPING REPORT

Assessed by:

Assessed for:

November 2025

Project:	**EXPLORATION ACTIVITIES ON EXCLUSIVE PROSPECTING LICENSE (EPL) AREA 10045 IN THE KHOMAS AND HARDAP REGIONS: ENVIRONMENTAL ASSESSMENT SCOPING REPORT**	
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Report Approval:	 André Faul	

I, H.C. Brunette, hereby approve this report and confirm that the project description contained in herein is a true reflection of the information which the Proponent has provided to Geo Pollution Technologies. All material information in the possession of the Proponent that reasonably has or may have the potential of influencing any decision or the objectivity of this assessment is fairly represented in this report.

Signed at Windhoek on the 25th day of November 2025.

Votorantim Metals Namibia (Pty) Ltd

2013/0251
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EXECUTIVE SUMMARY

Introduction

Votorantim Metals Namibia (Pty) Ltd (VMN or the Proponent) is a prospecting company registered in Namibia. Through the Ministry of Industries, Mines and Energy (MIME), VMN has exclusive prospecting licenses (EPLs) across Namibia, focusing specifically on prospecting for base, rare and precious metals.

The Proponent, received an "Intention to Grant" from MIME for their application for EPL 10045 in the Khomas and Hardap Regions. The EPL is located over land zoned for agricultural purposes, which consists of several farms and smallholdings, as well as Rehoboth Townland. It will be granted to the Proponent upon successful acquisition of an environmental clearance certificate (ECC) for the EPL area. Geo Pollution Technologies (Pty) Ltd (GPT) was appointed by the Proponent, as independent environmental consultant, to assist with the necessary studies to determine the potential environmental impacts, and ultimately whether an ECC may be granted for this EPL. To achieve this, an environmental scoping assessment was undertaken to determine the potential positive and negative impacts of the Proponent's proposed exploration activities on the environment.

Scope and Methodology

The environmental assessment is conducted to determine all environmental, safety, health and socio-economic impacts associated with the operations of the facility. Relevant environmental data was compiled using secondary data and a reconnaissance site visit. Potential environmental impacts and associated social impacts were identified and are addressed in this report.

Project Description

Activities conducted for the exploration of mineral resources consist of both remote and field assessments. Remote work include studying existing literature that provides information on geological and mineral data for the area of interest. A large part of remote work also involves studying and analysing satellite and aerial photography images. Technological advancements in these imagery methods have made it possible to gather a vast amount of data on both the surface and subsurface geology. Based on the remote work, an area of interest may be defined for field work. Field work will entail visiting the area and making observations regarding the surface geology. Soil and rock samples can also be collected for analysis. Various scientific techniques for surveying the subsurface may also be employed. This does not entail digging large holes or trenching, but may require some vegetation clearing where dense vegetation stands restricts access. Only when sufficient information is gathered with the above methods to identify potential mineable areas, will exploration drilling be undertaken. Such drilling allows for the collection of subsurface material, at varying depths, for analysis. Any areas impacted by drilling will be rehabilitated to allow for rapid vegetation reestablishment and erosion prevention. After all exploration activities are complete, and all data has been analysed and processed, it is determined whether there are any minable resources within the EPL. Should there be minable resources, a mining licence application must be lodged, which will require its own, more focused, environmental assessment.

Public Participation

As part of the environmental assessment process, public consultation was performed. This entailed placing two site notices at the northern and southern EPL boundaries on a district road crossing the EPL area, placing advertisements in two national newspapers, and notifying land owners, identified interested and affected parties and relevant authorities. All comments and concerns are addressed in the comments and responses table of this report.

Impacts

Positive impacts arising from the exploration project include employment, training and development of the Namibian workforce; increased economic resilience of employees and contractors; economic injection into the Namibian economy through the sourcing of goods and services, often with funds obtained from foreign investors; remuneration of landowners as is determined through surface access agreements; generation of new knowledge on, amongst others, the local geology and ecology of the exploration area and potential discoveries of feasible minable mineral resources.

Negative impacts of exploration entails limited ecological disturbances where vegetation needs clearing for exploration. Pollution of the environment can occur when there are hydrocarbon leaks from drilling equipment and vehicles, or where waste is not contained and removed from site. Poaching is a big concern for land owners and criminals may seize the opportunity to pose as a member of the exploration team to gain access to the land. Fire, dust, erosion, noise and deterioration of farm roads are also impacts associated with exploration.

Management of Impacts

Positive impacts can be enhanced by supporting local industries and contractors and appointment of local Namibian employees, as far as is practically possible. It should however be noted that the technologies are sometimes highly specialised and new to Namibia and will then require international expertise.

Negative impacts related to exploration will be limited by adherence to environmental management procedures and accepted industry standards. Exploration teams and their vehicles being clearly distinguishable through uniforms, ID tags and vehicle branding. The footprint of vegetation clearing must be limited to only the necessary areas and the removal of protected species must be avoided as far as possible. Vehicles should at all times adhere to the speed limits imposed by the Proponent in order to prevent dust, noise and road damage. All waste must be contained and removed from site; all machinery must be inspected and maintained to prevent leaks. Spill control measures must be in place in order to contain spills and prevent it from entering soil or groundwater. Firefighting equipment and training is pertinent to prevent and respond to fires.

The Proponent must reach a surface access agreement with all land owners prior to accessing the EPL. Land owners must be notified in advance of when exploration teams will be onsite and all activities should be restricted to day time. Any deviation from this should be communicated to land owners without delay. Exploration teams must remain within agreed areas and should report any suspicious activities or incidents to the land owner.

The environmental management plan included in section 9.1 of this document should be used as an on-site reference document for planning, exploration and decommissioning activities. All monitoring and records kept should be included in a report to ensure compliance with the environmental management plan and environmental clearance certificate conditions. A health, safety, environment and quality policy, or similar, could be used in conjunction with the environmental management plan. Operators and responsible personnel must be taught the contents of these documents. National regulations and guidelines must be adhered to and monitored regularly as outlined in the environmental management plan.

Conclusion

Based on the environmental assessment there is no reason why exploration cannot continue within the EPL. The environmental management plan as presented in this document should be adopted and the contents kept up-to-date as legislation, equipment and operational methods and conditions change.

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LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
BID	Background Information Document
CHIRPS	Climate Hazards Group Infra-Red Precipitation with Station data version
CITES	Convention on International Trade of Endangered Species
DEA	Department of Environmental Affairs
DWA	Department of Water Affairs
ECC	Environmental Clearance Certificate
EIA	Environmental Impact Assessment
EMA	Environmental Management Act, 2007 (Act no. 7 of 2007)
EMP	Environmental Management Plan
EMS	Environmental Management System
EPL	Exclusive Prospecting Licence
GDP	Gross Domestic Product
GPT	Geo Pollution Technologies (Pty) Ltd
HIV	Human Immunodeficiency Virus
HSE	Health, Safety and Environment
IAP	Interested and Affected Party
IUCN	International Union for Conservation of Nature
KWH	Kilowatt Hour
m/s	Meter per second
mamsl	Meters above mean seal level
MARC	Minerals Ancillary Rights Commission
mbs	Meters below surface
MEFT	Ministry of Environment, Forestry and Tourism
MERRA-2	Modern-Era Retrospective analysis for Research and Applications version 2
mm/a	Millimetres per annum
MIME	Ministry of Industries, Mines and Energy
MSDS	Material Safety Data Sheet
NASA	National Aeronautics and Space Administration
NDP	National Development Plan
PPE	Personal Protective Equipment
QDS	Quarter Degree Square
SANS	South African National Standards
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
uPVC	Unplasticized polyvinyl chloride
VMN	Votorantim Metals Namibia
WHO	World Health Organization

GLOSSARY OF TERMS

Alternatives - A possible course of action, in place of another, that would meet the same purpose and need but which would avoid or minimize negative impacts or enhance project benefits. These can include alternative locations/sites, routes, layouts, processes, designs, schedules and/or inputs. The "no-go" alternative constitutes the 'without project' option and provides a benchmark against which to evaluate changes; development should result in net benefit to society and should avoid undesirable negative impacts.

Assessment - The process of collecting, organising, analysing, interpreting and communicating information relevant to decision making.

Biodiversity - The variability among living organisms from all sources including, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part.

Competent Authority - Means a body or person empowered under the local authorities act or Environmental Management Act to enforce the rule of law.

Cumulative Impacts - In relation to an activity, means the impact of an activity that in itself 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.

Mineral Exploration - The process of searching for concentrated deposits of minerals for the ultimate purpose of mining for economic benefit.

Environment - As defined in the Environmental Assessment Policy and Environmental Management Act - "land, water and air; all organic and inorganic matter and living organisms as well as biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, palaeontological or social values".

Environmental Assessment (EA) - Namibian terminology for a process of assessing the effects on the environment through either a scoping assessment or a combination of a scoping- and detailed assessment.

Environmental Management Plan (EMP) - A working document on environmental and socio-economic mitigation measures, which must be implemented by several responsible parties during all the phases of the proposed project.

Environmental Management System (EMS) - An Environment Management System, or EMS, is a comprehensive approach to managing environmental issues, integrating environment-oriented thinking into every aspect of business management. An EMS ensures environmental considerations are a priority, along with other concerns such as costs, product quality, investments, PR productivity and strategic planning. An EMS generally makes a positive impact on a company's bottom line. It increases efficiency and focuses on customer needs and marketplace conditions, improving both the company's financial and environmental performance. By using an EMS to convert environmental problems into commercial opportunities, companies usually become more competitive.

Evaluation – Means the process of ascertaining the relative importance or significance of information, the light of people's values, preference and judgements in order to make a decision.

Hazard - Anything that has the potential to cause damage to life, property and/or the environment. The hazard of a particular material or installation is constant; that is, it would present the same hazard wherever it was present.

Hyperspectral Imaging - A technique that captures and processes a wide spectrum of light beyond the visible range (which includes the colours humans can see). Unlike traditional imaging, which only captures three bands of colour (red, green, and blue), hyperspectral imaging divides the light spectrum into many more narrow bands, sometimes hundreds or even thousands, across wavelengths that include the ultraviolet, visible, and infrared regions.

Interested and Affected Party (IAP) - Any person, group of persons or organisation interested in, or affected by an activity; and any organ of state that may have jurisdiction over any aspect of the

activity.

Mineral - A natural substance with unique and distinctive physical and chemical properties. In terms of mining, “economic minerals” include metals and hydrocarbons.

Mitigate - The implementation of practical measures to reduce adverse impacts.

Proponent (Applicant) - Any person who has submitted or intends to submit an application for an authorisation, as legislated by the Environmental Management Act No. 7 of 2007, to undertake an activity or activities identified as a listed activity or listed activities; or in any other notice published by the Minister or Ministry of Environment Forestry and Tourism.

Public - Citizens who have diverse cultural, educational, political and socio-economic characteristics. The public is not a homogeneous and unified group of people with a set of agreed common interests and aims. There is no single public. There are a number of publics, some of whom may emerge at any time during the process depending on their particular concerns and the issues involved.

Scoping Process - Process of identifying: issues that will be relevant for consideration of the application; the potential environmental impacts of the proposed activity; and alternatives to the proposed activity that are feasible and reasonable.

Significant Effect/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.

Stakeholder Engagement - The process of engagement between stakeholders (the proponent, authorities and IAPs) during the planning, assessment, implementation and/or management of proposals or activities. The level of stakeholder engagement varies depending on the nature of the proposal or activity as well as the level of commitment by stakeholders to the process. Stakeholder engagement can therefore be described by a spectrum or continuum of increasing levels of engagement in the decision-making process. The term is considered to be more appropriate than the term “public participation”.

Stakeholders - A sub-group of the public whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. The term therefore includes the proponent, authorities (both the lead authority and other authorities) and all interested and affected parties (IAPs). The principle that environmental consultants and stakeholder engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders.

Sustainable Development - “Development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs and aspirations” – the definition of the World Commission on Environment and Development (1987). “Improving the quality of human life while living within the carrying capacity of supporting ecosystems” – the definition given in a publication called “Caring for the Earth: A Strategy for Sustainable Living” by the International Union for Conservation of Nature (IUCN), the United Nations Environment Programme and the World Wide Fund for Nature (1991).

1 INTRODUCTION

Votorantim Metals Namibia (Pty) Ltd (VMN or the Proponent) is a prospecting company registered in Namibia. Through the Ministry of Industries, Mines and Energy (MIME), VMN has exclusive prospecting licenses (EPLs) across Namibia, focusing specifically on prospecting for base, rare and precious metals.

The Proponent, received an "Intention to Grant" from the MIME in respect of their application for EPL 10045 in the Khomas and Hardap Regions. The EPL will be granted to the Proponent upon successful acquisition of an environmental clearance certificate (ECC) for the EPL area, as indicated in Figure 1-1. The EPL is for base and rare metals, industrial minerals, and precious metals. The EPL is located across land zoned for agricultural purposes and the Rehoboth Townlands. The agricultural land include both subsistence and commercial farms.

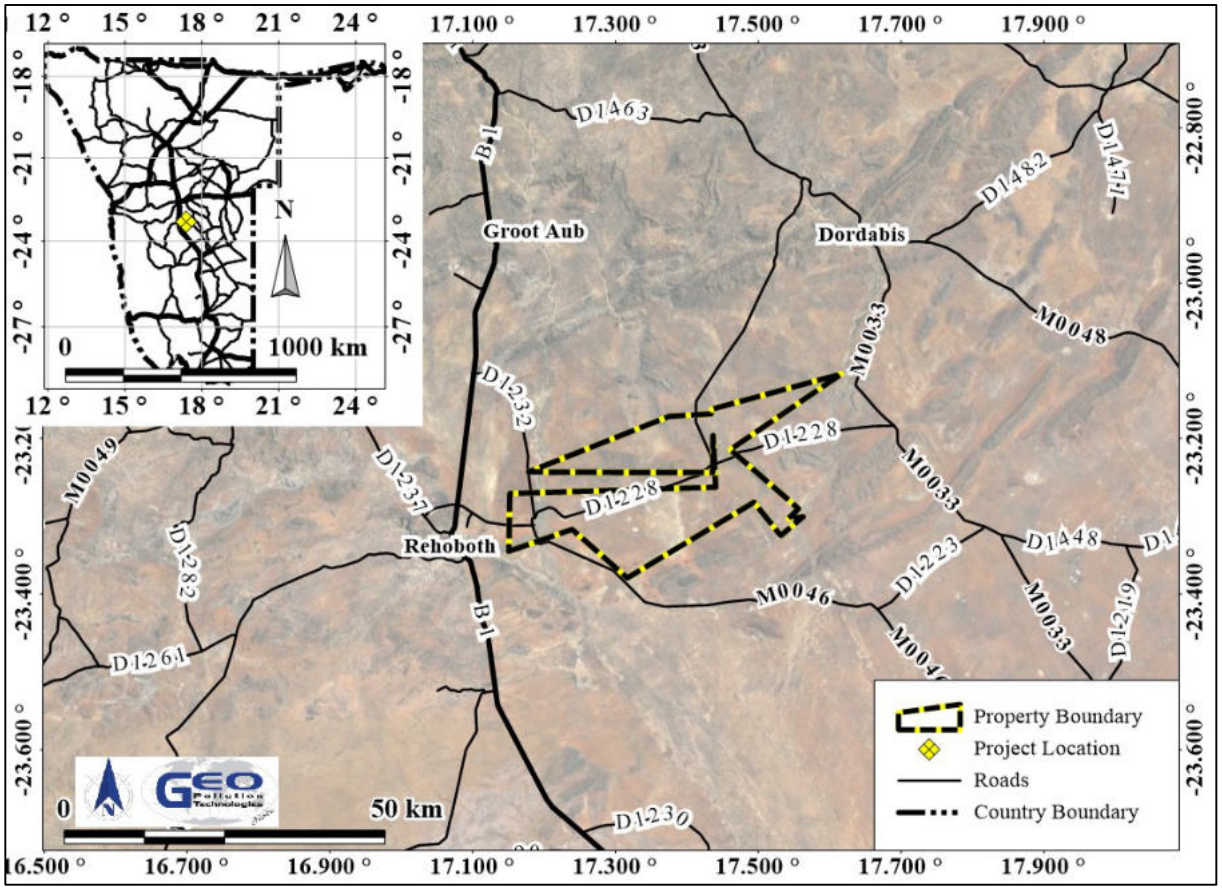

Figure 1-1 Project location

An ECC for the proposed exploration activities in the EPL area is required as per the Environmental Management Act, Act No. 7, of 2007 (EMA). As such, Geo Pollution Technologies (Pty) Ltd (GPT) was appointed by the Proponent, as independent environmental consultant, to assist with the necessary studies to determine the potential environmental impacts and ultimately whether an ECC may be granted for this EPL. To achieve this, an environmental impact assessment (EIA) was undertaken to determine the potential positive and negative impacts of the Proponent's proposed exploration activities, on the environment. The results of this assessment is documented in this report, and it is accompanied by an environmental management plan (EMP) aimed at preventing or mitigating negative environmental impacts, while simultaneously promoting positive spinoffs from the project.

In terms of this study, the environment is defined as per the EMA's definition, as follows:

"land, water and air; all organic and inorganic matter and living organisms as well as biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, paleontological or social values"

Project Justification – Namibia is rich in mineral resources, with large parts of the country remaining relatively unexplored. The Minerals (Prospecting and Mining) Act of 1992 declares that all natural resources, including minerals, are owned by the government. It further states that no reconnaissance operations, prospecting operations or mining operations may be carried out without a licence as issued under the Act. Therefore, the responsibility to find, and ultimately extract, mineral resources lies with authorised licence holders who adhere to all regulations governing prospecting and mining.

The mining sector is one of the main contributors to employment and Namibia's gross domestic product (GDP). While exploration activities do so to a lesser degree, mining cannot commence until exploration activities indicate feasible resources. Benefits of exploration therefore include:

- Employment, training and development of the Namibian workforce.
- Increased economic resilience of employees and contractors.
- Economic injection into the Namibian economy through the sourcing of goods and services, often with funds obtained from foreign investors.
- Remuneration of landowners as is determined through access agreements.
- Generation of new knowledge on, amongst others, the local geology and ecology of the exploration area.
- Potential discoveries of feasible minable mineral resources.

2 SCOPE

The scope of the environmental assessment is to, in compliance with Namibia's Environmental Management Act (2007):

- Provide a description of the proposed exploration activities.
- Provide an overview of the local environment within the exploration area.
- Determine the potential environmental impacts that may potentially emanate from exploration activities.
- Identify a range of management actions which could prevent or mitigate the potential adverse impacts to acceptable levels.
- Provide sufficient information to the Ministry of Environment, Forestry and Tourism (MEFT) and related authorities to make an informed decision regarding the exploration activities and the granting of an ECC and EPL.

3 METHODOLOGY

The following methods were used to investigate the potential impacts on the social and natural environment due to the proposed exploration activities:

- Baseline information about the site and its surroundings was obtained from existing secondary information as well as from primary information obtained during a reconnaissance site visit.
- As part of the scoping process to determine potential environmental impacts, interested and affected parties (IAPs) were consulted about their views, comments and opinions and these are put forward in this report.
- Based on gathered information and public and stakeholder consultation, an assessment of potential impacts was conducted and a management plan prepared.

4 PROJECT DESCRIPTION

Mineral exploration typically does not require any construction activities within the EPL. Project activities performed for purposes of exploring for the relevant commodities (base and rare metals, industrial minerals, and precious metals) include both off and on site activities. These are literature reviews, remote sensing, field surveys, geophysical surveys, geochemical sampling and exploratory drilling.

4.1 LITERATURE REVIEWS

Literature reviews, or desktop studies, are usually already started prior to application for an EPL. Existing literature and scientific data are researched in order to determine whether a specific area is known to have minerals, or is likely to have minerals. Should the prospects be positive, an

application for an EPL over the identified area is lodged. Literature reviews will continue after the EPL is granted, should more literature and documentation be available.

4.2 REMOTE SENSING

Technological advancements in satellite imagery have revolutionised exploration activities and can provide a vast amount of information. It requires specialist manipulation and interpretation to determine the potential presence of minerals in a specific area. The simplest form is using standard satellite imagery and aerial photography to develop detailed geological maps, without having to be in the field. This way, surface structures prone to hosting mineral resources can be identified.

More complex methods of remote sensing also exist and hyperspectral imaging can, for example, provide more information by identifying of specific minerals based on the spectral signatures they produce. A hyperspectral camera captures light from the earth's surface and separates and presents it in its different wavelengths. Each pixel in the image represents a specific spectrum of light which is used to identify the material based on known spectral signatures.

Drone technology has also improved significantly over the last decade, and when equipped with ground penetrating radar, can give detailed information in the subsurface structures such as geological structures, mineral deposits and voids. Drones can access areas where rough terrain makes entry by vehicle very difficult, and can thus reduce intrusiveness, time and costs associated with traditional exploration methods.

4.3 FIELD SURVEYS

Through literature reviews and remote sensing, smaller areas of interest are identified within the EPL. Actual in-field surveys will focus on these areas of interest. It typically involves geologists studying the areas on foot. Any aboveground structures, rocks and features which could not be identified via remote sensing, are recorded and mapped. This complements the existing information gathered for the area and may further reduce the area of interest. Field surveys are not typically very invasive and destructive in nature.

4.4 GEOPHYSICAL SURVEYS

Some geophysical surveys can be achieved via remote sensing (e.g. ground penetrating radar) while others require field work. Examples of typical geophysical surveys that the Proponent may conduct are:

Electrical resistivity tomography: - This method produces a subsurface "image" by measuring electrical resistivity of the ground. It requires the placement of electrodes directly into the ground, either along a straight line or in a grid. A known electrical current is passed into the ground via a pair of electrodes and the voltage difference is measured between other pairs of electrodes. The voltage difference is then used to calculate the resistivity of the subsurface and is presented as a resistivity profile or tomogram. Based on known resistivity values of materials, the composition and properties of the subsurface can be inferred.

Induced Polarization: It is used to identify subsurface materials by measuring their electrical chargeability. As with electrical resistivity tomography, an electrical current is again injected into the ground. Materials like sulphide minerals, clays and graphite become polarized (i.e. temporarily store electrical charge). When the current is stopped, the stored charge is released and this is measurable as voltage decay.

Audio-Magnetotelluric Surveys: This method measures variations in natural electromagnetic fields to investigate the subsurface. Sensors placed on the ground measures the electric and magnetic fields and the results are used to calculate subsurface resistivity values. These in turn provide information on the different geological structures and materials.

For all three methods above, the area (line or grid) to be surveyed requires some clearing of vegetation in order to provide access and bare ground for placement of equipment. For electrical resistivity tomography and induce polarisation, small diameter holes in the ground are required for the placement of electrodes. Overall, these techniques are less invasive than exploratory

drilling. Based on the results, the area of interest may be reduced in size, to focus on areas with greater potential for minerals.

Photo 4-1 Cleared line for geophysical survey

Photo 4-2 Example of a geophysical survey

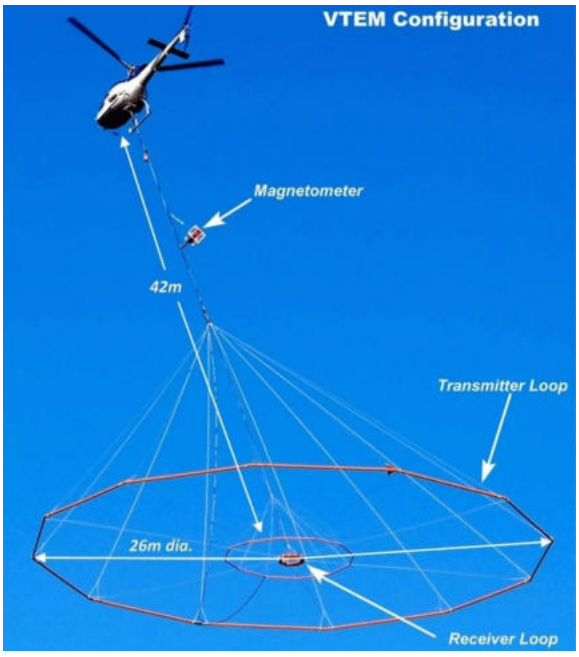

Photo 4-3 Example of aerial geophysical survey (Parsin et al. 2021)

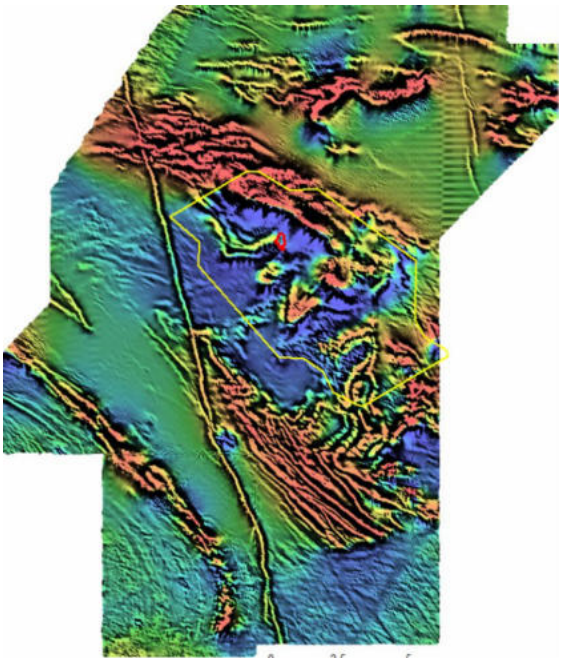

Photo 4-4 Example of airborne magnetics (from Bourne and Pittard, 2009)

4.5 GEOCHEMICAL SAMPLING

Geochemical sampling will entail the collection of soil and rock material from the surface or shallow subsurface. This may entail some shallow localised digging making use of manual labour. The Proponent does not make use of trenching. Samples are analysed for mineral content and provides valuable information on the potential presence of mineral resources.

4.6 EXPLORATION DRILLING

Once all the information from the above methods have been compiled and analysed, very specific areas may be targeted for exploratory drilling. Drilling will mainly be performed with a diamond core drill that may be self-propelled with tracks or wheels, or mounted on a truck. The diamond core drill extracts cylindrical samples (cores) from the subsurface which can be studied and analysed to understand the geology and presence of minerals at that specific location. Drilling can, however, also be reverse circulation drilling which produces drill chips and not cores.

Level drill pads will be created at each drill target to allow for placement of the drill rig (Photo 4-5 and Photo 4-6). The drill site will be fenced off with a temporary wire mesh fence. For diamond core drilling the hollow drill bit is impregnated with industrial grade diamonds for cutting through rock. As the drill bit is pushed into the ground, the core sample is collected in the hollow drill bit. Periodically the dill string is lifted to the surface, the core collected and stored in core trays, and detailed notes made on the depth at which the core was collected. Water or drilling fluid is circulated in the borehole to cool down and lubricate the drill bit. This ensures the longevity of the drill bit. The liquid expelled from the borehole is directed into a series of drilling fluid sumps where solids settle out and the relatively clean liquid from the last sump are re-used.

For reverse circulation drilling the drill rod is inside a tube and high pressure air generated by a compressor is forced down the space between the rod and tube. This forces drill cuttings and dust up the hollow drill string to the surface. At the surface dust is mostly blown away and the drill chips are collected in separate bags / containers corresponding to set depth intervals.

Restricted areas in the drill site will be demarcated with danger tape and signage to indicate dangerous areas. Support infrastructure at the drill camp will include a diesel bowser, possibly a compressor if reverse circulation drilling is conducted, a water tanker, spare parts and equipment, tents, portable toilets and showers, cooking facilities, firefighting equipment, etc. Once drilling is complete, the borehole will be capped and marked (Photo 4-9). The area will be cleared of all infrastructure, waste products, etc., and the area rehabilitated to allow for rapid re-establishment of vegetation Photo 4-10. Vegetation re-growth is reliant on rain.

Photo 4-5 Example of core drilling operation (Votorantim site)

Photo 4-6 Example of core drilling site (Votorantim site)

Photo 4-7 Example of safety signage and demarcation of restricted areas at drill site (Votorantim site)

Photo 4-8 Example of firefighting equipment at drill site (Votorantim site)

Photo 4-9 Example of a borehole ((Votorantim site)

Photo 4-10 Example of rehabilitated drill site (Votorantim site)

4.7 GENERAL

Prior to any access to the EPL area, surface access agreements will be negotiated and signed with the land owners. Such agreements will clearly stipulate the landowners' requirements, expectations and compensation. The first agreement will cover activities up to geophysical surveys and geochemical sampling. Should a target site for core drilling be identified, a new agreement will be reached with the land owner.

Four wheel drive vehicles, numbered and marked as being the property of the Proponent, will be used to transport staff to the site and back. Access to target areas on the farm will at all times be via existing roads, or where no roads are present, roads will be made as per agreements reached with land owners. Such roads will preferably be made by means of manual labour in order to reduce the impact on the soil. The Proponent's team will only access the farm during the day between 08:00 and 17:00 and only during pre-arranged schedules. In the eventuality of an emergency or delay, where the team will be on the land outside these hours, the land owner will be contacted. The Proponent's team will wear easily recognisable clothing with reflector vests.

The Proponent's staff will always make use of established off-site accommodation establishments, unless the land owner themselves have such facilities available or if there are no nearby facilities. Only in the latter case, arrangements will be made with the land owner for a temporary accommodation camp on the farm. A temporary campsite may then be required in the drilling area.

Waste will be collected in designated bins (Photo 4-11) and removed on a regular basis. Waste will be transported to an approved municipal or designated dumping site. Where a bin is not available nearby during work (e.g. during field surveys), waste will be contained and taken

directly to a bin when departing for the day. Spill kits for any hydrocarbons will at all times be present during drilling (Photo 4-12).

Mobile chemical toilets are used where a team is stationed in the same area for an extended period (e.g. at a camping site) (Photo 4-13). The contents of the toilets are collected in tanks and removed from the site for disposal at a designated sewage disposal area.

Water used for drilling will, if agreed upon, be obtained from the farmer. Where sufficient water is not available, a new borehole may need to be drilled or water will be carted to the site with a water tanker. Drinking water will be supplied by the Proponent.

Once drilling is complete, the boreholes will be cased and capped or it will be backfilled. All waste and infrastructure will be removed from site. The drill pad and surroundings will be ripped and contoured, if needed, to allow for easy re-establishment of vegetation. All roads not needed for future use by the landowner will also be rehabilitated.

Photo 4-11 Typical waste bin used on site

Photo 4-12 Typical spill kit employed on site

Photo 4-13 Mobile toilet

Photo 4-14 Designated smoking area

5 ALTERNATIVES

5.1 LOCATION ALTERNATIVES

The project location (EPL area) is dictated by the suspected presence of mineral resources and as determined by the MIME. Alternative locations in terms of the project location are thus not considered in this assessment. Within the EPL area, the Proponent can however consider alternatives, as far as is practical, in terms of the areas that may require clearing for geophysical surveys, roads, drilling pads, etc. Such alternatives will in part be limited by the target. If a target is within a very small footprint, geophysical surveys and drilling cannot be moved out of that footprint. However, roads leading to these areas, that may need to be cleared, should consider the avoidance of habitats with dense or unique indigenous or protected vegetation, avoiding areas with nests or burrows, as well as land owner preference.

5.2 EXPLORATION ACTIVITIES

The Proponent already implements various alternatives in their approach to exploration in order to reduce the potential impact on the environment and the land owners. These are summarised in Table 5-1. The assessment of impacts is based on the use of the preferred alternatives as presented. The preferred alternatives have further been incorporated into the EMP.

Table 5-1 Alternative comparison table

Alternative	Advantages	Disadvantages	Preferred Alternative
Clearing Method for Roads, Drill Pads, Etc.			
Bulldozer	Time saving Can easily clear and level difficult terrain Less labourers on site which may be favoured by land owner	Heavy machinery compacts ground (ecologically unfriendly) Less employment Fixed width of cleared area which may be wider than needed	Manual labour as far as is practically possible
Manual Clearing (Labourers with axes, spades etc.)	More employment Ecologically more friendly Can keep footprint of impact to a minimum	Time consuming More labourers on the land which may not be favoured by land owner More vehicle movement to transport labourers Not suited for very difficult or hard to reach areas	

6 ADMINISTRATIVE LEGAL AND POLICY REQUIREMENTS

To protect the environment and achieve sustainable development, all projects, plans, programmes and policies deemed to have adverse impacts on the environment require an environmental assessment, as per the Namibian legislation. The legislation and standards provided in Table 6-1 and Table 6-3 govern the environmental assessment process in Namibia and/or are relevant to the mineral resources exploration sector.

Table 6-1 Namibian law applicable to the project

Law	Key Aspects
The Namibian Constitution	♦ Promotes the welfare of people ♦ Incorporates a high level of environmental protection ♦ Incorporates international agreements as part of Namibian law
Environmental Management Act Act No. 7 of 2007, Government Notice No. 232 of 2007	♦ Defines the environment ♦ Promotes sustainable management of the environment and the use of natural resources ♦ Provides a process of assessment and control of activities with possible significant effects on the environment
Environmental Management Act Regulations Government Notice No. 28-30 of 2012	♦ Commencement of the Environmental Management Act ♦ Lists activities that requires an environmental clearance certificate ♦ Provides Environmental Impact Assessment Regulations
Minerals (Prospecting and Mining) Act Act No. 33 of 1992, Government Notice No. 199 of 1992	♦ Provides for the reconnaissance, prospecting and mining for, and disposal of, and the exercise of control over, minerals in Namibia; and provides for matters incidental thereto
Soil Conservation Act Act No. 76 of 1969; South Africa Government Gazette 2437	♦ Law relating to the combating and prevention of soil erosion, the conservation, improvement and manner of use of the soil and vegetation and the protection of the water sources in Namibia.
Water Resources Management Act Act No. 11 of 2013, Government Notice No. 332 of 2013	♦ Provides for management, protection, development, use and conservation of water resources ♦ Prevention of water pollution and assignment of liability ♦ Requires permitting for all borehole drilling activities in Namibia
Water Resources Management Act Regulations Government Notice 269 of 2023	♦ Regulations pertaining to the management, protection, development, use and conservation of water resources ♦ Provides for the regulation and monitoring of water services and to provide for incidental matters ♦ Requires permitting for all borehole drilling activities in Namibia
Forest Act Act No. 12 of 2001, Government Notice No. 248 of 2001	♦ Makes provision for the protection of the environment and the control and management of forest fires ♦ Provides the licencing and permit conditions for the removal of woody and other vegetation as well as the disturbance and removal of soil from forested areas
Forest Regulations: Forest Act, 2001 Government Notice No. 170 of 2015	♦ Declares protected trees or plants ♦ Issuing of permits to remove protected tree and plant species
National Heritage Act Act No. 27 of 2004, Government Notice No. 287 of 2004	♦ Provides for protection and conservation of places and objects of heritage significance and the registration of such places and objects
Petroleum Products and Energy Act Act No. 13 of 1990, Government Notice No. 45 of 1990	♦ Regulates petroleum industry ♦ Makes provision for licencing and safe storage and handling of fuels ♦ Petroleum Products Regulations (Government Notice No. 155 of 2000)

Law	Key Aspects
Public and Environmental Health Act Act No. 1 of 2015, Government Notice No. 86 of 2015	♦ Provides a framework for a structured more uniform public and environmental health system, and for incidental matters ♦ Deals with Integrated Waste Management including waste collection disposal and recycling; waste generation and storage; and sanitation
Labour Act Act No. 11 of 2007, Government Notice No. 236 of 2007	♦ Provides for Labour Law and the protection and safety of employees ♦ Labour Act, 1992: Regulations relating to the health and safety of employees at work (Government Notice No. 156 of 1997)
Minerals Policy Of Namibia	♦ Aims to achieve a high level of responsible development of national resources in which Namibia becomes a significant producer of mineral products while ensuring maximum sustainable contribution to the socio-economic development of the country ♦ To attract investment and enable the private sector to take the lead in exploration, mining, mineral beneficiation and marketing ♦ Government will provide the Minerals Ancillary Rights Commission (MARC) with clear guidelines on the process for access to land and the provision of compensation
Nature Conservation Ordinance Ordinance No. 4 of 1975	♦ Consolidates and amends the laws relating to the conservation of nature and the establishment of game parks and nature reserves ♦ Assigns certain conservation categories to specific organisms within Namibia
Atmospheric Pollution Prevention Ordinance Ordinance No. 11 of 1976	♦ Governs the control of noxious or offensive gases ♦ Prohibits scheduled process without a registration certificate in a controlled area ♦ Requires best practical means for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process
Hazardous Substances Ordinance Ordinance No. 14 of 1974	♦ Applies to the manufacture, sale, use, disposal and dumping of hazardous substances as well as their import and export ♦ Aims to prevent hazardous substances from causing injury, ill-health or the death of human beings
Pollution Control and Waste Management Bill (draft document)	♦ Not in force yet ♦ Provides for prevention and control of pollution and waste ♦ Provides for procedures to be followed for licence applications
Road Traffic and Transport Act Act No. 52 of 1999 Government Notice No 282 of 1999	♦ Provides for the control of traffic on public roads and the regulations pertaining to road transport
Road Traffic and Transport Regulations Government Notice No. 53 of 2001	♦ Prohibits the transport of goods which are not safely contained within the body of the vehicle; or securely fastened to that vehicle, and which are not properly protected from being dislodged or spilled from that vehicle

Table 6-2 Standards or codes of practise

Standard or Code	Key Aspects
South African National Standards (SANS)	♦ The Petroleum Products and Energy Act prescribes SANS standards for the construction, operations and demolition of petroleum facilities. ♦ SANS 10131 is specifically aimed at storage and distribution of petroleum products in aboveground storage tanks. ♦ Provides requirements for spill control infrastructure.

Table 6-3 Relevant multilateral environmental agreements for Namibia related to the project

Agreement	Key Aspects
SADC Protocol on Mining, 1997	♦ Member states agree to share information on exploitable mineral resources in the region, enhance the technological capacity of the sector as well as promote policies that will encourage and assist small scale mining. ♦ Environmental and occupational health and safety issues are highlighted.
Stockholm Declaration on the Human Environment, Stockholm 1972.	♦ 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
1985 Vienna Convention for the Protection of the Ozone Layer	♦ Aims to protect human health and the environment against adverse effects from modification of the Ozone Layer are considered ♦ Adopted to regulate levels of greenhouse gas concentration in the atmosphere
United Nations Framework Convention on Climate Change (UNFCCC)	♦ The Convention recognises that developing countries should be accorded appropriate assistance to enable them to fulfil the terms of the Convention
Convention on Biological Diversity, Rio de Janeiro, 1992	♦ Under article 14 of The Convention, EIAs must be conducted for projects that may negatively affect biological diversity

Exploration is listed as an activity requiring an ECC as per Government Notice No. 29 of 2012. Ancillary activities related to exploration may also be listed as activities requiring ECCs. The following is a list of possible activities that the Proponent may engage in, in order to perform exploration.

Mining and Quarrying Activities

3.1 The construction of facilities for any process or activities which requires a licence, right or other form of authorisation, and the renewal of a licence, right or other form of authorisation, in terms of the Minerals (Prospecting and Mining Act), 1992.

3.2 Other forms of mining or extraction of any natural resource whether regulated by a law or not.

3.3 Resource extraction, manipulation, conservation and related activities.

Forestry Activities

4 The clearance of forest areas, deforestation, aforestation, timber harvesting or any other related activity that requires authorisation in term of the Forest Act, 2001 (Act No. 12 of 2001) or any other law.

Additional national planning legislation considered include:

- National Development Plans (NDPs) and Vision 2030
- Namibia's Climate Change Strategy and Action Plan

Mining is a crucial component of Namibia's NDPs, particularly also in the country's long-term vision, Vision 2030. Its integration into the NDPs highlights its importance in achieving Namibia's broader

economic and social goals. Some key aspects of mining in Namibia's overall development plan and vision include:

Economic Contribution: Mining contributes significantly to Namibia's GDP, export earnings, and employment. The sector is recognised as being vital for economic growth and diversification.

Strategic Focus: Previous NDPs and the new NDP6, emphasise the development of the mining sector to ensure sustainable economic growth. Investment in mining is promoted and so is enhancement of value addition and environmental sustainability.

Policy Framework: Guiding principles for the development of the mining sector is present in the Minerals Policy of Namibia. It aims to create a conducive environment for investment, ensure the sector's sustainability, and maximise benefits for the Namibian people.

Recent Developments: The mining sector has seen promising developments, including establishment of new mines and the high prices of commodities like gold and uranium. These are expected to fuel further growth.

Since mining forms such a significant part of Namibia's economy, its integration into the Climate Change Strategy and Action Plan is crucial for sustainable development. Key aspects that feeds into this strategy are:

Sustainable Practices: The adoption of sustainable mining practices to minimise environmental impact is emphasised. This includes measures to reduce water usage, manage waste, and rehabilitate mining sites.

Renewable Energy: The use of renewable energy sources in mining operations are promoted. This will help to reduce greenhouse gas emissions while supporting Namibia's broader goal of increasing the share of renewable energy in its energy pool.

Community Resilience: Community-based adaptation programs are promoted with the aim of building resilience in local communities by supporting initiatives like agro-forestry, water conservation, and energy-efficient technologies.

Policy and Regulation: Policies and regulations to ensure that mining activities align with climate adaptation goals. This includes stringent environmental impact assessments and the enforcement of best practices in mining operations.

Research and Innovation: Research and innovation to develop new technologies and methods for more sustainable mining and resilience to climate change.

7 ENVIRONMENTAL CHARACTERISTICS

This section lists the most important environmental characteristics of the study area and provides a statement on the potential environmental impacts on each.

7.1 LOCALITY AND SURROUNDING LAND USE

The EPL area is 43,685.5231 ha in size and it is mainly located in the Khomas Region with a small area in the Hardap Region. It thus falls within the Windhoek Rural, Rehoboth East Urban and Mariental Rural Constituencies. The majority of the EPL is somewhat unique in terms of land ownership, as some individuals have multiple properties, while other properties have numerous owners. The latter due the largest part of the EPL overlapping with what used to be the self-governing homeland of Basterland. Here it is possible for the heirs of a landowner to own an undefined portion of property when inherited. This resulted in different generations all owning a part of the land, without any distinct demarcation of said land.

No national parks or game reserves are present in or near the EPL area. Most goods and services can be sourced from Rehoboth but for more specialised items residents have to travel to Windhoek.

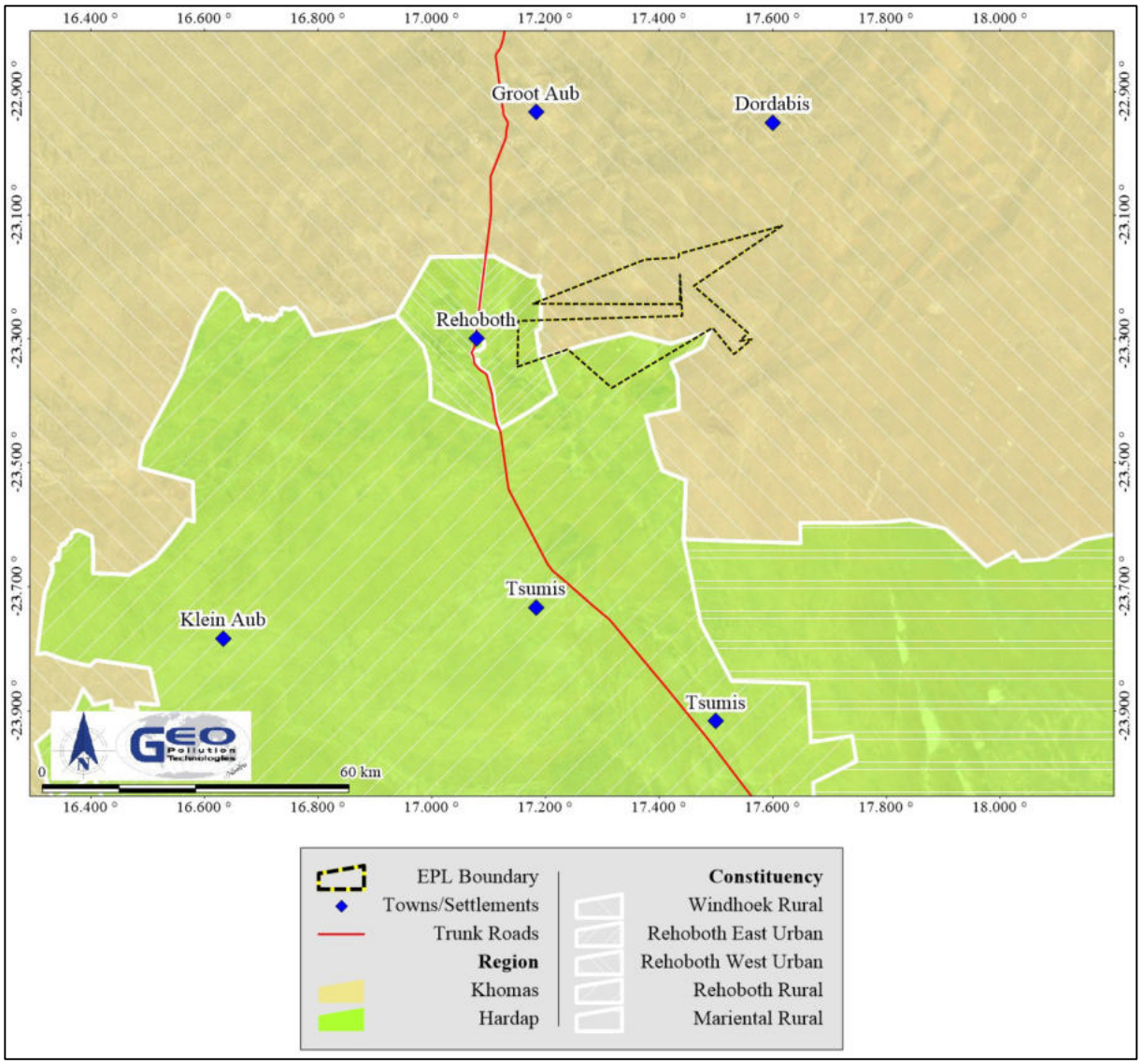

Figure 7-1 Location of EPL in context of the Khomas and Hardap Regions

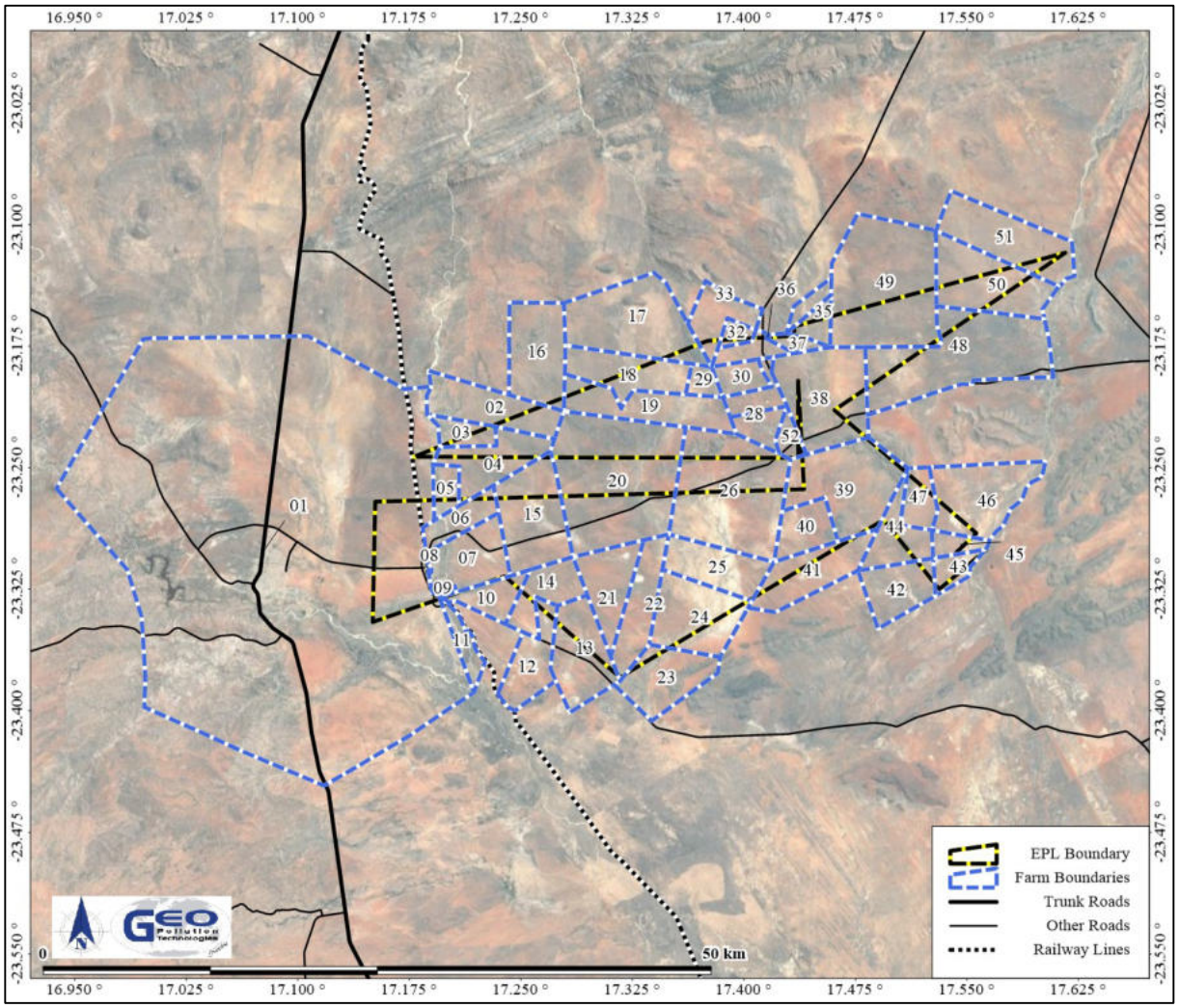

Figure 7-2 Farms overlapping with the EPL

Table 6 3 List of farms overlapping with the EPL

Map Reference	Region	Farm Name	Farm Number
1	Hardap	Rehoboth Townlands	FMM/00302
2	Khomas	Usib	FMM/00298/00001
3	Khomas	Usib	FMM/00298/00REM
4	Khomas	Usib	FMM/00850
5	Khomas	Uisib	FMM/00298/00002
6	Khomas	Vogelpan	FMM/00297/00REM
7	Khomas	Mooiplaas	FMM/00297/00002
8	Khomas		FMM/00297/003/2
9	Khomas		FMM/00297/00004
10	Hardap	Wyndraai	FMM/00846
11	Hardap	Uitdraai	FMM/00305/00REM
12	Hardap		FMM/00296/00003
13	Hardap	Vredelus	FMM/00597
14	Hardap		FMM/00296/00REM
15	Khomas	Vogelpan	FMM/00297/00001
16	Khomas	Van Wyk	FMM/00774
17	Khomas		FMM/00586

Map Reference	Region	Farm Name	Farm Number
18	Khomas		FMM/00277/00REM
19	Khomas		FMM/00277/00001
20	Khomas	Kaniegab	FMM/00295
21	Hardap	Blomputs	FMM/00294/00001
22	Hardap		FMM/00294/00REM
23	Hardap	Welkom	FMM/00757/00001
24	Hardap	Somnabab	FMM/00292/00REM
25	Hardap		FMM/00292/00001
26	Khomas	Konasib	FMM/00291
27	Khomas		FMM/00450/00004
28	Khomas		FMM/00450/00002
29	Khomas	Kalkbrak	FMM/00277/00002
30	Khomas	Kalkpan	FMM/00450/00001
31	Khomas	Kareeboomvlei	FMM/00449/00003
32	Khomas		FMM/00449/00002
33	Khomas		FMM/00833
34	Khomas		FMM/00449/00006
35	Khomas		FMM/00449/00005
36	Khomas		FMM/00449/00005
37	Khomas		FMM/00449/00004
38	Khomas	Kalkpan	FMM/00450/00REM
39	Khomas	Danigas	FMM/00289/00REM
40	Khomas	Danigas	FMM/00289/00001
41	Hardap	Atsigas Noord	FMM/00757/00REM
42	Khomas	Wiese	FMM/00062/00003
43	Khomas	Wiese	FMM/00062/00002
44	Khomas	Ganeib Suid	FMM/00215/00001
45	Khomas	Ganeib Suid	FMM/00215/00REM
46	Khomas	Ganeib	FMM/00061/00REM
47	Khomas	Ganeib	FMM/00061/00001
48	Khomas		FMM/00881/00003
49	Khomas	Klipvley	FMM/00278
50	Khomas	Riet	FMM/00287
51	Khomas	Garib	FMM/00286/00001
52	Khomas	Kalkpan	FMM/00450/00003
53	Khomas	Usib	FMM/00298/00REM

Photo 7-1 **Road turn-off from the D1228 onto the D1249 (Ptn 3 Kalkpan 450)**

Photo 7-2 **Road turn-off from the D1228 onto the D1232 (Rehoboth Townlands)**

Photo 7-3 **Hardap - Auas- 220.000 kV HV transmission line (Farm Kaniegab 295)**

Photo 7-4 **Kokerboom - Auas 400.000 kV HV transmission line (Farm Vogelpan Ptn 1)**

Photo 7-5 Bahnhof water tower (Bahnhof settlement)

Photo 7-6 Vegetable garden Bahnhof settlement)

Implications and Impacts

The EPL area overlaps townlands, government properties, commercial, and privately owned farmland. This necessitates surface access agreements to be reached between the Proponent and the owners of the land.

7.2 CLIMATE

A general lack of weather stations in Namibia, especially in rural areas, is problematic when attempting to get accurate climate data and descriptions for specific locations. Most of the weather stations that were operational in the mid to late 1900's have been closed. Climate descriptions are thus based on old measured data, crudely extrapolated for Namibia, and modelled data from satellite imagery. The following is thus a general description of the expected climatic conditions in the EPL area. Geographical features such as hills, river courses, low and high laying areas can significantly influence localised weather and especially temperatures. Data was extracted from the 2022 Atlas of Namibia unless otherwise specified (Atlas of Namibia Team, 2022).

According to the Köppen-Geiger Climate Classification system the project is located in a hot semi-arid climate (BSh) (http://koeppen-geiger.vu-wien.ac.at/present.htm). This means that the area receives precipitation below potential evapotranspiration, but not as low as a desert climate, and, has a mean annual temperature of at least 18°C.

Atlas of Namibia (2022) data indicates the average rainfall range from as low as 200 mm/a in the south to 300 mm/a in the north of the EPL. Variation in annual rainfall is between 50 and 60% which means rainfall is unpredictable. Monthly rainfall usually peaks in January, February and March, with about 70% of the total rainfall occurring in these three months. A comparison of this data can be made with long term precipitation data obtained from the CHIRPS-2 database (Funk et al., 2015). The CHIRPS-2 dataset (Climate Hazards Group Infra-Red Precipitation with Station data version 2) consist of long term rainfall data (1981 to near-present) obtained from satellite imagery and in-situ station data and therefore represents more recent data. Data is averaged over an area of roughly 5 km by 5 km. This averaging effect should be kept in mind during data analyses as high rainfall from single thunder storm cells would be averaged out, thereby providing a reduced daily maximum rainfall value. Due to the size of the EPL area, precipitation data for thirty-one 25 km^2 areas were used. The climate data for the EPL area is presented in Table 7-1. The average annual precipitation for the EPL area over the last 43 years was calculated as 271 mm/a, with a coefficient of variance of 36%. This average rainfall corresponds well with Atlas data, but the coefficient of variation is much lower. Heavier precipitation (single day events) occur between January, February, and March with a single event of 81 mm/25 km^2 in April (last 43 years data) being the highest total for the area. Daily and seasonal precipitation data (Funk et al., 2015) is presented in Table 7-1 and in Figure 7-3. Figure 7-3 presents seasonal (July to June) total precipitation, centred on the average line for the last 43 years, with the daily total

precipitation and the seasonal cumulative precipitation. It is clear that 7 out of the last 10 seasons received below average rainfall.

Potential evapotranspiration for the area is high at between 2,500 and 2,600 mm/a. By dividing the mean annual potential evapotranspiration into the mean annual precipitation, an aridity index value for the area was computed as 0.1, which indicates the area to be arid.

Table 7-1 Rainfall statistics based on CHIRPS-2 data (Funk et al., 2015)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Minimum (mm)	5	13	8	7	0	0	0	0	0	0	0	0
Maximum (mm)	208	208	160	214	8	2	1	1	8	34	57	57
Average (mm)	60	68	57	39	1	0	0	0	1	9	16	20
Variability (%)	72	66	59	93	238	203	293	254	159	101	74	71
Daily maximum (mm)	42	35	38	81	8	2	1	1	6	13	17	14
Average rain days	7	8	6	3	0	1	0	0	1	3	4	4

Season July - June average: 271 mm | Season coefficient of variation: 36 %

Date range: 1981-July-1 to 2025-June-30 | Lat: 23.24200°S; Long: 17.35600°E

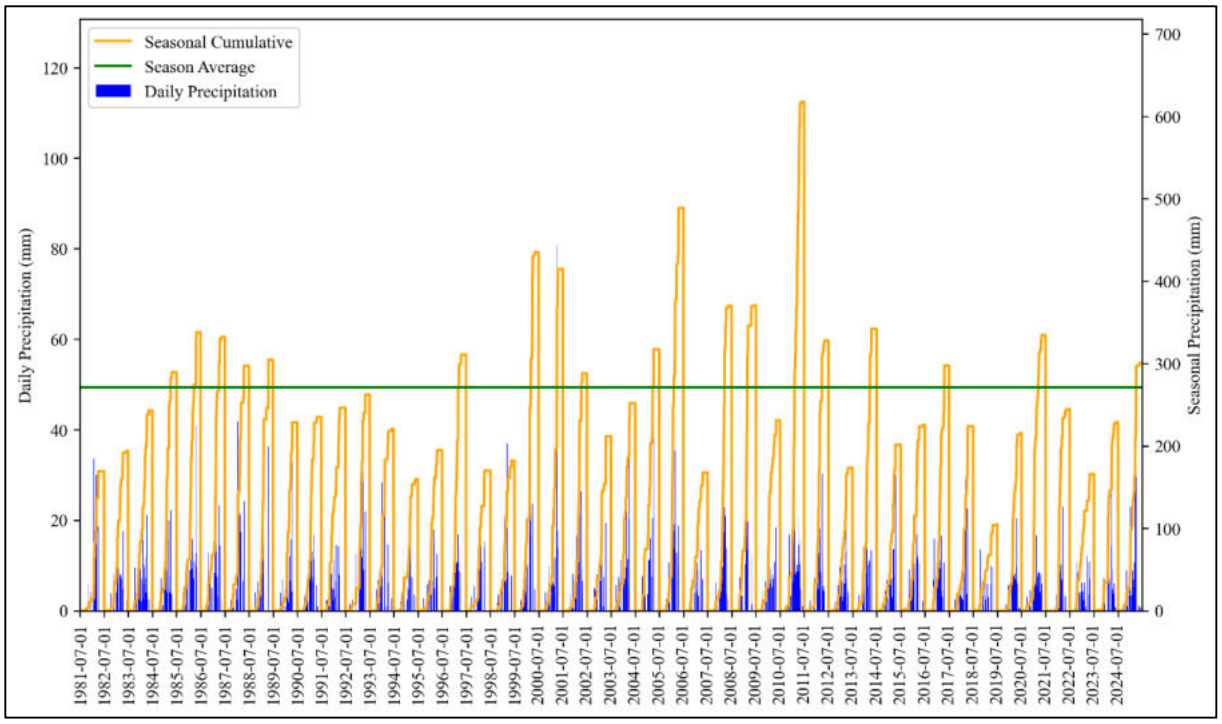

Figure 7-3 Daily and seasonal rainfall from CHIRPS-2 data (Funk et al., 2015)

Similar to precipitation data, temperature data is also lacking for the project area, with the Atlas of Namibia presenting only crude, large scale averages. To have an idea of temperatures in the area, monthly temperature data was retrieved from the Modern-Era Retrospective analysis for Research and Applications version 2 (MERRA-2) data set for a height of 2 m above surface (Ronald Gelaro, et al., 2017). This data set is a NASA atmospheric reanalysis, incorporating satellite data integration and aims at historical climate analyses at 0.5° x 0.625° spatial resolution. This translates to roughly 3,640 km², which still is a large area, but is somewhat less crude than the Atlas data. Table 7-2 presents statistics of daily data abstracted from the MERRA-2 data set for the last 43 years. The lowest temperature of -6 °C was recorded in July, with sub-zero temperatures occurring relatively frequently in winter months. Maximum temperatures reach up to 39 °C between October and March. Direct normal solar irradiance for the area is 7.84 kWh/m²/day. Electricity generation with photovoltaic installations will thus be efficient in the area.

Figure 7-4 indicates modelled wind data that has been generated using satellite data. Localised conditions may see wind patterns being altered by localised topography, especially along tstreams

and at mountainous areas. Strong winds are more frequent from the west-southwest to the west-northwest and north to east-northeast. Winds are from the south to east area less frequent and with lower velocity.

Table 7-2 Temperature statistics based on Merra-2 data (Ronald Gelaro, et al., 2017)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Minimum (°C)	6	9	4	2	-2	-4	-6	-4	-1	1	3	8
Maximum (°C)	39	39	38	34	32	28	29	32	36	39	38	39
Average (°C)	25	24	23	20	17	14	14	17	20	23	24	25
Diurnal (°C)	15	14	15	15	16	17	17	19	19	18	18	17
Average days < 0°C	0	0	0	0	0	2	3	1	0	0	0	0

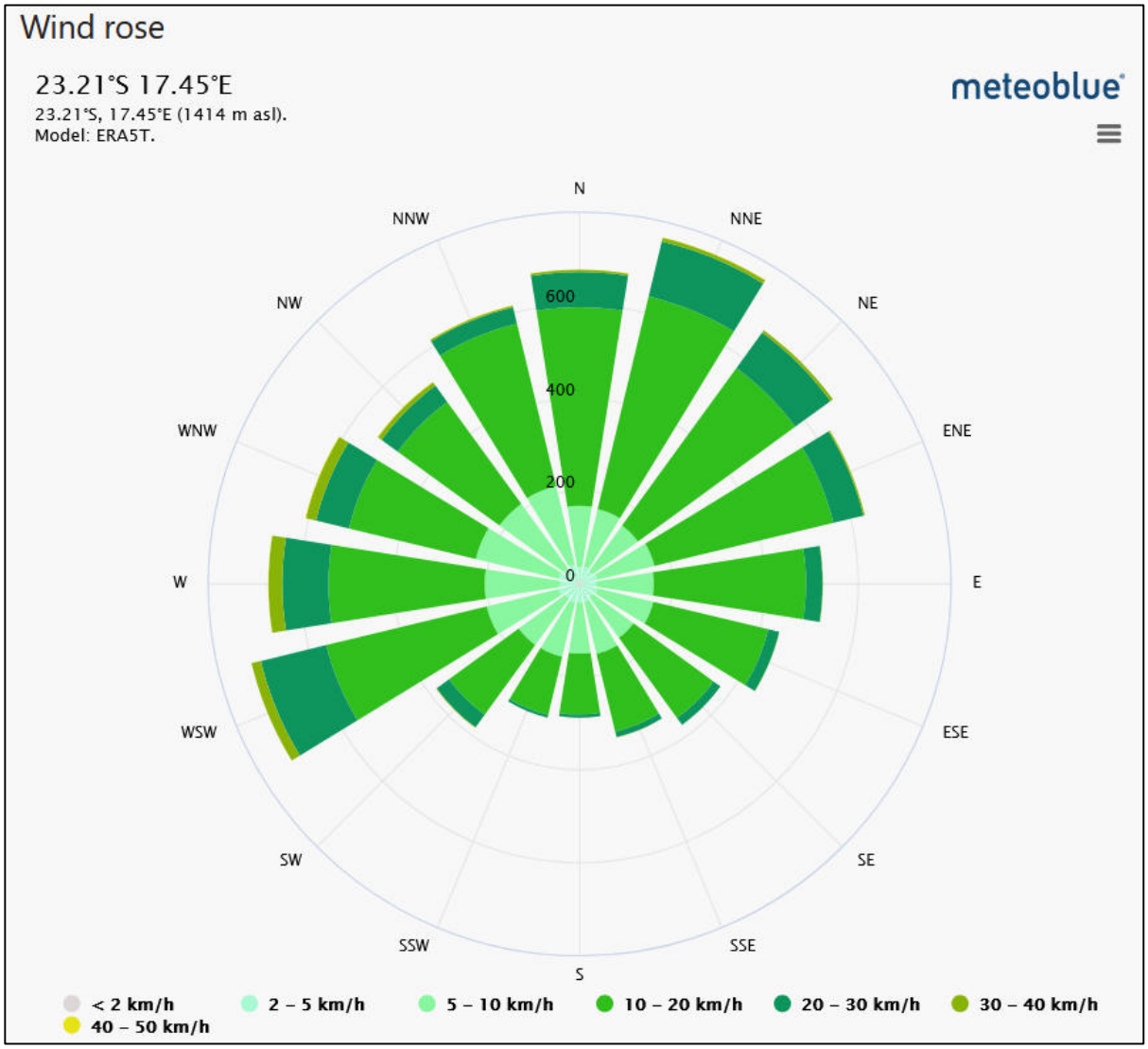

Figure 7-4 Average wind speed and direction (https://www.meteoblue.com)

Implications and Impacts

Rainfall events are often thunderstorms with heavy rainfall that can occur in short periods of time (cloud bursts). High intensity and erratic rainfall events may result in flash floods along the river courses in the EPL area. Rainfall may result in the leaching of pollutants or hazardous substances into groundwater. Frequent high temperatures experienced in the area poses a risks to employees who can become dehydrated or get sunstroke. Sunburn is also a high risk as the solar radiation levels are high.

Wind may carry dust and noise to nearby receptors.

7.3 TOPOGRAPHY AND DRAINAGE

The project overlaps the Kalahari Sandveld, a flat, basin of sedimentation, much of which is characterized by aeolian landforms, including linear dunes and pans. These dunes and pans are intermittently present in the southern half of the EPL. The Kalahari Sandveld landscape formed through the accumulation of sand from river flow in a wetter climate during post Gondwana breakup. The sand has subsequently been shaped into the linear dunes characteristic of the Kalahari Desert by aeolian (wind) and fluvial (river/running water) action during a subsequent drier period.

A very small portion (0.1%) of the northern part of the EPL, overlaps the Khomas Hochland Plateau, a landform consisting of rolling hills and deep valleys. Ground surface elevation falls between 1,328 and 1,480 mamsl, with a few isolated hills with elevations of 1,500 to 1,686 mamsl (Figure 7-5). Elevation remains very flat to undulating with the exception of the above mentioned isolated hills (Figure 7-6). The main surface drainage feature is the Usip River, in the west of the EPL, and its tributaries which originates in the Auas Mountains, just south of Windhoek. It dissects the EPL in a north-south direction (Figure 7-5). The relatively small Nauaspoort Dam is located in the Usip River, just north of the Nauaspoort Mountain. It has a capacity of 3,190,000 m^3 and was historically used to supply water to the Oamites Mine via an 18 km pipeline. The dam and related infrastructure are under the control of NamWater. The Usip River joins the Oanob River 8 km south of the EPL's southern boundary.

Photo 7-7 **Outcrop (Koppie) next to the Usib River Ptn 2 Mooiplaas**

Photo 7-8 **Natural depression (pan) on Portion 1 Vogelpan**

Photo 7-9 **Outcrop on the northern portion of the farm Konasib 291**

Photo 7-10 **Permanent dunes on Portion 2 of Mooiplaas**

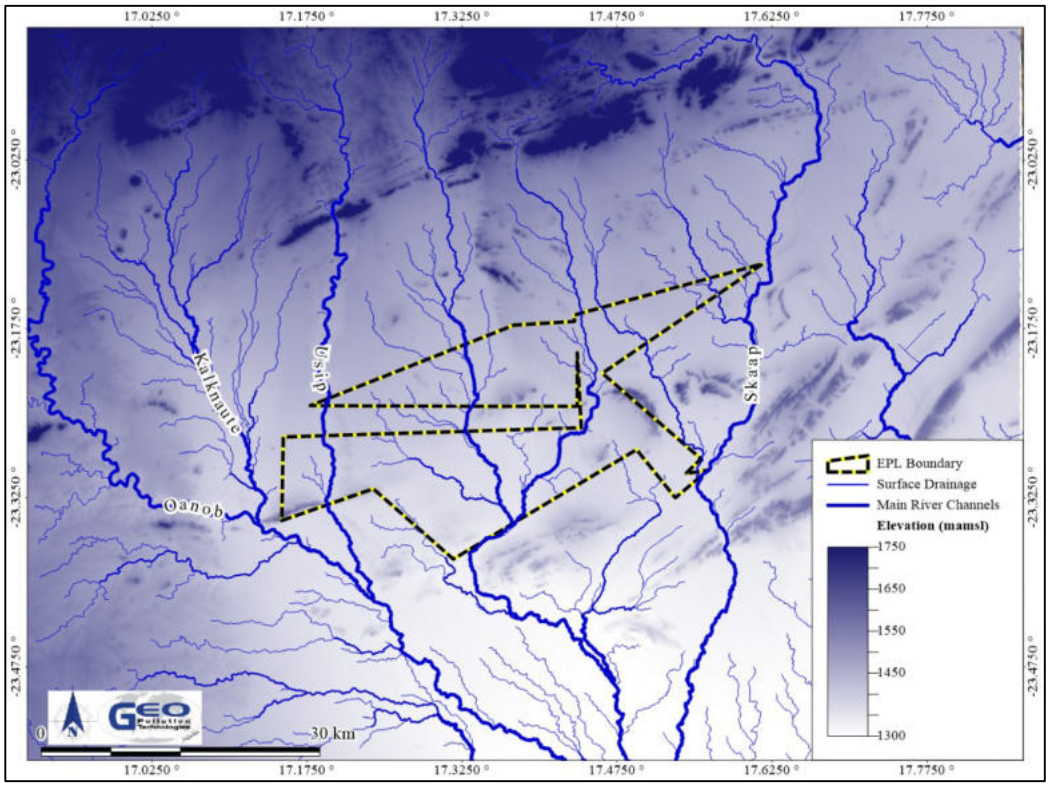

Figure 7-5 Elevation changes and surface drainage within the EPL area

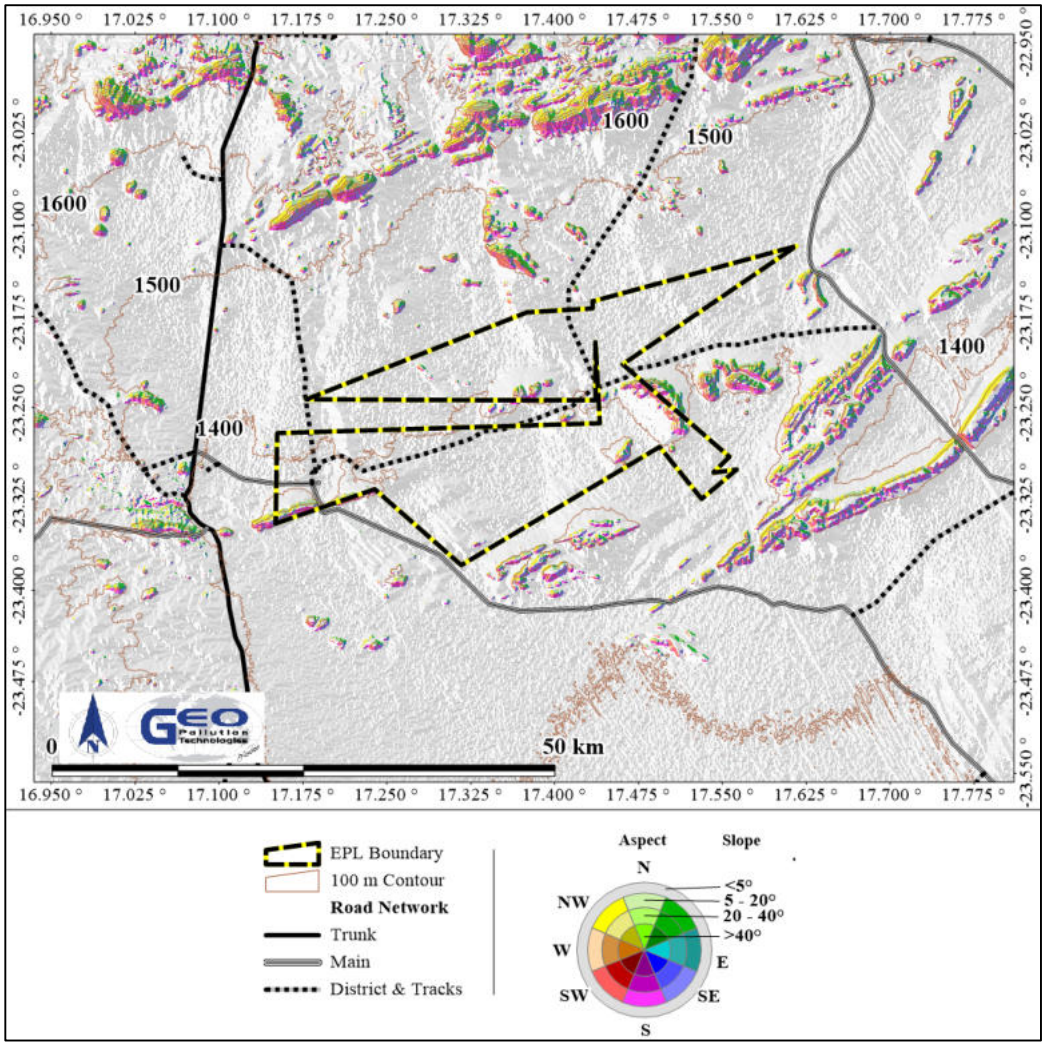

Figure 7-6 Slope-aspect map

Implications and Impacts

Surface water runoff can act as a transport medium for pollutants or hazardous substances. Servicing of vehicles may not occur within the EPL. Any pollutants or contaminated soil must be removed from site and disposed of in an appropriate manner.

7.4 GEOLOGY AND SOILS

Dominant soil type in the EPL area is Arenic Fluvisol which refers to the young soil type that develops in aquatic sediments like riverbeds and tidal marshes. Distinct bands of varying characteristics is a defining feature of fluvisols and are the result of sediment deposited by periodic flooding. The composition of soil in this particular area is roughly 80-85 % sand, 5-10 % silt and 10-15 % clay which gives it the characteristics and texture of loamy sand soil. Bulk density was computed to be 1,400-1,450 mg/cm³ which means that the soil has the ideal density for plant growth. Soils in this area typically reach depths of more than 190 cm, have a pH of 6-6.5 and a cation exchange capacity of less than 7 cmol/kg. Furthermore, this region has a water capacity of 60 to 80 mm at root depth.

Photo 7-11 Red Kalahari soil (arenic fluvisol) in the road reserve of the D1232 within the Rehoboth Townlands

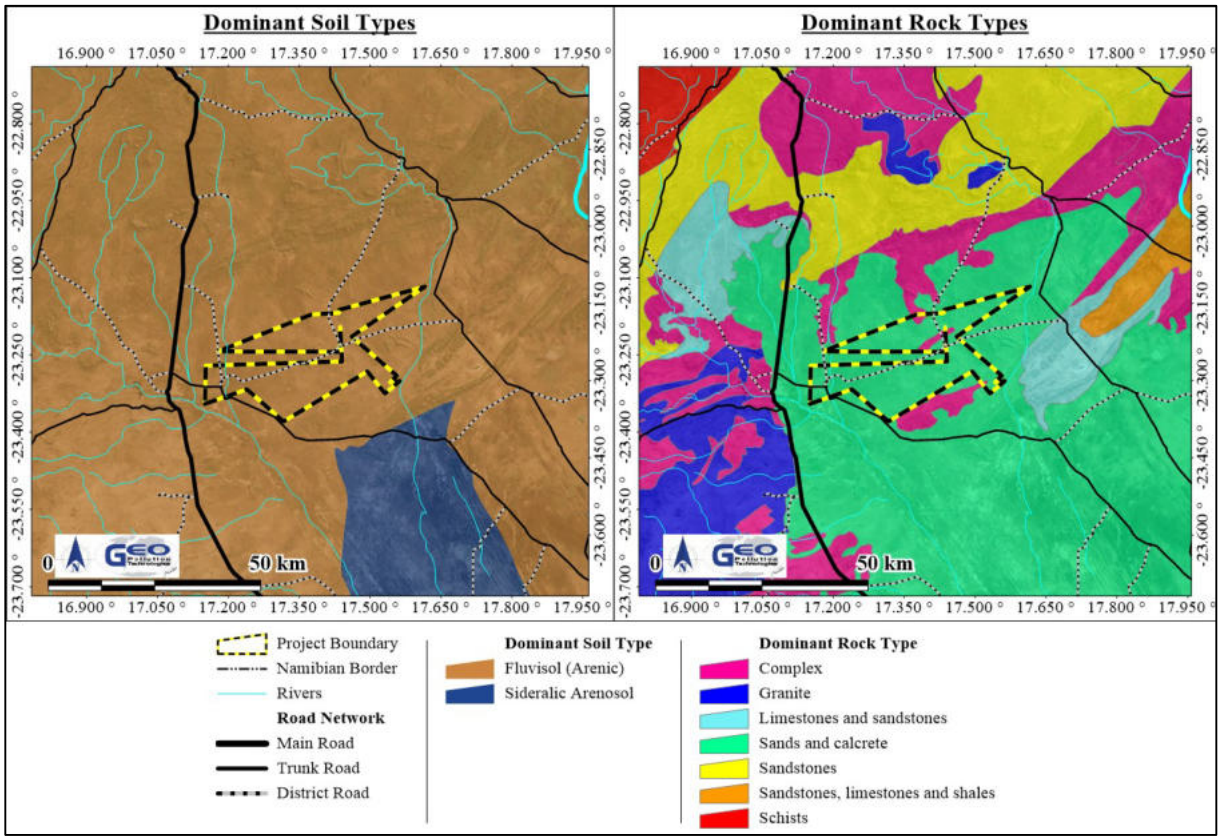

Figure 7-7 Soils and rock types

The geology underlying the EPL area formed during the Quaternary and Mokolian Age. Locally the soil cover from the Quaternary Age comprises of Kalahari Sediments which include sand, calcrete and gravel. A large portion of the EPL is covered by these Kalahari Sediments, with limited exposure of the underlaying bedrock. As a result, the bedrock (which forms part of the basement geology) is poorly understood and sometimes much debated in literature. Some of the Kalahari sediments are partly cemented with calcium carbonate to form lime cemented sandstones and calcrete. It is these rocks that will form part in the soil forming processes and should not be confused with the deeper laying rocks as discussed below.

The geology underlying the EPL area formed during the Quaternary (Qs), Namibian (N) and Mokolian (Mho) Age. Locally the soil cover from the Quaternary Age comprises of Kalahari Sediments which includes sand, calcrete and gravel. A large portion of the EPL is covered by these Kalahari Sediments, with limited exposure of the underlaying bedrock. As a result, the bedrock (which forms part of the basement geology) is poorly understood and sometimes much debated in literature.

The exposed geology is present mainly in the central part of the EPL. These outcrops form part of the basement rocks associated with the Sinclair-Rehoboth Province, also referred to as the Rehoboth Inlier. The Rehoboth Inlier represents some of the oldest known basement formations in Namibia. Limited outcrop of para/orthogneiss from the Neuhof Formation (Mnh) and the Hohewarte Formation (Mho) has been documented on the northern boundary of the EPL.

The majority of outcrops along the centre of the EPL are quartzites, phyllites, rhyolite and intrusive metabasite dykes from the Marienhof Formation (Mm), Rehoboth Sequence. According to Ziegler and Stoessel (1993), Marienhof outcrops in the EPL area range from low- to medium-grade metamorphosed quartzites and phyllites. This is bordered to the south by rhyolite from the Nuckopf Formation (Mnu) in the younger Sinclair Sequence. Lastly, granites plutons from the Gamsberg Suite (Mgg) are present on the southern boundary of the EPL and a small outcrop near the centre of the EPL.

It is evident from the complexity of the stratigraphy that the geology of the EPL area has been folded and thrusted numerous time, each with its own alternations and intrusions. A northeast to

southwest trending fault has been documented running through the centre of the EPL and the Damara Thrust Front is approximately 15 km to the north of the EPL.

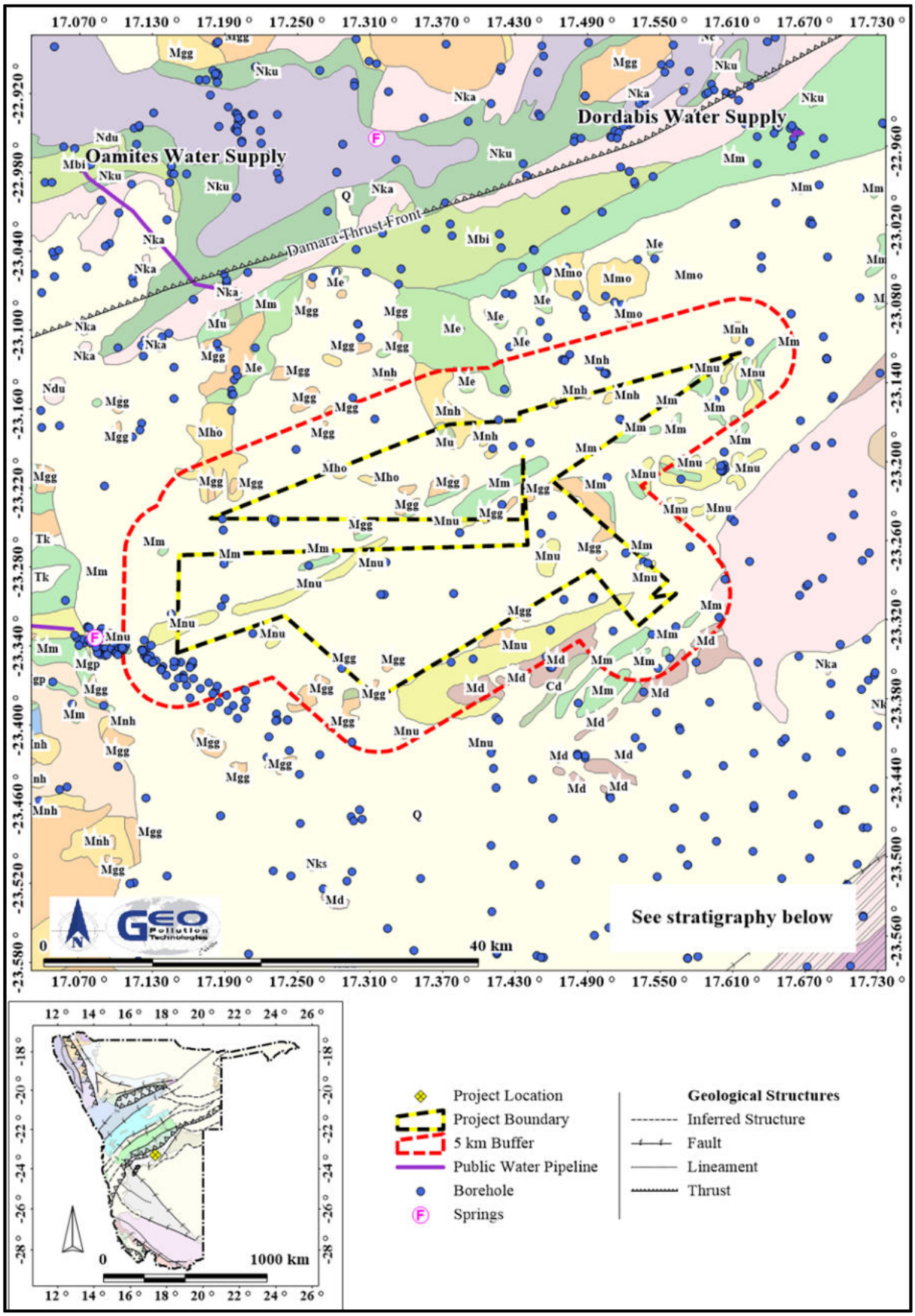

Figure 7-8 Geology map (refer to Table 7-3)

Table 7-3 Geology stratigraphy (refer to Figure 7-8)

Age	Lithcode	Sequence	Group	Subgroup	Formation	Complex	Intrusive Unit	Suite	Rocktypes	Remarks
Quaternary	Q								Alluvium, sand, gravel, calcrete	
Quaternary and Tertiary	Tk		Kalahari						Sand, calcrete, gravel	
Jurassic	Jk_up	Karoo			Kalkrand				Basalt, minor sandstone	Subcrop below Tk, Qa and other superficial deposits
Permo-Carboniferous	Cd				Dwyka				Tillite, boulder shale, shale, sandstone, limestone	
Namibian	Nka		Nama	Kuibis					Sandstone, black limestone, conglomerate, shale	
	Nc	Damara	Otavi	Tsumeb	Ghaub				Diamictite	Previously Chuos Formation
	Nku		Swakop	Kudis					Marble, schist, quartzite, graphitic schist	
	Nmh		Hakos	Vaalgras	Mikonda				Quartzite, micaceous quartzite, mica schist	
	Ndu		Nosib		Duruchaus				Quartzite, conglomerate, schist, marble	
	Nka_sc				Kamtsas				Quartzite, conglomerate, schist, marble	Subcrop below Tk, Qa and other superficial deposits
	Nka								Quartzite, conglomerate, schist, marble	
Mokolian	Md				Doornpoort /Eskadron				Quartzite, conglomerate, shale, basalt, rhyolite, ignimbrite	
	Mgg	Sinclair			Gaусeas			Gamsberg	Granite	
	Mnu				Nückopf				Rhyolite, ignimbrite, conglomerate, quartzite, shale, basalt	
	Mgp						Piksteel Granodiorite		Granodiorite	
	Mu								Serpentinite, hornblendite, talc and chlorite schist	Related to Alberta/Doornboom Complexes
	Mbi	Rehoboth			Billstein				Quartzite, schist, conglomerate, quartz porphyry	
	Mm				Marienhof				Quartzite, phyllite, rhyolite, basalt, conglomerate, intrusive metabasite dykes	
	Me		Khoabendus		Elim				Rhyolite, basalt, andesite, ortho-amphibolite, greenschist, quartzite, phyllite, limestone, magnetite quartzite, gneiss	
	Mho					Hohewarte			Para-/orthogneiss, metasedimentary rocks, granite, metabasite dykes	
	Mmo					Mooirivier			Para-/orthogneiss, metasedimentary rocks, granite, metabasite dykes	
	Mnh				Neuhof				Para-/orthogneiss, metasedimentary rocks, granite, metabasite dykes	

7.5 HYDROGEOLOGY

A small portion of the EPL (southeast corner) is inside the Windhoek-Gobabis Subterranean Water Control Area (Extension). This water control area is set forth in the Government Notice 47 of 26 March 1976 (Figure 7-9). Under the old legislation, Government strictly regulates groundwater usage in this area and all other groundwater related activities like drilling, cleaning or deepening of boreholes and rates of water abstraction. The new Water Resources Management Act of 2013 has however now extended most of these regulations to all groundwater usage in Namibia. The Act requires that all boreholes be registered and that permission to drill be obtained prior to drilling. Groundwater abstraction and effluent disposal is also regulated. All groundwater remains the property of the Namibia government.

The EPL also forms part of a groundwater basin, the South Eastern Kalahari Basin. It should be noted that groundwater does not strictly follow the basin boundaries. Groundwater Basin committees will also be formed under the new Water Resources Management Act and it will likely give more powers to groundwater users in a basin, to not only ensure sustainability of groundwater usage, but also encourage the optimal usage of groundwater.

Local groundwater flow is expected to take place through primary porosity in the surface cover (Kalahari Group), while it is expected to flow along fractures, faults, dykes/mineralised faults or along contact zones and other geological structures (secondary porosity) present within the underlaying basement formations. Regional groundwater flow varies throughout the EPL, but is in the largest part of the EPL expected to be in an east to south-eastern direction Figure 7-9).

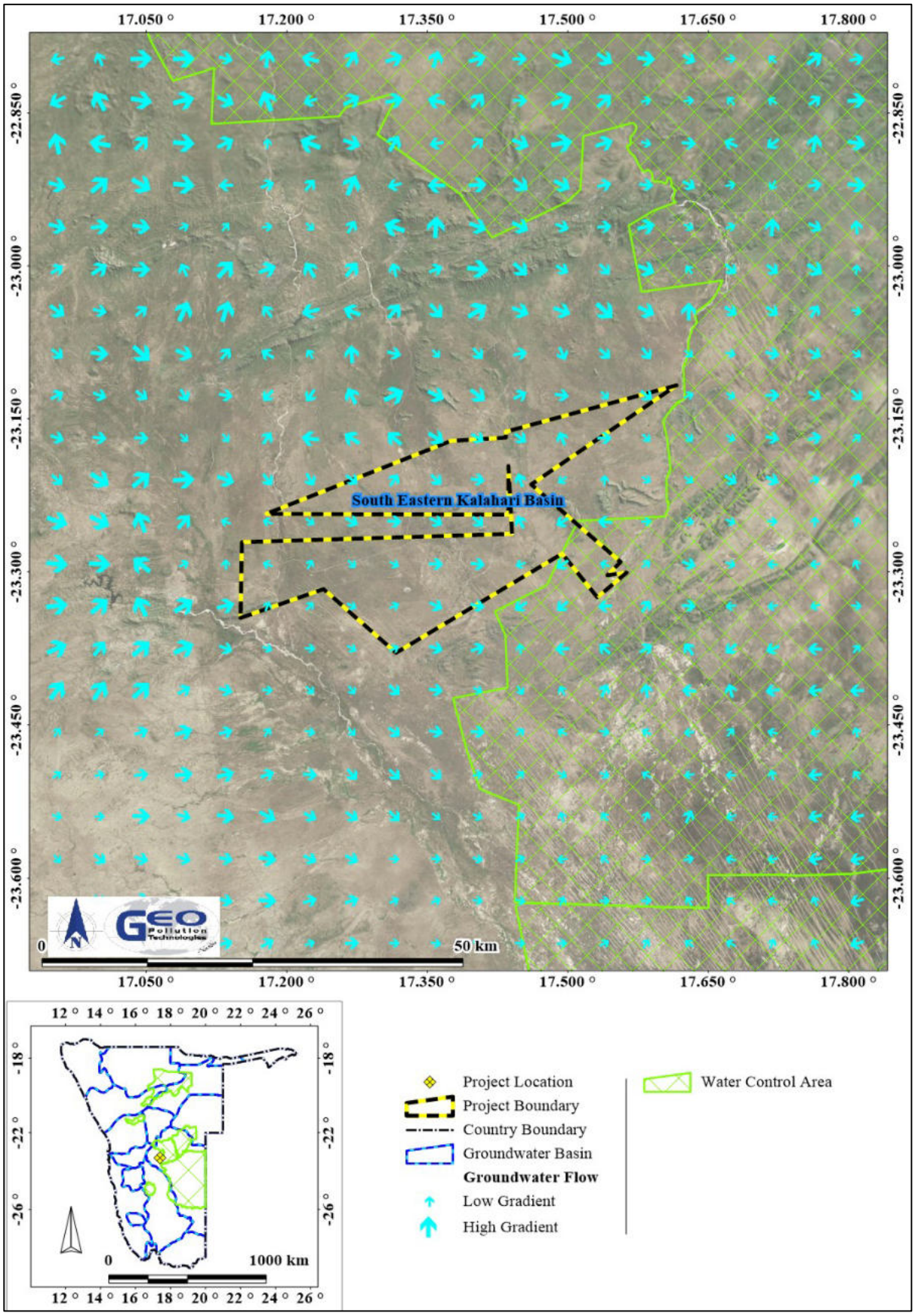

Figure 7-9 Groundwater basins and water control areas

Table 7-4 presents groundwater statistics for 117 boreholes in the EP, inclusive of a 5 km buffer zone around it. The data summarised in Table 7-4 was also presented graphically in Figure 7-10. The groundwater information was obtained from Department of Water Affairs (DWA) borehole

database. This database is generally outdated and more boreholes might be present. The average depth of 83 of the boreholes is 45.18 m below surface and the yield of 68 of the boreholes ranges between 0.9 and 30 m³/h, with an average yield of 7.17 m³/h. The average groundwater level of 50 of the boreholes is 14.88 m below surface, ranging between 3.5 m and 67.0 m below surface. From the available boreholes' data it seems that no correlation exists between boreholes' depth and yield. Most of the successful boreholes yield less than 15 m^3/h and do not exceed 100 m in depth. Regionally, it is observed that a large portion of the water quality analysis falls in the Group A category, with an equal amount of analysis in the Group B concentrations for all reported parameters. A limited number of analysis have been recording in the Group C and D concentrations for all reported parameters.

Implications and Impacts

Groundwater is utilised in the area and such users would be at risk if pollution of the groundwater takes place. Permeable soil and areas with shallow groundwater levels makes the groundwater vulnerable to pollution.

There is no indication of multilayer aquifers that would be intersected if exploration drilling is to take place. Care should be taken that water intersected is not allowed to flow out into the Kalahari sediments, and where it happens, exploration boreholes should be properly sealed with either back cementation or through the installation of casing that would prevent such leakage.

7.6 PUBLIC WATER SUPPLY

Water supply on all land intersected by the EPL is from boreholes. There are no NamWater supply schemes within the EPL and a 5 km buffer zone around it. The closest scheme is at Oanob Dam which supplies water to Rehoboth.

Implications and Impacts

Public water supply from boreholes may be impacted if groundwater contamination or over abstraction takes place. Special care must be taken during exploration drilling to prevent impacts on groundwater.

Table 7-4 Groundwater Statistics

	DEPTH (mbs)	YIELD (m^3/h)	WATER LEVEL (mbs)	TDS (ppm)	SULPHATE (ppm)	NITRATE (ppm)	FLUORIDE (ppm)
Data points	83	68	50	57	57	53	56
Minimum	5.00	0.90	3.50	134.00	5.00	0.70	0.10
Average	45.18	7.17	14.88	984.09	225.96	21.14	1.40
Maximum	338.30	30.00	67.00	3,663.00	1,800.00	95.00	7.40
Group A	71.08%	17.65%	48.00%	56.14%	59.65%	39.62%	64.29%
Limit	50	>10	10	1000	200	10	1.5
Group B	25.30%	27.94%	50.00%	24.56%	33.33%	30.19%	16.07%
Limit	100	>5	50	1500	600	20	2.0
Group C	2.41%	45.59%	2.00%	10.53%	5.26%	13.21%	1.79%
Limit	200	>0.5	100	2000	1200	40	3.0
Group D	1.20%	8.82%	0.00%	8.77%	1.75%	16.98%	17.86%
Limit	>200	<0.5	>100	>2000	>1200	>40	>3
117 known boreholes within the project area and a 5 km buffer around the area							

Statistical grouping of parameters is for ease of interpretation, except for the grouping used for sulphate, nitrate and fluoride, which follow the Namibian guidelines for the evaluation of drinking-water quality for human consumption, with regard to chemical, physical and bacteriological quality. In this case the groupings has the following meaning:

Group A: Water with an excellent quality
Group B: Water with acceptable quality
Group C: Water with low health risk
Group D: Water with a high health risk, or water unsuitable for human consumption.

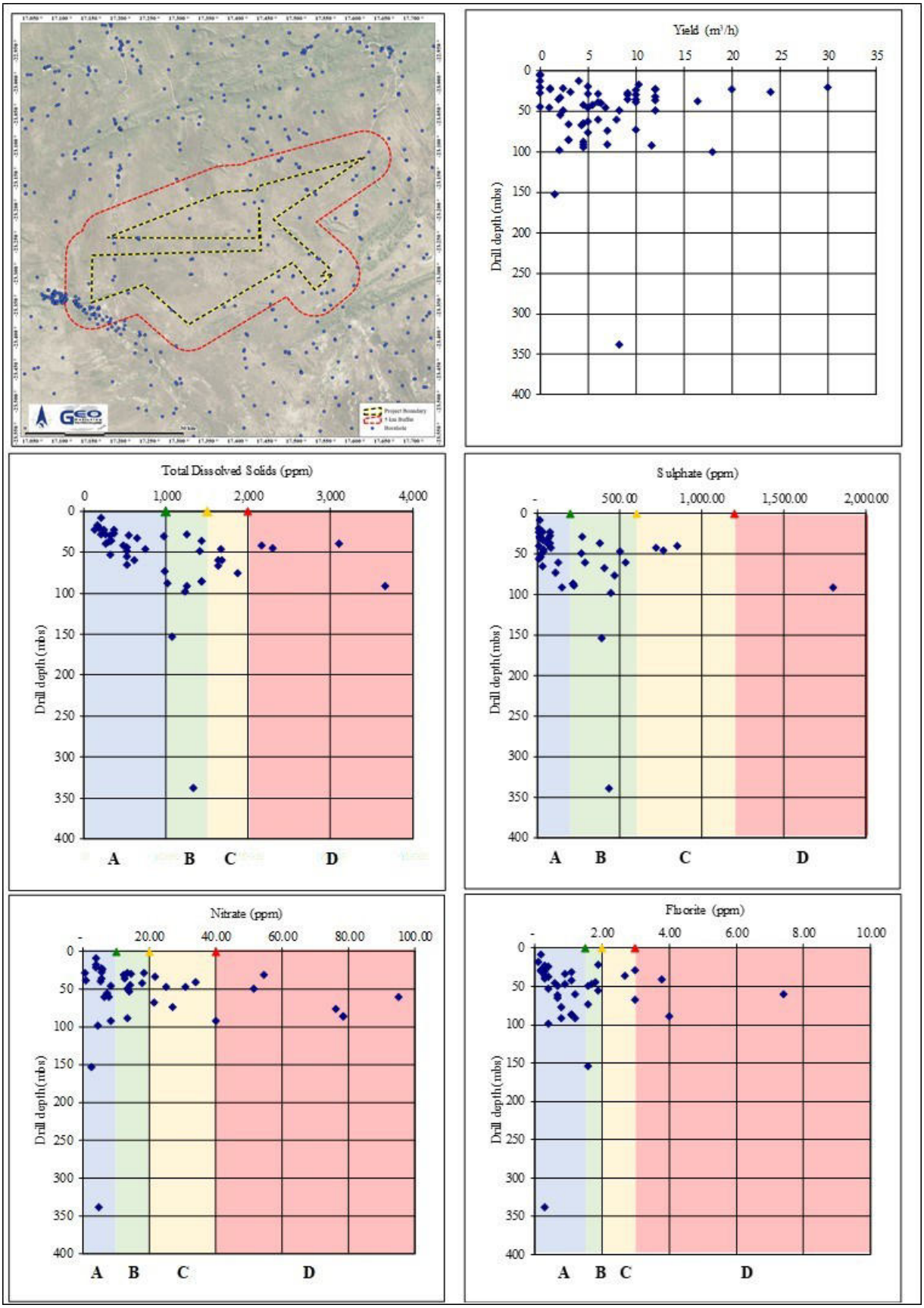

Figure 7-10 Water quality of boreholes in the area

7.7 ECOLOGY

7.7.1 Vegetation

This EPL is located in the Tree and Shrub Savanna biome. The vegetation type in the area can be classified as the highland shrubland in the north and southern Kalahari in the south of the EPL (Atlas of Namibia, 2022) (Figure 7-11). The EPL is within an area where mostly no specific floristic group has been delineated. Only two patches of the Highland 1,500 m floristic group, where taxa occurring above 1,500 mamsl occur, are in the centre and on the eastern boundary of the EPL.

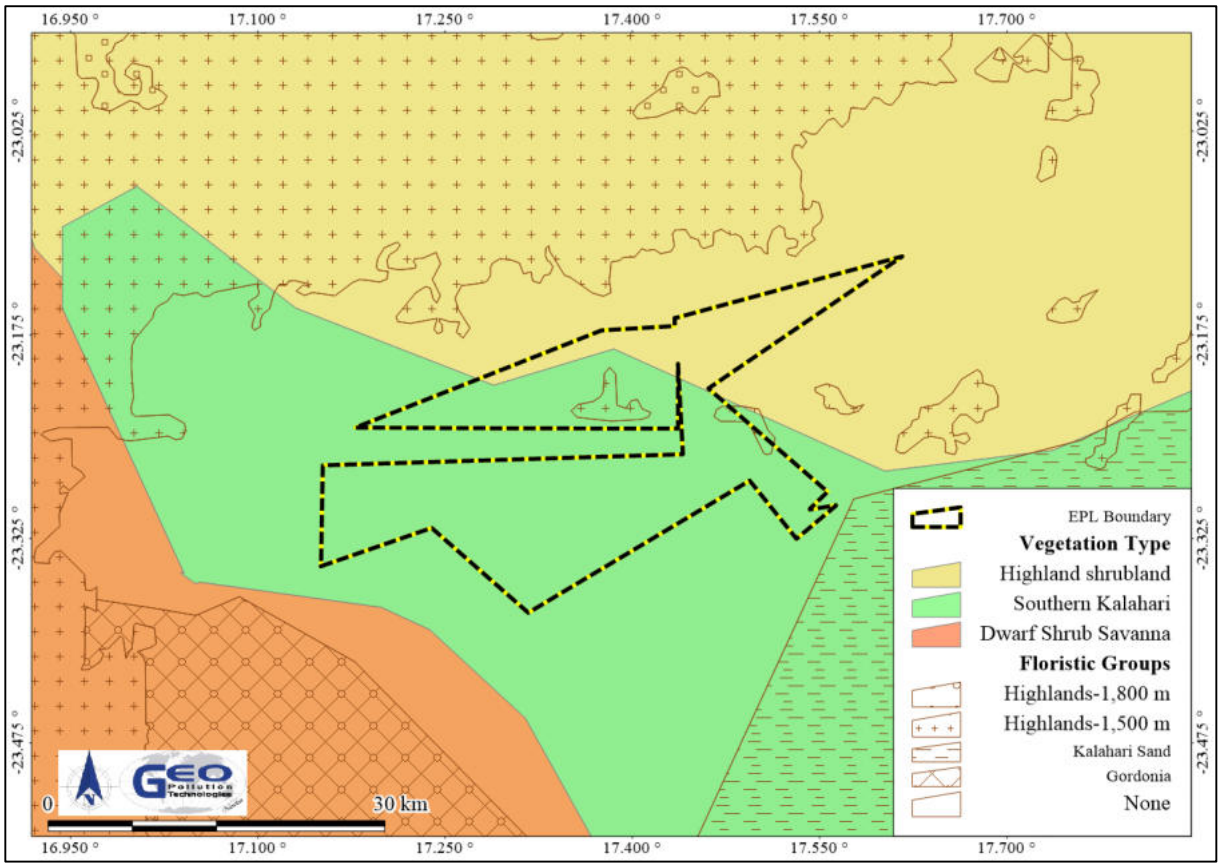

Figure 7-11 Vegetation type and floristic group

Vegetation on the flat areas are relatively homogenous while the river areas and rocky outcrops and hills have more diversity. The EPL area overlaps six different quarter degree squares (QDS) as can be seen in Figure 7-12. Vegetation data as contained within the 2022 Atlas of Namibia is also presented in Figure 7-12. When interpreting the data, it should be kept in mind that biodiversity surveys in Namibia are typically linked to areas of specific interest or areas easily accessible. Hence the big discrepancy in plant richness and endemism between the different QDS. For example, QDS 2317AC indicates 273 plant species with 16 endemics, while QDS 2317AD, immediately to the east has only 17 species and one endemic. The reason for this stems most likely from the fact that QDS 2317AD covers Rehoboth and Oanob Dam, which would have received much more attention in terms of vegetation surveys. It is safe to say that plant diversity in the EPL will be closer to 300 species.

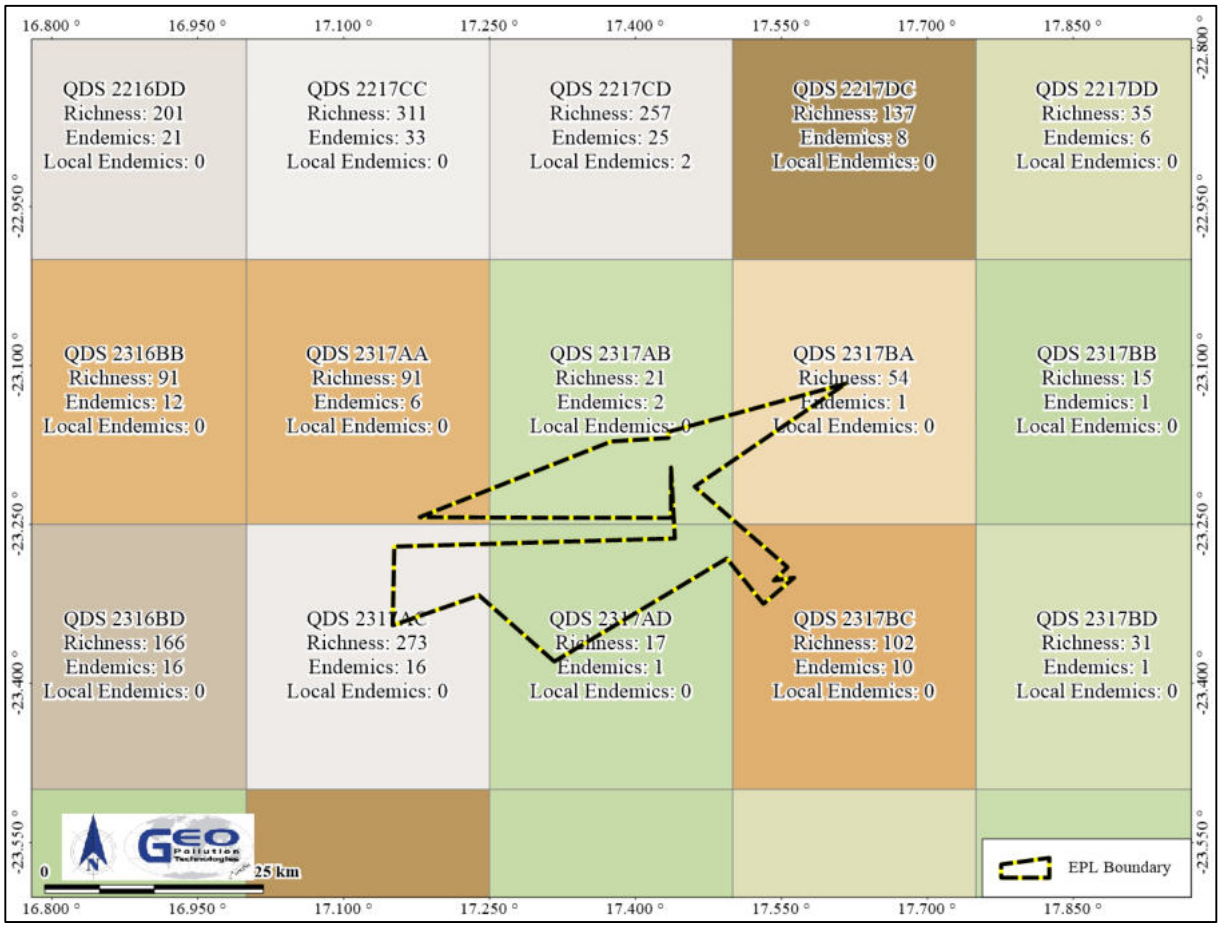

Figure 7-12 Plant species richness and endemism in the EPL area (Atlas of Namibia Team, 2022)

The Tree Atlas of Namibia lists 63 species as occurring across the EPL area (Curtis & Mannheimer, 2005). These are presented in Appendix A. Of the trees, seven are listed as being protected in Namibia, four are prone to becoming invasive, one is endemic, one is near endemic and two are alien species.

Photo 7-12 Namib tsamma melon (*Citrullus lanatus var. citroides*) on Ptn 2 Mooiplaas

Photo 7-13 Larger *Acacia* trees next to the Usib River within the Rehoboth Townlands

Photo 7-14 Grasslands next to unnamed tributary on the farm Kanigab 295

Photo 7-15 Cork bush (*Mundulea sericea*), on Ptn 3 on Farm Kalkpan 450

7.7.2 Wildlife

With the EPL overlapping farmland, one would expect to encounter various game species on the farms. However, during the site visit, no large game were encountered. The possible subdivision of farms in the EPL into smallholdings have increased traffic in the area, which likely result in the movement of game towards other less occupied areas. Also, sufficient rain received during the 2024/2025 rainy season ensured that plenty of food is available away from roads and areas frequented by people.

Based on the Atlas of Namibia (2022), between 61 and 75 species of mammal occur in the area. One can expect to find kudu, gemsbok, springbok, steenbok and duiker in the area. Leopard will be present closer to the mountainous areas while cheetah, brown hyena, jackal, porcupine, warthog, ground squirrels, meerkat, mongoose, hares and a variety of small cats are likely to be present in varying numbers.

Photo 7-16 Free roaming goat next to the Bahnhof settlement within Rehoboth townlands

Photo 7-17 Free roaming goats next to the Bahnhof settlement within Rehoboth townlands

Implications and Impacts

Various protected tree species occur in the EPL. These, together with bird nests they (and other trees) may contain, may be damaged during exploration activities. Poaching of the wildlife is, as in other areas of Namibia, a concern. Encounters with venomous or dangerous animals (e.g. leopard, rabid animals, etc.) may pose a danger to the Proponent's staff.

7.8 DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS

The project is mostly located on the southern boundary of the Windhoek District and Khomas Region, and falls under the Windhoek Rural Constituency. Only a small area of the southern and western areas of the EPL is within the Hardap Region's Rehoboth Urban East and Rehoboth Rural Constituencies.

Based on the preliminary results of the 2023 census, the Khomas Region has a population of 494,605 of which 241,085 are male and 253,520 are female. The Region has an annual growth rate of 3.1% and a density of 13.4 people/km2 and a literacy rate of 95.8%. The Windhoek Rural Constituency has 30,079 people of which 16,452 are male and 13,627 are female. The constituency has a density of 0.8 people/km² (National Planning Commission, 2023).

The Hardap Region has a total population of 106,680 of which 54,323 are male and 52,357 are female. The region has an annual growth rate of 2.4% and a density of one person per square kilometre, and a literacy rate of 90.5%. The Rehoboth East Urban Constituency has 29,299 people of which 14,308 are male and 14,991 are female. The constituency has a density of 101.8 people/km². The Rehoboth Rural Constituency has 9,439 people of which 5,182 are male and 4,257 are female. The constituency has a density of 0.8 people/km² (National Planning Commission, 2023).

Livelihoods on the farms within the EPL area have traditionally mainly been reliant on livestock farming. Reliance on livestock farming has however decreased and many of the farms are subdivided and sold as smaller farms or smallholdings. The owners of these utilising it more for a weekend retreat away from urban life and possibly some small scale farming for own use. Some of the larger farms still rely on livestock farming for income.

Unemployment and poverty in the Namibia is high with 36.9% of the population 15 years and above being unemployed. The Khomas Region's unemployment is at 34.4 and the Hardap Region at 32.1%. In the constituencies, Windhoek Rural has a 20.8%, Rehoboth East Urban 43.0%, and Rehoboth Rural 23.5% unemployment rate.

The farms in the EPL area are mainly accessible via the M0046 (C25) and the M0033 (C15) main roads and the district roads, D1228, D1232 and D1249, which branches off of them.

Photo 7-18 Derelict train station (Bahnhof settlement)

Photo 7-19 Houses (Bahnhof settlement)

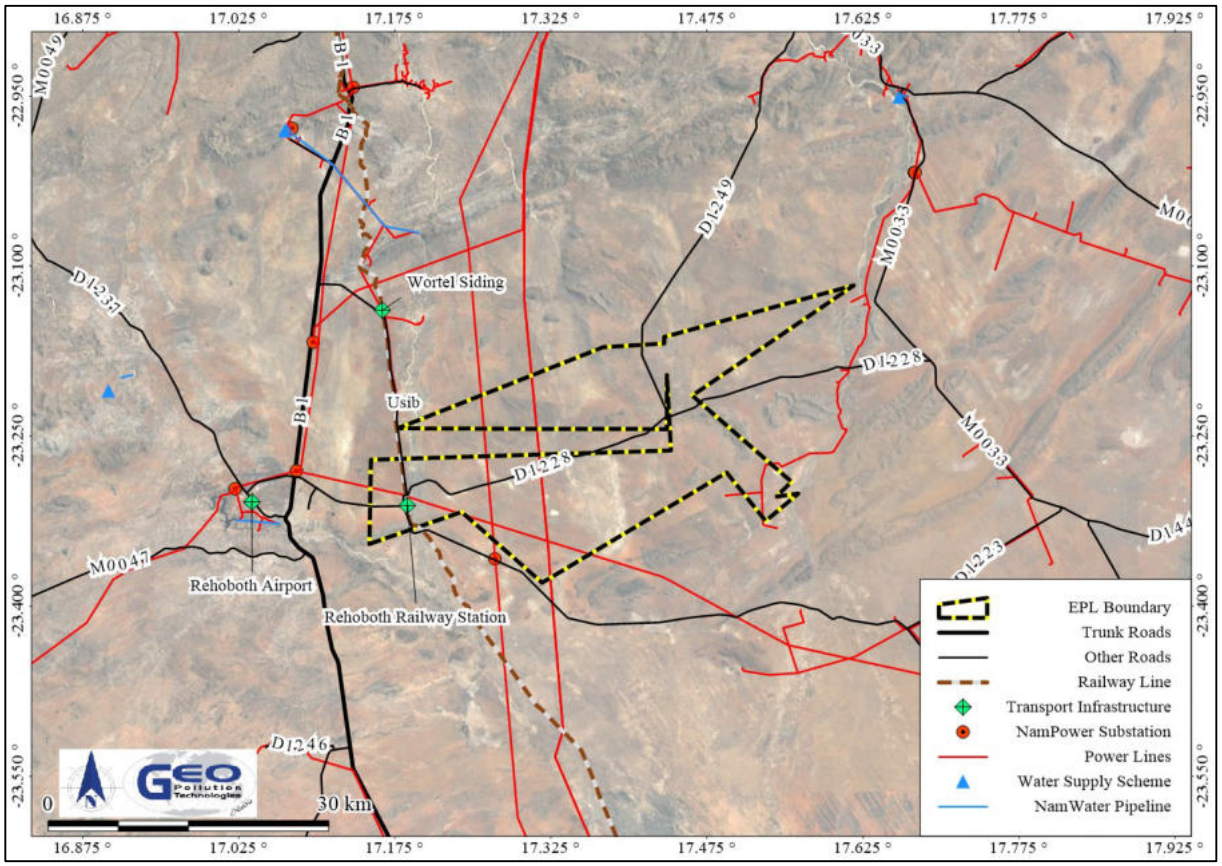

Figure 7-13 Infrastructure in the region

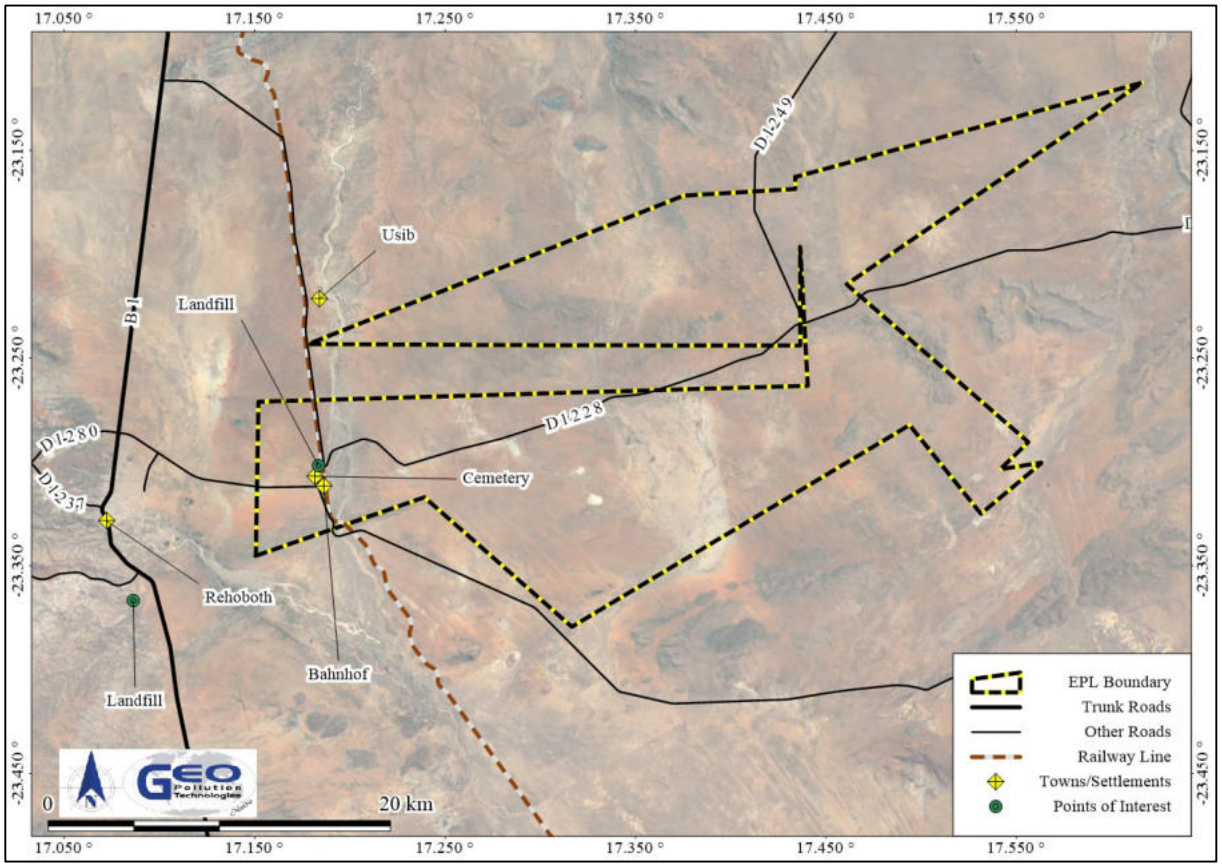

Figure 7-14 Towns/settlements and other points of interest

Implications and Impacts

Unemployment and poverty in the Namibia is high at 36.9% while rural areas where the EPL is located has significantly lower employment rates at about 20%. Prospecting in the area may provide some economic benefits to the landowners. On the flipside, foreign people present on the farms, and the prospects of the eventual possibility of mining on the farms, causes anxiety among farm owners who are afraid of losing their livelihoods (e.g. livestock farming) and/or farms to mining companies. The presence of prospecting teams may result in an increase in social ills, deviant behaviour and criminal activities in the area. An increase in poaching may also occur. These not necessarily instigated by the team members, but by criminals posing as members of the exploration team who moves into the area.

7.9 CULTURE, HERITAGE AND ARCHAEOLOGY

The 2022 Atlas of Namibia (Atlas of Namibia Team, 2022) produced maps indicating the potential densities of archaeological sites in Namibia, by extrapolating the available data for all recorded archaeological sites. These maps were produced for archaeological sites dating back to the last 2,000 years (Figure 7-15), between 2,000 and 10,000 years ago (Figure 7-16), and 10,000 to 1.8 million years ago (Figure 7-17). Based on the extrapolated data, the EPL is located in an area where there could be a relatively moderate to high density of archaeological sites for all three timespans. However, based on the data provided in the 2022 Atlas of Namibia, no declared national heritage monuments or sites are present within or near the EPL (Figure 7-18). Similarly, no known rock art is present within the EPL. None of landowners indicated the presence of sites, objects or unmarked graves that may have heritage or archaeological significance. A cemetery is located west of the Bahnhof settlement (-23.306917°; 17.181882°) within the EPL area (Figure 7-14 and Photo 7-20). It is suspected that some of the farms may have their own family cemeteries and or old graves.

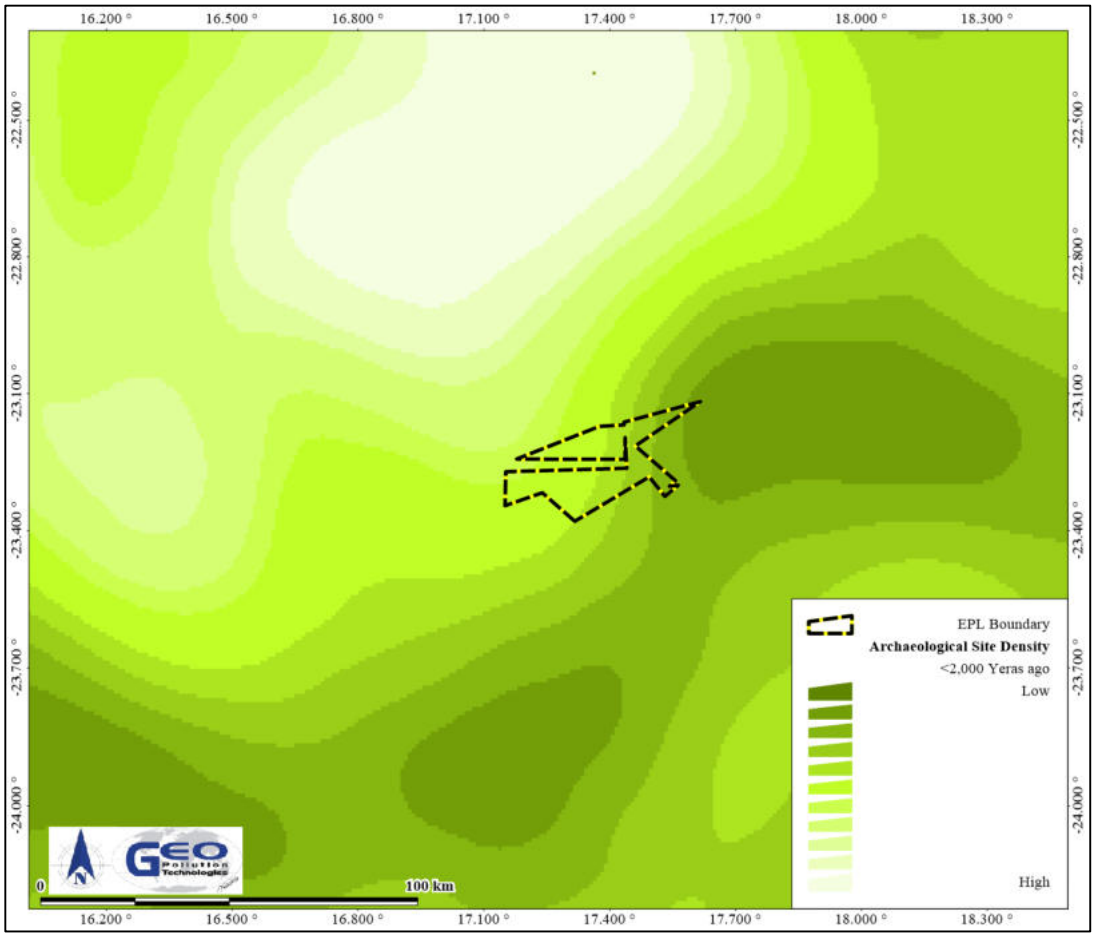

Figure 7-15 Known archaeological site densities dating to the last 2,000 years (Atlas of Namibia Team, 2022)

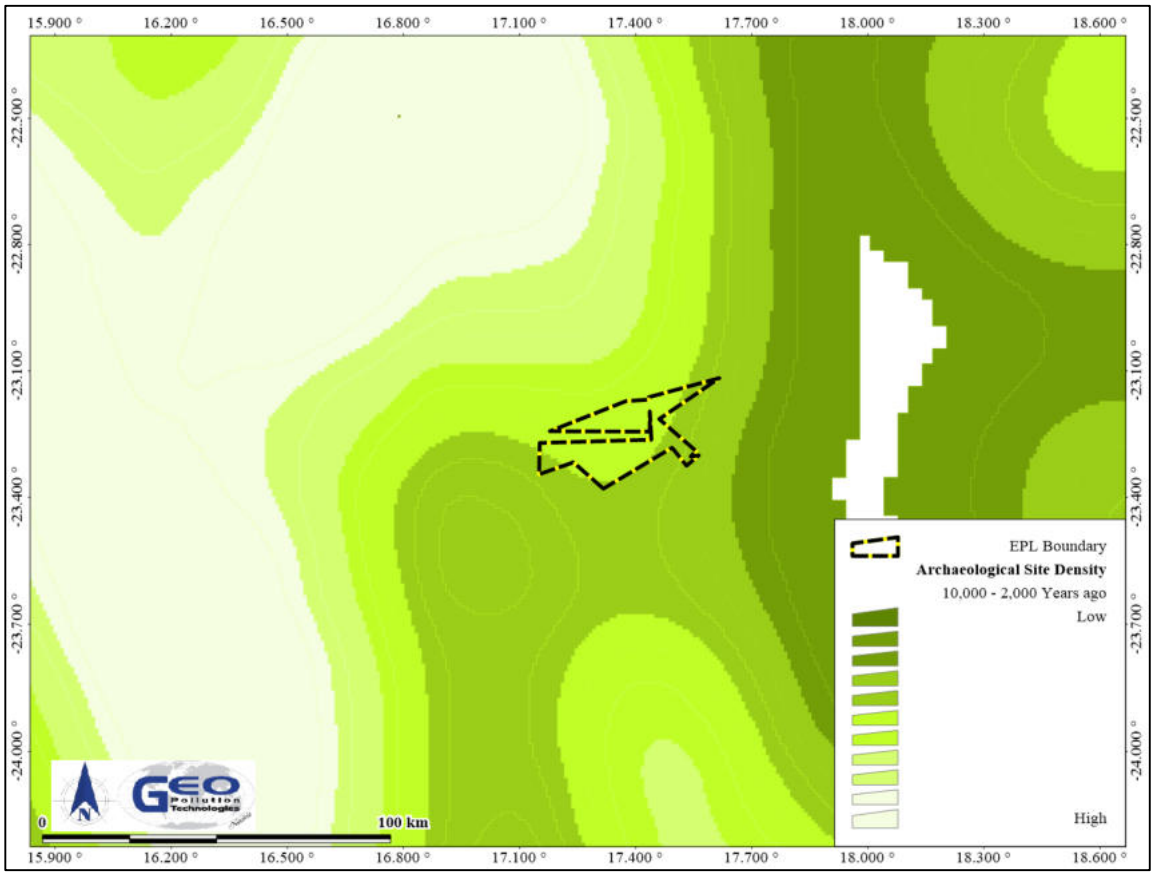

Figure 7-16 Known archaeological site densities dating to between 2,000 and 10,000 years ago (Atlas of Namibia Team, 2022)

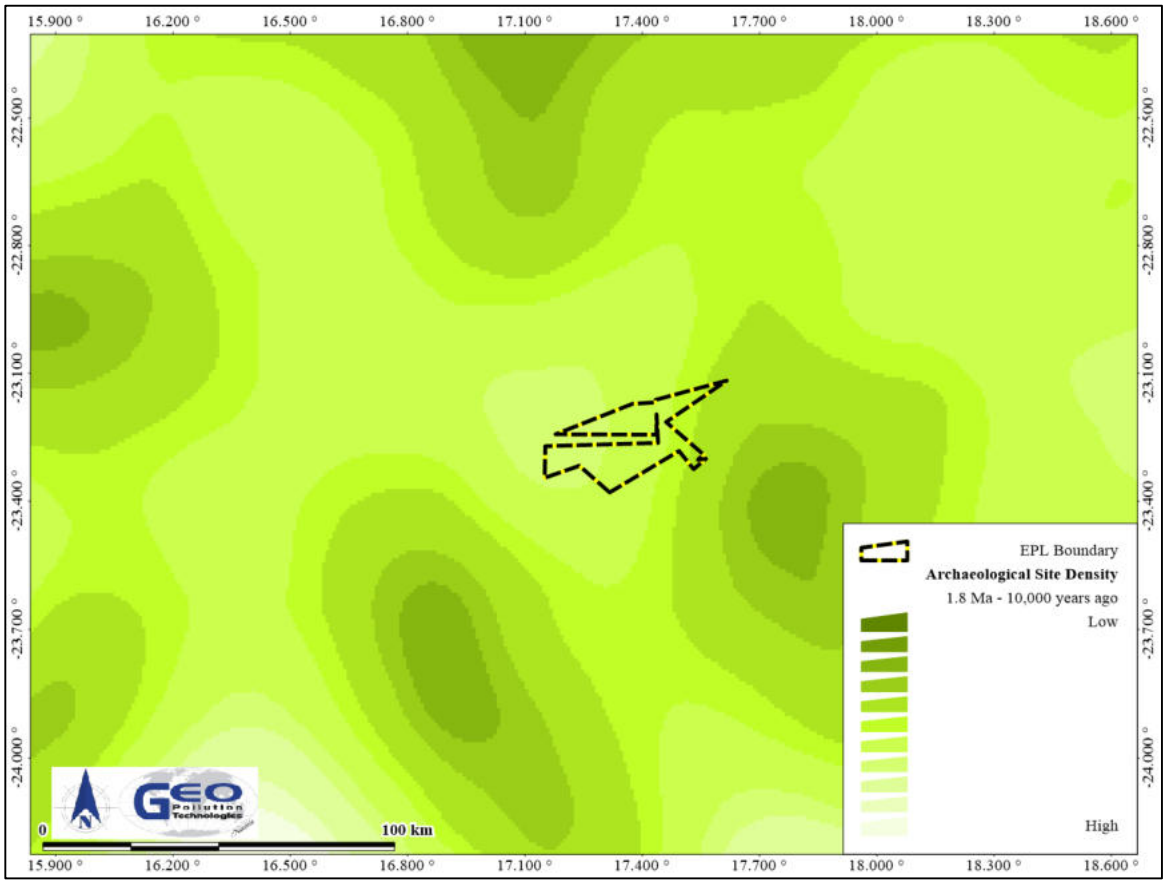

Figure 7-17 Known archaeological site densities dating to between 10,000 and 1.8 million years ago (Atlas of Namibia Team, 2022)

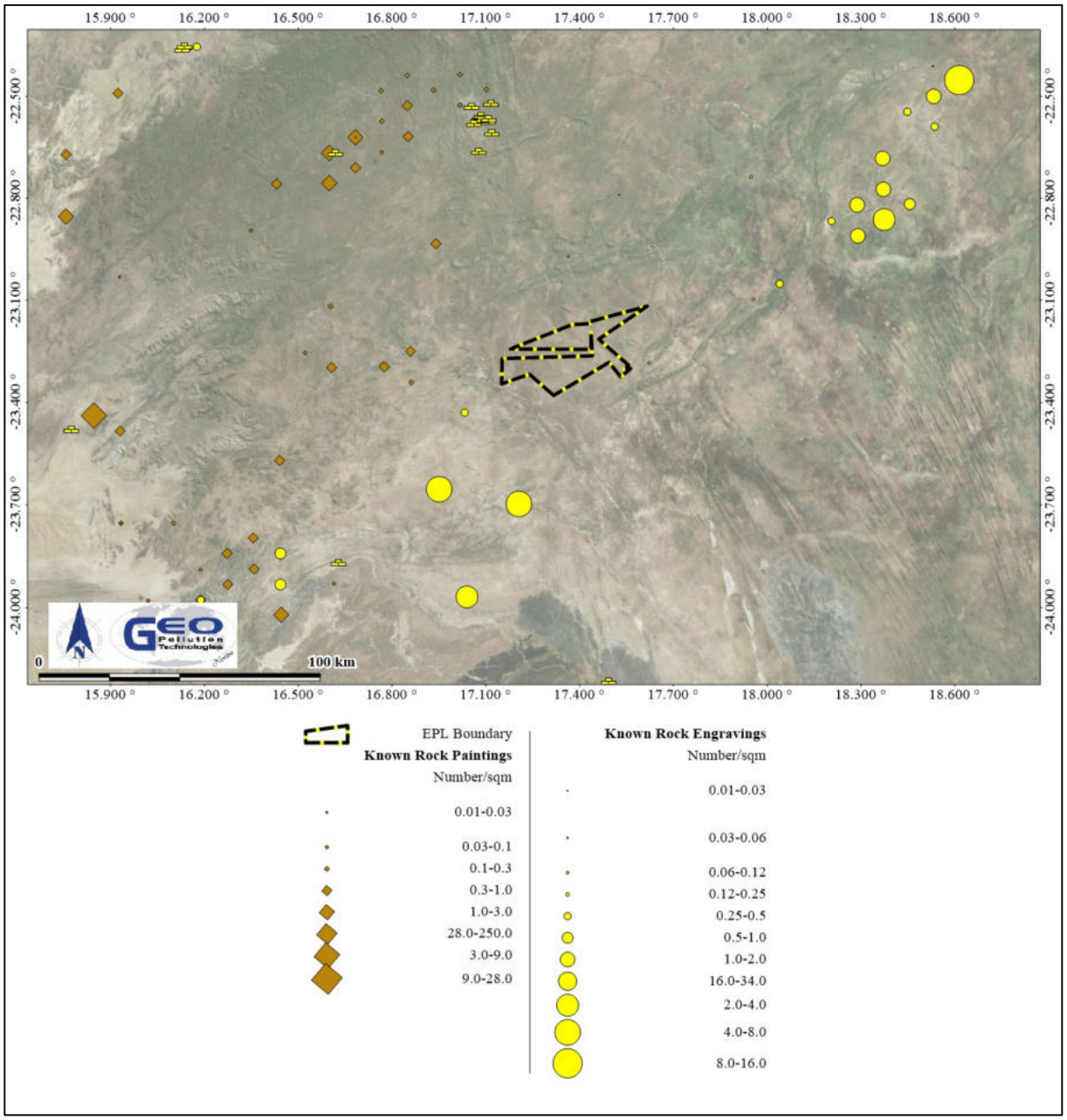

Figure 7-18 **Declared national heritage monuments, density of known rock paintings and density of known rock engravings in relation to the EPL (Atlas of Namibia Team, 2022)**

Photo 7-20 **Cemetery west of the Bahnhof settlement within Rehoboth Townlands**

Implications and Impacts

Although no archaeologically significant sites such as rock art, signs of human habitation or unmarked graves were found during the site visit, and land owners also did not mention the presence of any of these, there still remains a chance that such artefacts may be present within the EPL.

8 PUBLIC CONSULTATION

Consultation with the public forms an integral component of an environmental assessment investigation and enables interested and affected parties (IAPs) e.g. neighbouring landowners, local authorities, environmental groups, civic associations and communities, to comment on the potential environmental impacts associated with project and to identify additional issues which they feel should be addressed in the environmental assessment.

Public participation for such large project areas, overlapping many privately owned parcels of land, is quite difficult. Mainly because it is not that easy to identify all land owners and get the contact details of those who are successfully identified. In many instances, land owners of specifically commercial farms, are very reluctant to engage with anyone representing a mining company. Nor are they willing to share contact details of neighbours. For EPL 10045, the general attitude of land owners was not as negative as has been experienced on other EPLs. A fair number of land owners could thus be contacted directly to discuss the EIA process for the EPL. This entailed personally phoning them, confirming contact details, and sharing the public participation notices and relating maps. During the notification phase many of the commercial farmers preferred to accept the information electronically. Each individual is then provided the opportunity to ask questions and obtain clarification about the process in their own time.

In addition, public participation notices were advertised for two weeks in two national newspapers, namely the Republikein and Namibian Sun, on the 10th and 17th of March 2025. A site notice was also erected in the Bahnhof settlement. Notification letters were also delivered to the Usib community located just north of the EPL.

During the site visit notification letters were also delivered to land owners and residents encountered on the farms. As not to trespass on private property, any road that was closed with a gate was not accessed, unless prior arrangement with the landowners could be made. See Appendix B for proof of the public participation processes. Clarification was required in many phone discussion and on site meetings related to exactly what prospecting entails. The notification period, in fact, rather served as an avenue to inform many of the land owners about the purpose of an EIA and what an EPL is. During this time, clarifications were also required related to access agreements and general no-go areas for prospecting activities.

As a final measure to make information available to the public, a public open day was held in Rehoboth on the 20th of September 2025. Illustrative material was provided in hard copy as well as electronically to persons attending, while clarification posters related to no-go zones and bad EPL practises were displayed and explained. Physical examples, such as a sample of a core (which is produced by prospecting drilling) were also available for persons to view and obtain a better understanding of possible prospecting impacts. Apart from numerous parties attending the open day, another EPL holder also attended and obtained information, for possible future collaboration.

No comments were received during the IAP EIA report review period.

Photo 8-1 **Notification of the neighbouring settlement (Wortel) on the farm Usib, North of the EPL**

Photo 8-2 **Public notice erected in the Bahnhof settlement**

Photo 8-3 **Public open day in Rehoboth**

Photo 8-4 **Informative posters at the open day**

9 IMPACT ASSESSMENT AND MANGEMENT OF IMPACTS

The purpose of this section is to identify and assess the most pertinent environmental impacts that are expected from the exploration activities of the Proponent. An EMP outlining preventative and mitigating measures, based on these identified impacts, is also incorporated into this section. Where impacts are positive in nature, enhancement measures are proposed to maximise the potential benefits.

For each impact an environmental classification was determined based on an adapted version of the Rapid Impact Assessment Method (Pastakia, 1998). Impacts are assessed according to the following categories: Importance of condition (A1); Magnitude of Change (A2); Permanence (B1); Reversibility (B2); and Cumulative Nature (B3) (see Table 9-1). Define reversibility and permanence Ranking formulas are then calculated as follow:

Environmental Classification = A1 x A2 x (B1 + B2 + B3).

The environmental classification of impacts is provided in Table 9-2.

The probability ranking refers to the probability that a specific impact will happen following a risk event. These can be improbable (low likelihood); probable (distinct possibility); highly probable (most likely); and definite (impact will occur regardless of prevention measures).

Table 9-1 Assessment criteria

Criteria	Score
Importance of condition (A1) – assessed against the spatial boundaries of human interest it will affect	
Importance to national/international interest	4
Important to regional/national interest	3
Important to areas immediately outside the local condition	2
Important only to the local condition	1
No importance	0
Magnitude of change/effect (A2) – measure of scale in terms of benefit / disbenefit of an impact or condition	
Major positive benefit	3
Significant improvement in status quo	2
Improvement in status quo	1
No change in status quo	0
Negative change in status quo	-1
Significant negative disbenefit or change	-2
Major disbenefit or change	-3
Permanence (B1) – defines whether the condition is permanent or temporary	
No change/Not applicable	1
Temporary	2
Permanent	3
Reversibility (B2) – defines whether the condition can be changed and is a measure of the control over the condition	
No change/Not applicable	1
Reversible	2
Irreversible	3
Cumulative (B3) – reflects whether the effect will be a single direct impact or will include cumulative impacts over time, or synergistic effect with other conditions. It is a means of judging the sustainability of the condition – not to be confused with the permanence criterion.	
Light or No Cumulative Character/Not applicable	1
Moderate Cumulative Character	2
Strong Cumulative Character	3

Table 9-2 Environmental classification (Pastakia 1998)

Environmental Classification	Class Value	Description of Class
72 to 108	5	Extremely positive impact
36 to 71	4	Significantly positive impact
19 to 35	3	Moderately positive impact
10 to 18	2	Less positive impact
1 to 9	1	Reduced positive impact
0	-0	No alteration
-1 to -9	-1	Reduced negative impact
-10 to -18	-2	Less negative impact
-19 to -35	-3	Moderately negative impact
-36 to -71	-4	Significantly negative impact
-72 to -108	-5	Extremely Negative Impact

9.1 RISK ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN

An EMP provides management options to ensure impacts of an activity are minimised. It is thus a tool used to take pro-active action by addressing potential problems before they occur. This should limit the corrective measures needed, although additional mitigation measures may be included where necessary. The environmental management measures are provided in the tables and descriptions below. These management measures should be adhered to during the various phases of exploration. This section of the report can act as a stand-alone document. All personnel taking part in exploration should be made aware of the contents of this section, so as to plan and execute exploration in an environmentally sound manner.

The objectives of the EMP are:

- to include all possible activities of exploration;
- to prescribe the best practicable control methods to lessen the environmental impacts associated with exploration;
- to monitor and audit the performance of personnel in applying such controls; and
- to ensure that appropriate environmental training is provided to responsible personnel.

Various potential and definite impacts related to the proposed exploration activities have been identified. The majority of these impacts can be prevented or mitigated. The impacts, risk rating of impacts, as well as prevention and mitigation measures are listed below.

As depicted in the tables below, impacts related to the exploration phase are expected to mostly be of low to medium significance and can mostly be mitigated to have a low significance or a low probability to occur. The extent of impacts are mostly site specific to local and are not of a permanent nature.

9.1.1 Planning Phase

Planning is not only limited to before the exploration phase is entered, but is ongoing throughout the validity of the awarded EPL. When planning to conduct exploration, it is the responsibility of Proponent to ensure all personnel and contractors are and remain compliant with all legal requirements and the provisions of the EMP. This includes ensuring that all required management measures are in place prior to and during exploration, to ensure potential impacts and risks are prevented or minimised. The management structure of the Proponent is presented in Figure 9-1.

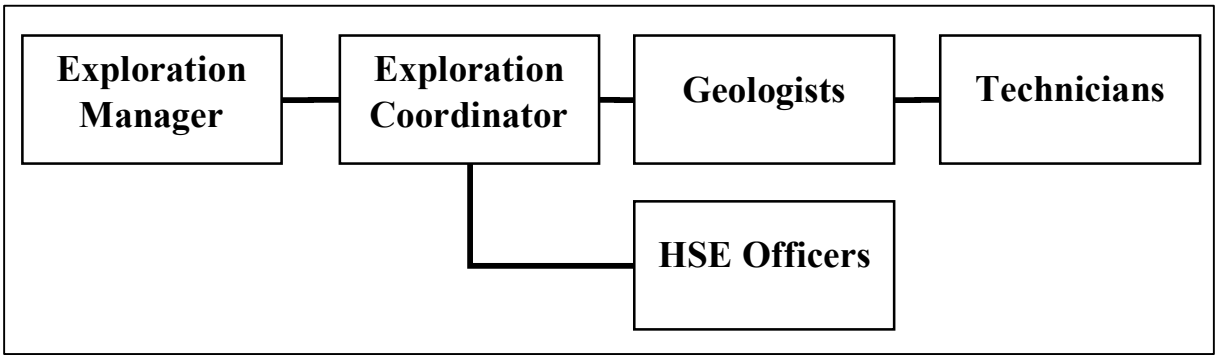

Figure 9-1 VMN organogram

The following actions are recommended for the planning phase and should continue during various other phases of the project:

9.1.1.1 Delegation of Responsibilities

- Make provisions to have a health, safety and environmental coordinator or similar to implement the EMP and oversee occupational health and safety as well as general environmental related compliance.
- Delegate EMP responsibilities to relevant personnel and contractors.

9.1.1.2 Risk Management and Emergency Response Preparedness

- Have relevant standard operating procedures and emergency response plans, equipment and personnel on site to prevent and deal with potential emergencies and incidents:
- Examples include health, safety and environment (HSE) manuals, site induction protocols, material safety data sheets, firefighting and evacuation plans and equipment, spill response plans, first aid training and first aid kits, etc.

9.1.1.3 Legal Compliance

- Compile an internal legal register outlining all required authorisations, permits and licences required to execute exploration activities.
- Comply with the various applicable acts and their respective regulations, for example pertaining to labour, income and other taxes and levies, work permits, etc.
- Ensure all necessary permits and authorisations from the various ministries, local authorities and any other bodies that govern exploration activities are in place and remains valid. These include the ECC, the EPL, drilling permits, permits for removal of protected trees (if required), exemption permits for storage of fuel, authorisations for aerial surveys, if any (helicopter, drone or aeroplane), etc.
- Apply for renewal of the ECC prior to expiry.

9.1.1.4 Surface Access Agreements

- Enter into agreements with the various land owners affected by the EPL and exploration activities. Such agreements should clearly stipulate the responsibilities of all parties involved, including restrictions pertaining to entry, movement and activities on the land, expectations of the land owner regarding rehabilitation once exploration activities cease, etc.

9.1.1.5 Employment and Contractor Appointments

- Ensure all appointed employees and contractors enter into an agreement with the Proponent, which among others include contractual adherence to the EMP. Ensure the contents of the EMP are understood by the employees contractors, sub-contractors and all personnel present or who will be present on explorations sites. This may require environmental training pertaining to the "value of nature" (why we need to protect the environment), explanation of various terminology, monitoring requirements, consequences of non-compliance, etc.

9.1.1.6 Rehabilitation and Pollution Clean-up

- If not already established, establish and maintain a fund/insurance for rehabilitation of the exploration sites, or for unforeseen events where environmental pollution occur which requires clean-up and/or remediation.

9.1.1.7 Community Liaison

- Appoint a community liaison officer and devise a community liaison strategy. Communicate his/her contact details, and the procedures for filing of complaints or providing feedback/input, to the affected land owners and other relevant stakeholders.
- Maintain a complaints register which details, among others, the date the complaint is received, the name and contact details of the person filing the complaint, the nature of the complaint, action taken to address and prevent future incidents of a similar nature, a copy of the feedback provided to the person filing the complaint.

9.1.1.8 Monitoring and Reporting

- Maintain an incidents register which detail, among others, the date the incident occurred, the names and contact details of persons involved in the incident, the nature of the incident, and action taken to address and prevent future incidents of a similar nature.

- Establish and / or maintain an environmental reporting system to report on environmental management procedures and incidents as outlined in the EMP.
- Submit environmental monitoring reports to the MEFT in compliance with the conditions linked to the ECC.

9.1.2 Employment

Appointment of consultants already realises during the planning phase. This include those responsible for permitting. During exploration, some contractors may be appointed to conduct specialised tasks. Local consultants, contractors and their employees, are thus supported, and their livelihoods sustained. Some aspects may require expertise not locally available, in which case foreign consultants or contractors may be used.

The Proponent appoints unskilled, semi-skilled and specialist employees to perform tasks related to exploration. This range from office administration to the highly specialised activities involved with in-field geological surveys and drilling. Employment are sourced locally, however specialised skills may not be locally available and may be sourced from outside of Namibia.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Enhancement Measures									
Planning, Exploration and Site Decommissioning	Permanent employment opportunities and periodic appointment of consultants and third party contractors without prioritising Namibian citizens	3	1	2	2	1	15	2	Definite
With Enhancement Measures									
Planning, Exploration and Site Decommissioning	Prioritising Namibian citizens for permanent employment opportunities and periodic appointment of consultants and third party contractors	3	2	2	2	1	30	3	Definite

Desired outcome: To maximise the appointment of Namibian consultants, contractors and employees to contribute to a reduction in overall unemployment.

Actions

Enhancement:

- Employ local Namibians as far as practically possible and where requested by land owners, employ existing farm workers for unskilled temporary jobs.
- Appointment of foreign employees or contractors must be in line with the requirements of the Ministry of Home Affairs, Immigration, Safety and Security.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Labour Act
- Immigration Control Act
- Bi-annual summary report based on employee records with employee contracts, work permits, etc. on file.

9.1.3 Skills, Technology and Development

Development of people and technology are key to economic development. Exploration for mineral resources requires a workforce that ranges from highly specialised to general workers. Advanced exploration technologies are often used and training is provided to a portion of the workforce to be able to use these technologies and to perform certain tasks according to the required standards. Skills are periodically transferred to an unskilled workforce for general tasks. During normal exploration and related activities, employees will increase their work experience while some individuals may be identified for promotion and additional skills development and training.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Enhancement Measures									
Planning, Exploration and Site Decommissioning	Training and education, transfer of skills and technological development	3	1	2	2	1	15	2	Probable
With Enhancement Measures									
Planning, Exploration and Site Decommissioning	Training and education, transfer of skills and technological development	3	2	2	2	1	30	3	Definite

Desired Outcome: To see an increase in skills of local Namibians, as well as development and technological advancements in the mining industry and local community.

Actions

Enhancement:

- If the skills and technology exist locally, contractors and employees must be sourced from Namibia. Deviations from this practice is justified where local or Namibian options are not available.
- Skills development and improvement programs to be made available to Namibians as identified during employee performance assessments. This increases their chances of being successful in job applications if no longer employed by the Proponent.
- Employees to be informed about parameters and requirements for references upon employment. The Proponent to issue reference letters or testimonials to employees, during their period of employment, to ensure they have proof of work experience and competence should they leave the company.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Record should be kept of any formal or informal training provided.
- Ensure that all training is certified or managerial reference provided (proof provided to the employees) inclusive of training attendance, completion and implementation.
- Bi-annual summary report based on records kept.

9.1.4 Contribution to the Economy

Mining and mining related activities attract foreign investment. The Proponent's exploration activities in Namibia have and will continue to generate revenue which is paid to the national treasury. Various consultants, contractors and employees are remunerated and various taxes, levies and fees are paid. This stimulates Namibia's economic development and promotes additional investments and business development.

At local scale, businesses in the area can benefit from the presence of the exploration team.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Enhancement Measures									
Planning, Exploration and Site Decommissioning	Contribution to the Economy	3	1	2	2	1	15	2	Probable
With Enhancement Measures									
Planning, Exploration and Site Decommissioning	Contribution to the Economy	3	2	2	2	1	30	3	Definite

Desired Outcome: Contribution to the national treasury and economy

Actions

Enhancement:

- Procurement and maintenance of vehicles and machinery from the Namibian business sector.
- The Proponent must employ local Namibians and contractors where possible.
- Where available, engage with local businesses for the provision of goods and services.
- Adherence to all Namibian laws relating to the payment of taxes, levies, etc.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Bi-annual summary report based on employee and contractor records, procurement of goods and services, etc. on file.

9.1.5 Ideals and Aspirations for the Future

During the environmental assessment, public consultation was conducted with land owners and interested and or affected parties. Information shared with some of the parties resulted in a change in their aspirations for the future. This related to the possibility of additional revenue streams that may result from exploration activities and potentially mining. Such revenue streams included the provision of services to the exploration team, e.g. accommodation, or being employed by the Proponent. The possibility of exploration in the area also resulted in a negative impact on the ideals and aspirations of the land owners where they felt exploration, and possibly future mining, may negatively impact their livelihoods by reducing their farmable land.

Ideals and aspirations of employees are also considered. Poor communication between management and employees may lead to uncertainty in with regard to job security and options for promotion.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Mitigation Measures									
Planning, Exploration and Site Decommissioning	Negative impact on society's ideals and aspirations for the future	2	-2	2	2	1	-20	-3	Definite
After Mitigation Measures									
Planning, Exploration and Site Decommissioning	Positive impact on society's ideals and aspirations for the future	2	2	2	2	1	20	3	Highly Probable

Desired Outcome: Continued sharing of accurate and easily understandable information, planned activities, project progress and opportunities with land owners, IAPs and government agencies. Maintaining an open door policy with land owners and IAPs.

Actions

Enhancement:

- Information sharing about the proposed project to explain in laymen's terms all proposed activities, timelines, potential impacts, potential benefits (opportunities), etc. The public consultation phase of the environmental assessment process was the first step in information sharing.
- Major changes in proposed exploration activities should be made available to land owners, government agencies and interested and affected parties.
- Open communication regarding future exploration activities, opportunities and employment with both land owners and employees.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Up to date stakeholder database
- Records kept of all information shared with authorities, neighbours and employees.

9.1.6 Demographic Profile and Community Health

The scale of the exploration project is limited and it is not expected to create a change in the demographic profile of the nearby local communities. Where possible, existing labour, already employed by the Proponent will be used or new labourers will be sourced from a nearby town, or possibly from the land owners. Community health may be exposed to factors such as communicable disease like HIV/AIDS and tuberculosis (TB) and social ills or deviant behaviour like alcoholism/drug abuse, associated with increased spending power of the labour force. Similarly, workers from the exploration team may visit farm labourer compounds, and vice versa, and this may further expose both groups to the same social ills and diseases. Incidences of theft may occur and this may also be when criminals pose as employees of the exploration team present in the EPL area.

Positive impacts will relate to employees and contractors' increased economic resilience and improved livelihoods.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Communicable disease, alcoholism/drug abuse, deviant behaviour, criminal activities	2	-2	2	2	1	-20	-3	Probable
After Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Communicable disease, alcoholism/drug abuse, deviant behaviour, criminal activities	2	-1	2	2	1	-10	-2	Improbable

Desired Outcome: To prevent the in-migration and growth in informal settlements and to prevent the spread of communicable diseases and prevent / discourage socially deviant behaviour and criminal activities.

Actions:

Prevention:

- Thorough background checks and testimonials when appointing new employees.
- Provide educational programmes / information sessions for employees on various topics of health, social behaviour, etc., including communicable diseases, financial management and general upliftment of employees' social status.
- Clearly stipulate restricted activities when working within the EPL. Include any such activities stipulated in surface access agreements.
- Provide time schedules, names and vehicle registration numbers to land owners well in advance (and any other information as per the surface access agreement). Communicate any changes to land owners.
- All employees to wear easily distinguishable uniforms/clothing, with name tags that can be checked against the provided list of employees who will be present on the land.
- Inform land owners of each arrival onto and each departure from the land.
- No movement out of areas pre-arranged with the landowner.
- In the event that the exploration team must make use of a temporary camp for accommodation on any privately owned land, adhere to the following:
  - Provide adequate sanitary and ablution facilities.
  - No unauthorised visitors to be allowed at exploration sites and camps.
  - Employees to stay at the camp and authorised areas and no wandering outside of these or visits to nearby workers' compounds.
  - All waste to be contained and removed from site to ensure hygienic conditions.

- Where contractors are required, ensure they are reputable and will strictly implement and follow the same measures as stipulated for the Proponent's team.

Mitigation:

- Disciplinary action for non-compliance must be communicated to all employees and contractors and implemented when incidents occur.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Surface access agreements
- Company policies, procedures and rules
- For temporary camps, regularly completed inspection sheets, for all areas which may present environmental health risks, must be kept on file.
- Bi-annual summary report based on educational programmes and training conducted.

9.1.7 Health and Safety

Various activities associated with exploration are reliant on physical human labour, in the outdoors, and the operation of machinery. Therefore health and safety risks exist. Such risks include exposure to environmental elements extreme heat or cold, sunstroke, dehydration, trips and falls, vehicle accidents, getting caught in moving parts of machinery, cuts, exposure to hazardous chemicals (e.g. hydrocarbons) and encounters with wild, potentially dangerous, animals.

The EPL is remote and while Dordabis has a small clinic, the nearest medical facilities with emergency and high care facilities are located in Windhoek and Rehoboth, respectively being about 70 and 40 km away.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Physical injury or exposure to elements	1	-3	2	2	1	-15	-2	Probable
After Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Physical injury or exposure to elements	1	-2	2	2	1	-10	-2	Improbable

Desired Outcome: To prevent injury and health impacts

Actions

Prevention:

- Implement and maintain an integrated health and safety management system.
- All health and safety standards specified in the Labour Act should be complied with.
- Ensure that all personnel receive adequate training on operation of equipment / handling of hazardous substances (mainly hydrocarbons – fuel, hydraulic fluid, etc.) and all drivers are appropriately licenced.
- All employees and visitors to the exploration areas must receive appropriate induction prior entry.
- Provide all employees with required and adequate personal protective equipment (PPE) and training in the proficient use thereof. This should include clothing and sunscreen to prevent sunburn or heatstroke.
- Ensure sufficient potable water is available to all workers at all times and remind employees to stay hydrated, especially in warm summer months.
- To prevent unauthorised entry, temporary camp and drill sites must be fenced off.
- Place and securely stow all heavy equipment (e.g. drill rods and casing) to prevent objects toppling over or falling on employees. Demarcate potentially dangerous areas like the drilling fluid sumps.
- No alcohol or recreational drugs should be allowed on site and no personnel should operate equipment under the influence of any drugs, including medicine that cause drowsiness and impaired judgement.
- Maintain all equipment and vehicles in good working order to minimise the risk of accidents (e.g. replacing of worn vehicle tyres, replacing damaged drill rods, etc.)
- Staff should be educated / trained on human wildlife conflict management and be informed not to approach wild animals and to be vigilant for, and not to confront (attempt to kill or catch), snakes or other potentially venomous / dangerous animals.

- Regular checks for ticks and wearing of repellents and clothing to prevent them from attaching.

Mitigation:

- Selected personnel should be trained in first aid and a first aid kit must be available on site. This should include for example snake identification and handling of snake bites.
- The contact details of all emergency services must be readily available and a satellite phone must be available if areas with no cellular reception is entered.
- In case of any injury or illness, first aid should be applied and the employee transported to a medical facility if required.
- For serious injuries, emergency services should be contacted for evacuation to the nearest emergency facility.
- All personnel with known medical conditions must keep their own medicine nearby at all times. This includes treatment for severe allergies to for example bee stings.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Any health and safety incidents must be recorded with action taken to prevent future occurrences.
- A bi-annual report should be compiled of all incidents reported. The report should contain dates when training were conducted and when safety equipment and structures were inspected and maintained

9.1.8 Security

Security risks will be related to unauthorised entry into temporary exploration camps, theft and sabotage. Similarly, the presence of foreign workers in the area may expose the land owners to security issues such as theft (e.g. poaching, stock theft). Criminals may take the opportunity to pose as exploration team workers in order to access the areas.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Deviant behaviour and criminal activities	2	-2	2	2	1	-20	-3	Probable
After Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Deviant behaviour and criminal activities	2	-1	2	2	1	-10	-2	Improbable

Desired Outcome: To prevent deviant and criminal behaviour such as theft.

Actions

Prevention:

- Thorough background checks and testimonials when appointing new employees.
- Clearly stipulate restricted activities when working within the EPL. Include any such activities stipulated in surface access agreements.
- Provide time schedules, names and vehicle registration numbers to land owners well in advance (and any other information as per the surface access agreement). Communicate any changes to land owners.
- All employees to wear easily distinguishable uniforms/clothing, with name tags that can be checked against the provided list of employees who will be present on the land.
- Inform land owners of each arrival onto and each departure from the land.
- No movement out of areas pre-arranged with the landowner.
- Prior to entering an EPL, confirm with the land owner which gates should be left open and which should be closed.
- Where contractors are required, ensure they are reputable and will strictly implement and follow the same measures as stipulated for the Proponent's team.

Mitigation:

- Disciplinary action for non-compliance must be communicated to all employees and contractors and implemented when incidents occur.
- Vehicles accessing farms could be fitted with trackers and dash cams to allow the Proponent to investigate any complaints made by landowners about unauthorised movement and incidents on their land.
- Report any suspected "out of the ordinary" sightings such as dead animals (suspected poaching), open gates, suspicious persons, etc. to the land owner.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Surface access agreement
- Any incidents must be recorded with action taken to prevent future occurrences.
- A bi-annual report should be compiled of all incidents reported and action taken.

9.1.9 Vehicle Movement

Exploration activities occur on farmland, thus traffic impacts on public roads will be limited to the occasional movement of vehicles to and from the EPL when exploration is performed. This can include slow moving drill rigs. The impact on public roads are expected to be minor.

Although only a few vehicles will access private roads in the EPL area, such as on privately owned farms, it may constitute a significant increase in traffic compared to the status quo. Potential impacts include dust, noise, running over or collisions with wildlife and livestock, stressed wildlife, and damage to roads, especially when it rains and road surfaces are wet.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Traffic impacts during delivery of large equipment and building materials	2	-2	2	2	2	-24	-3	Probable
After Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Traffic impacts during delivery of large equipment and building materials	2	-1	3	2	2	-14	-2	Improbable

Desired Outcome: Minimum impact on traffic on public roads, no transport or traffic related incidents, impacts and disturbances on privately owned land/roads

Actions

Prevention:

- All drivers of vehicles must have valid drivers' licences appropriate for the vehicle driven and be trained in off-road driving.
- All vehicles to be roadworthy and appropriately licensed.
- If significant traffic impacts are expected on public roads, possibly as a result of slow moving drill rigs, traffic management should be performed.
- Implement speed limits on farm roads to minimise dust and noise and to prevent running over or collisions with wildlife or livestock. For roads near residences or livestock enclosures, and for very dusty roads, speed can further be reduced.
- All drivers should be vigilant for any wildlife near or in roads to prevent running over or collisions with wildlife and livestock.
- Maintain all vehicles' in good mechanical condition to ensure they do not produce excessive noise.
- For sandy areas, engage four-wheel drive and reduce tyre pressure to prevent unnecessary wheel spin and damage and corrugation of roads.

Mitigation:

- Repair any damaged roads.
- Report any collisions with livestock or wildlife to the land owner.
- Vehicles accessing farms could be fitted with trackers and dash cams to allow the Proponent to investigate any complaints made by landowners about unauthorised movement and incidents on their land.
- Disciplinary action for non-compliance must be communicated to all employees and contractors and implemented when incidents occur.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Any complaints received regarding vehicle movement should be recorded together with action taken to prevent impacts from repeating itself.
- A bi-annual report should be compiled of all incidents reported, complaints received, and action taken

9.1.10 Noise

Noise related to exploration activities is mainly limited to vehicle movement, aerial surveys and exploration drilling. Helicopter, aeroplane or drone technology used for aerial photography or geophysical surveys, will introduce noise unfamiliar to wildlife and livestock, especially at low altitude flying.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Noise generated from the exploration activities – nuisance and stressed animals	2	-2	2	2	1	-20	-3	Probable
After Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Noise generated from the exploration activities – nuisance and stressed animals	2	-1	2	2	1	-10	-2	Improbable

Desired Outcome: To prevent any hearing loss among employees and not to be a nuisance or cause stress in wildlife and livestock.

Actions

Prevention:

- Follow Health and Safety Regulations of the Labour Act on maximum noise levels to prevent hearing impairment of employees, specifically if drilling is conducted.
- All vehicles and machinery must be regularly serviced to ensure minimal noise production. This include fitting noise dampers on for example compressors used for reverse circulation drilling.
- Exploration activities should only be conducted in daytime, during weekdays, unless otherwise arranged with the land owner.
- If helicopters, drones or aeroplanes are used for aerial surveys, it should be performed at times agreed upon as per surface access agreement with the land owner.
- Helicopter, drone or aeroplane surveys must be performed for the minimum time possible, and as high above the ground as possible, while still ensuring good quality data.
- Noise dampers to be fitted on machines where suitable and alternative signalling adopted where possible.
- For vehicle noise also refer to section 9.1.9.

Mitigation

- Personnel working in noisy environments must be issued with hearing protectors, specifically if drilling is conducted.
- Where helicopters, aeroplanes or drones cause distress in animals, operations should cease until they have moved away, before it can continue.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Health and Safety Regulations of the Labour Act, Civil Aviation Act
- Surface access agreement.
- Maintain a complaints register.
- Bi-annual report on complaints and actions taken to address complaints and prevent future occurrences

9.1.11 Fire

Fires outside of designated areas and discarded cigarettes can cause veld fires which can quickly spread and get out of control. Similarly, machinery can ignite dry vegetation if sufficient heat (e.g. exhaust pipes) or sparks are produced. Fuels stored and used for exploration activities may be flammable. Veld fires originating elsewhere (e.g. lightning) can pose a threat to the exploration teams.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Fire risks	2	-3	2	2	1	-30	-3	Probable
After Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Fire risks	2	-2	2	2	1	-20	-3	Improbable

Desired Outcome: To prevent fires causing property damage, loss in vegetation, possible injury caused by uncontrolled fires.

Actions:

Prevention:

- Prepare a holistic fire protection and prevention plan. This plan must include an emergency response plan and a firefighting plan.
- Personnel training (safe operational procedures, firefighting, fire prevention and responsible housekeeping practices).
- All vehicles to be fitted with fire extinguishers and have equipment to specifically fight veld fires available.
- For drilling sites and if temporary camps are used:
    - Maintain regular vehicle and machinery mechanical and electrical inspections and maintenance.
    - Ensure all flammable chemicals are stored according to material safety data sheet (MSDS) and SANS instructions and all spills or leaks are cleaned up immediately.
    - Have serviced firefighting equipment within easy reach, including those used to fight veld fires.
    - Fire used for purposes such as cooking must only be allowed within designated areas far removed from any flammable material such as dry vegetation.

Mitigation:

- Implement the fire protection and firefighting plan in the event of a fire.
- Quick response time by trained staff will limit the spread and impact of a fire.
- Communication methods (e.g. satellite phones where cellular phone reception is limited) must be available at all times for rapid communication with the land owner and surrounding farmers to immediately be able to notify them of a fire. A rapid response to a veld fire is crucial in bringing it under control and extinguishing it as soon as possible.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- A register of all incidents must be maintained on a daily basis. This should include measures taken to ensure that such incidents do not repeat themselves.
- A bi-annual report should be compiled of all incidents reported. The report should contain dates when fire drills were conducted and when fire equipment was tested and training given

9.1.12 Visual

Activities that may have a visual impact are exploratory drilling, the associated roads leading to drill sites, and possible erosion where vegetation is cleared. Rehabilitated drill sites and cleared areas takes time to recover to such an extent that it is no longer visible, and are prone to erosion. Newly drilled boreholes are distinctly visible due to the vegetation clearing and waste rock usually associated with such sites. Borehole casing protruding from the ground also has a visual impact. Numerous drill sites will thus alter the landscape character. In addition newly drilled sites are often uniquely visible from the air and on open source satellite imagery due to the presence of drill cuttings and dust. Such changes may affect receptors which are reliant on the existing landscape character (such as tourism).

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Visual impact and a change in landscape character	2	-2	2	2	1	-20	-3	Probable
After Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Visual impact and a change in landscape character	2	-1	2	2	1	-10	-2	Probable

Desired Outcome: To minimise potential visual impacts and changes to the landscape character

Actions

Mitigation:

- At the drill site, regular waste disposal and good housekeeping will ensure a low visual impact.
- Drill sites should be sufficiently rehabilitated. All drill cores as well as cuttings with a significantly different colour than the surface soil should be removed from site. Other cuttings can be dispersed around the site and loosely raked to limit the visual impact.
- Stored topsoil should be returned and spread over the site to speedup re-establishment of vegetation.
- Compacted soil must be ripped along contour and not down slope. This will loosen soil, promote water infiltration, aid re-vegetation and limit soil erosion.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- A report should be compiled of all complaints received and actions taken.
- Maintain a photo log for comparison of all exploration (drill) sites prior to entry by the drill team and after rehabilitation is completed.

9.1.13 Soil, Surface Water and Groundwater

Groundwater is the only source of potable water within the EPL area. Infiltration of as much uncontaminated precipitated water is greatly desired so as to recharge groundwater resources. Care must thus be taken to avoid contamination of soil and surface water. No known permanent surface water sources are present within the EPL area. Pollution in dry riverbeds may however result in downstream and groundwater pollution when they flow during rainy seasons.

Contamination of the groundwater can occur via polluted water infiltrating through sediments or through fractures, joints and faults that are present in the subsurface. Soil contamination can occur from chemical and hydrocarbon spills during refuelling, during maintenance of equipment and machinery, or if mobile fuel tanks (bowsers) are involved in accidents on route to drill sites. Hydraulic oil leaks are common on drilling rigs and pipe bursts may release oil into the environment. Contamination of groundwater could also occur through infiltration of waste from field toilets. This is specifically applicable to exploration camp sites.

Soil may further become compacted or disturbed (powdered) as a result of heavy motor vehicles and equipment and this affects soil quality and may lead to excessive erosion. Similarly, although very few steep sloped areas are present within the EPL, clearing of slopes greater than 12.5° may present a greater erosion risk.

Drilling of exploration holes may penetrate a confining aquifer layer (aquitard). This may cause mixing of aquifer water where the one aquifer may contain water of a poor quality, causing contamination of the aquifer having better quality. An alternative impact may be the leaking of water from one aquifer into another, causing existing boreholes to dry up or springs to dry up. Based on the limited amount of information available, it is not expected that such impacts would occur within the project area. It would however be advisable to take care during drilling that proper monitoring is taking place to evaluate for such conditions and that appropriate remedial actions be implemented where needed – the precautionary principal should be applied.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Contamination from hazardous material spillages	2	-3	2	2	1	-30	-3	Probable
After Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Contamination from hazardous material spillages.	2	-2	2	2	1	-20	-3	Improbable

Desired Outcome: To prevent the contamination of soil and water

Actions

Prevention:

- Training of operators of machinery and vehicles and employees must be conducted on a regular basis (responsible driving, fuel and chemical handling, spill detection, spill control).
- All machinery and vehicles should be properly maintained to be in a good working condition with no leaks and reduced possibilities of pipe bursts/breakages.
- Employ drip trays and spill kits when leaks are detected or servicing / repairs of equipment is needed.

- The contents of mobile chemical toilets must be removed from site and disposed of at a registered waste water treatment plant.
- Limit movement to existing roads as far as is practically possible.
- Limit interference with drainage lines.
- Where drill sites are levelled to create drill pads and campsites, topsoil must be stored for rehabilitation purposes after drilling is complete and the site is decommissioned.
- If land clearing is required in areas with a slope greater than 12.5°, mitigation measures should be employed to prevent erosion and formation of gullies. All mitigation measures to be agreed with the land owner.

Mitigation:

- Any fuel spillage of more than 200 litre must be reported to the MIME.
- Spill clean-up means must be readily available on site as per the relevant MSDS and any spill must be cleaned up immediately to prevent it from reaching sensitive receptors.
- Hazardous waste must be contained and disposed of at a suitably classified hazardous waste disposal facility.
- Rehabilitate areas where soil or drainage lines are disturbed.
- Compacted areas can be lightly ripped and contoured to encourage vegetation establishment and to get rid of tracks.
- After exploratory drilling is complete, the boreholes must be handled according to the drill permit conditions. Where such conditions are lacking, boreholes should either be backfilled or secured with a steel or unplasticized polyvinyl chloride (uPVC) casing equipped with a secure cap. Drill cuttings should not be used for backfilling boreholes as minerals in the cuttings may have oxidised and will then potentially be released into the groundwater, together with salts present in the cuttings. Clean sand or clay should be used where possible.
- Backfilling or closing of the boreholes should be performed to avoid organisms from falling into the boreholes and to prevent surface runoff from contaminating the groundwater, where the borehole will form a preferential flow path if not properly sealed.
- Boreholes should be cemented where boreholes intersect confining layers separating aquifers with different water quality or causing artesian conditions.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Maintain MSDS file for hazardous chemicals.
- Maintain a photo log for comparison of all exploration (drill) sites prior to entry by the drill team and after rehabilitation is completed
- Report all spills or leaks to management and immediately initiate clean-up.
- Maintain a register of all incidents on a daily basis. This should include measures taken to ensure that such incidents do not repeat themselves.

9.1.14 Ecosystem and Biodiversity

Some exploration activities are intrusive in nature, although mostly with relatively low impact. New roads may be required to allow machinery to be moved to exploration targets and drill sites will need clearing. Employees involved with exploration may be involved with poaching and illegal collection of plant and animal materials. Poachers may also use the presence of exploration teams on farms, to pose as members of the team, in order to poach. Impacts may also be related to pollution of the environment. Human / wildlife interactions further present a risk to both the wildlife and the people involved.

Disturbed sites are prone to the rapid establishment of invasive plants.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Poaching and ecological damage	2	-3	2	2	1	-30	-3	Probable
After Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Poaching and ecological damage	2	-2	2	2	1	-20	-3	Improbable

Desired Outcome: To prevent poaching, ecological damage and pollution

Actions.

Prevention:

- Educate all contracted and permanent employees on the value of biodiversity and the importance of protecting the environment from disturbance.
- Where possible, removal of trees, especially protected species and large trees, must be avoided. The necessary permits from the Directorate of Forestry of the MEFT must be obtained for removal of all protected species.
- Liaise with the land owner on routes to be followed where new roads should be made and whether such roads should be rehabilitated after exploration ends or be left as is for the owner's use.
- Areas to be cleared must first be inspected for nests and burrows and these should be avoided.
- Strict conditions prohibiting harvesting and poaching of fauna and flora should be part of employment contracts. This includes prohibitions or regulations on the collection of firewood.
- Procedures to deal with human-wildlife conflict should form part of employee training/induction. The unwarranted killing of potentially dangerous animals, or those perceived as dangerous, or animals typically feared due to superstitious reasons, should be strongly discouraged.
- The footprint of drill sites, their associated laydown areas and access routes, should be kept to the smallest area possible and movement of vehicles outside of these area must be prohibited.
- Where drill sites are levelled to create drill pads, topsoil (overburden) must be stored for rehabilitation purposes after drilling is complete and the site is decommissioned.
- Exploration equipment transferred from completely different habitats to the EPL area must be thoroughly cleaned to limit the potential transfer of alien species to the area.
- Restrict driving to designated areas and avoid off-road driving.

Mitigation:

- Report any extraordinary animal sightings, conflict or incidents to the farm owner and MEFT.
- Report any suspicious people or dead animals, snares or traps encountered during exploration to the land owner.
- Mitigation measures related to waste handling and the prevention of groundwater, surface water and soil contamination should limit ecosystem and biodiversity impacts from pollution.
- At campsites, prevent scavenging of any waste by fauna.
- Disciplinary actions to be taken against all employees failing to comply with contractual conditions related to poaching and the environment.
- Compacted areas can be lightly ripped to encourage vegetation establishment and to get rid of tracks.
- Topsoil should be returned to such sites in order to re-establish the seed bank.
- Alien invasive species should be eradicated from drill sites during follow-up visits to rehabilitated areas.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Forestry Act regulations
- Invader species eradication to be reported on.
- All information and reporting to be included in a bi-annual report.

9.1.15 Dust

Dust may be generated as a result of vehicles travelling on gravel roads, strong winds picking up dust in cleared areas, due to the specific drilling methods, only limited dust as a result of drilling.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Dust	2	-2	2	2	1	-20	-3	Definite
After Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Dust	2	-1	2	2	1	-10	-2	Probable

Desired Outcome: To prevent any nuisance or health impacts as a result of dust.

Actions

Mitigation:

- Responsible driving speeds on gravel roads will limit dust generation.
- Road surfaces that become powdered due to heavy equipment must be rehabilitated to reduce dust.
- Dust masks as standard PPE for workers in situations with excessive dust.
- Implement dust suppression measures where possible and especially at drill sites close to public roads, if needed

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Health and Safety Regulations of the Labour Act
- Maintain a complaints register.
- Bi-annual reporting on complaints and actions taken to address complaints and prevent future occurrences.

9.1.16 Waste

Various forms of waste will be produced during exploration activities. Waste may include hazardous waste associated with hydrocarbon products and chemicals, including soil and water contaminated with such products. Domestic waste will be generated by the workers. Sewage in chemical toilets will be produced. Waste presents a contamination risk and when not removed regularly may become a health and / or fire hazard and attract wild animals and scavengers. Due to the potential visual difference between drill cuttings and drill cores and the natural soil cover, it may be regarded as a type of waste.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Waste, littering and pollution	2	-2	2	2	1	-20	-3	Probable
After Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Waste, littering and pollution	2	-1	2	2	1	-10	-2	Improbable

Desired Outcome: To reduce the amount of waste produced, and prevent contamination, pollution and littering.

Actions

Prevention:

- Develop a waste management plan and educate workers on the importance of proper waste management.
- Waste reduction measures should be implemented and all waste that can be re-used / recycled must be kept separate.
- Ensure adequate waste storage facilities are available that will prevent waste from being blown away by wind or being scavenged (human and non-human) or attract vermin.
- Hazardous wastes such as used oil and oil/diesel contaminated soil or water must be contained.
- In the unlikely event of a french drain being erected for employees, it should adhere to the Department of Water Affairs' guideline documents for the siting and construction of such facilities.

Mitigation

- All waste must be removed from the drill sites and camps once drilling is complete. Waste should be disposed of at appropriately classified disposal facilities, this includes hazardous material (empty chemical containers (e.g. oil containers) and contaminated materials (rugs, paper water and soil). Empty chemical containers must be destroyed in a way that would prevent reuse as a container after disposal.
- All drill cores as well as cuttings with a significantly different colour than the surface soil should be removed from site. Other cuttings can be dispersed around the site and loosely raked to limit the visual impact.
- Contents of chemical toilets must be removed from site and disposed of at a registered waste water treatment facility.

Responsible Body:

- Proponent
- Contractors

Data Ssources and Monitoring:

- A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility.
- Any complaints received regarding waste should be recorded with notes on action taken.
- All information and reporting to be included in a bi-annual report.

9.1.17 Heritage Resources

Within the EPL, the chance of discovering of archaeologically or culturally important artefacts is small. This is due to the overall lack in surface features, such as rocky hills and springs, that are typically associated with early human habitation. Should archaeologically or culturally important artefacts be discovered (e.g. unmarked graves, signs of early human habitation), it will have a positive academic value if preserved, but a negative impact if damaged.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Damaged archaeologically or culturally important artefacts	4	-3	3	3	1	-84	-4	Probable
After Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Preserved archaeologically or culturally important artefacts	4	3	3	3	1	84	4	Probable

Desired Outcome: To prevent the damage to, or destruction of, any archaeological, paleontological or culturally important (heritage) resources.

Actions

Prevention:

- Educate employees and contractors on what constitutes a possible heritage or archaeologically significant find and inform them to be vigilant for any extraordinary finds and to prevent any damage.

Mitigation:

- If and site or any other archaeologically important artefact is found during exploration, the "chance find procedure" must be implemented. In short, any work in that area must be halted, the area demarcated and the National Heritage Council informed.
- For any human remains, the Namibian Police must be informed as a first action.
- Work may only resume once the necessary permission is provided by the National Heritage Council.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Documenting and reporting of any incidents related to heritage, archaeological or paleontological resources.

9.1.18 Utilities and Infrastructure

Any damage caused to existing infrastructure and like fences, reservoirs, troughs, roads, etc. This includes damage/erosion of farm roads due to the movement of heavy machinery such as drill rigs to exploration sites. Borehole casings that becomes overgrown can present a danger to land owners if they drive off road and collide with it. This is not likely to happen as the EPL is very densely vegetated, making off-road driving nearly impossible.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Without Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Disruption in services supply and infrastructure damage	2	-2	2	2	1	-20	-3	Probable
After Preventative / Mitigation Measures									
Exploration and Site Decommissioning	Disruption in services supply and infrastructure damage	2	1	2	2	1	-10	2	Improbable

Desired Outcome: No impact on utilities and infrastructure.

Actions

Prevention:

- The Proponent must determine exactly where infrastructure like pipelines are situated. Liaison with owners of the land or suppliers of services (if applicable) is essential.
- Damaged farm roads and associated erosion ditches must be repaired in accordance with pre-arranged agreements with the land owner. The use of drill cuttings for this purpose should be considered as this will also serve as drill site rehabilitation.
- The land owner must be informed of the exact positions of any borehole casings protruding above the ground.

Mitigation:

- Emergency procedures for corrective action available on file.

Responsible Body:

- Proponent
- Contractors
- Land owner or suppliers of services

Data Sources and Monitoring:

- A report should be compiled of all incidents that occurred and corrective action taken.

9.2 ENVIRONMENTAL MANAGEMENT SYSTEM

The Proponent could implement an environmental management system (EMS) for their operations. An EMS is an internationally recognised and certified management system that will ensure ongoing incorporation of environmental constraints. At the heart of an EMS is the concept of continual improvement of environmental performance with resulting increases in operational efficiency, financial savings and reduction in environmental, health and safety risks. An effective EMS would need to include the following elements:

- A stated environmental policy which sets the desired level of environmental performance;
- An environmental legal register;
- An institutional structure which sets out the responsibility, authority, lines of communication and resources needed to implement the EMS;
- Identification of environmental, safety and health training needs;
- An environmental program(s) stipulating environmental objectives and targets to be met, and work instructions and controls to be applied in order to achieve compliance with the environmental policy;
- Periodic (internal and external) audits and reviews of environmental performance and the effectiveness of the EMS; and
- The EMP.

10 CONCLUSION

Votorantim Metals Namibia requires an ECC to allow for exploration activities on EPL 10043 in the Khomas Region. Geo Pollution Technologies conducted an environmental assessment to determine the impacts of exploration on the environment of the specific EPL. The exploration activities of VMN can play a positive role in the Khomas Region and Namibia as a whole. Through VMN, foreign funds are invested in Namibia and employment within VMN and their contractors are sustained. This improve employees' livelihoods and spending power which has a knock-on effect when they in turn support various business. Exploration activities also have the potential to benefit land owners, through compensation or when VMN acquires resources from them.

Negative impacts of exploration entails limited ecological disturbances where vegetation needs clearing for exploration. Pollution of the environment can occur when there are hydrocarbon leaks from drilling equipment and vehicles, or where waste is not contained and removed from site. Poaching is a big concern for land owners and criminals may seize the opportunity to pose as a member of the exploration team to gain access to the land. Fire, dust, erosion, noise and deterioration of farm roads are also impacts associated with exploration. Exploration related impacts must be prevented or mitigated by implementing the EMP and through strict monitoring and control. All permits and approvals must be obtained from relevant ministries or authorities. Pollution prevention measures should be adequate to prevent incidents that may potentially pollute soil, ground water and surface water. Health, safety and security regulations should be adhered to in accordance with the regulations pertaining to relevant laws and standards. Of main importance is that surface access agreements be reached with land owners and that the conditions stipulated in these agreements are adhered to at all times.

The EMP (section 9.1) should be used as an on-site reference document during exploration. Parties responsible for transgressing of the EMP should be held accountable according to the Proponent's standard procedures for handling of misdemeanours. The Proponent should use an in-house health, safety, security and environment management system, or similar, in conjunction with the EMP. All exploration personnel and contractors must be taught the contents of these documents.

Should the MIME and Directorate of Environmental Affairs (DEA) in the MEFT find that the impacts and related mitigation measures, which have been proposed in this report, are acceptable, the necessary authorisations and ECC may be granted to the Proponent. The ECC issued, based on this document, will render it a legally binding document which should be adhered to.

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Appendix A: Tree Atlas of Namibia List of Trees Known to Occur in the EPL Area

Trees recorded in the Tree Atlas of Namibia as occurring in QDS 2217DC, 2317AB and 2317BA (Curtis & Mannheimer, 2005) **CA = Common to Abundant; O = Occasional; UR = Uncommon to rare; Empty = Not Recorded**							
`Scientific Name	**2317AA**	**2317AB**	**2317AC**	**2317AD**	**2317BA**	**2317BC**	**Conservation Notes**
Acacia erioloba	CA	CA	CA	CA	CA	CA	Protected by forestry legislation
Acacia erubescens		CA	CA	CA	CA	CA	
Acacia haematoxylon			CA	CA	CA		
Acacia hebeclada subsp *hebeclada*	CA	CA	CA	CA	CA	CA	
Acacia hereroensis	CA	CA			CA		
Acacia karroo	CA	CA	CA	CA	CA		
Acacia mellifera subsp *detinens*	CA	CA	CA	CA	CA	CA	Aggressive invader
Acacia nebrownii			UR	UR			
Acacia reficiens subsp *reficiens*	UR		UR			UR	Very aggressive invader
Acacia senegal var *rostrata*			CA		CA		
Acacia tortilis			UR				
Acacia tortilis subsp *heteracantha*			UR			UR	
Albizia anthelmintica	UR	UR	UR	UR	UR	UR	Protected by forestry legislation
Aloe littoralis	UR	UR	UR		UR		Potentially threatened by pachycaul trade. Protected by the Nature Conservation Ordinance and listed in CITES Appendix II
Boscia albitrunca	O	O	O	O	O	O	Protected by forestry legislation
Boscia foetida subsp *foetida*	CA	CA	CA	CA	CA	CA	
Cadaba aphylla			O	O	O	O	
Catophractes alexandri	CA	CA	CA	CA	CA	CA	Invasive in some areas
Combretum apiculatum subsp *apiculatum*	CA	CA	CA		CA		
Commiphora angolensis					CA		

Trees recorded in the Tree Atlas of Namibia as occurring in QDS 2217DC, 2317AB and 2317BA (Curtis & Mannheimer, 2005) **CA = Common to Abundant; O = Occasional; UR = Uncommon to rare; Empty = Not Recorded**							
`Scientific Name	**2317AA**	**2317AB**	**2317AC**	**2317AD**	**2317BA**	**2317BC**	**Conservation Notes**
Commiphora pyracanthoides	CA				CA		
Commiphora tenuipetiolata					CA		
Cordia sinensis			UR				
Croton gratissimus		UR					
Dichrostachys cinerea subsp *africana*	CA	CA	CA		CA		Invasive
Diospyros lycioides	UR	UR					
Diospyros lycioides subsp *lycioides*					UR		
Ehretia alba	O	O			O	O	
Elephantorrhiza suffruticosa	CA	CA	CA				
Euclea undulata var *myrtina*			CA				
Faidherbia albida			CA				Protected by forestry legislation
Ficus ilicina	CA	CA					
Gomphocarpus fruticosus			CA				
Grewia flava	CA	CA	CA	CA	CA	CA	
Grewia flavescens	CA	CA			CA	CA	
Grewia retinervis					UR		
Grewia tenax var *tenax*		O			O		
Leucosphaera bainesii		UR			UR		
Lycium bosciifolium		UR	UR	UR	UR	UR	
Lycium eenii	CA		CA	CA	CA		
Lycium hirsutum					CA		
Manuleopsis dinteri	UR						Endemic to Namibia

Trees recorded in the Tree Atlas of Namibia as occurring in QDS 2217DC, 2317AB and 2317BA (Curtis & Mannheimer, 2005) **CA = Common to Abundant; O = Occasional; UR = Uncommon to rare; Empty = Not Recorded**							
`Scientific Name	**2317AA**	**2317AB**	**2317AC**	**2317AD**	**2317BA**	**2317BC**	**Conservation Notes**
Montinia caryophyllacea	CA				CA		
Mundulea sericea		UR					
Nicotiana glauca	CA		CA			CA	Alien
Nymania capensis			CA				
Otoptera burchellii	O	O					
Ozoroa crassinervia					O		Near-endemic stretching into the Richtersveld.
Parkinsonia africana			O	O	O	O	
Pechuel-Loeschea leubnitziae	UR	UR	UR				
Phaeoptilum spinosum	CA	CA	CA	CA	CA	CA	
Prosopis glandulosa			UR		UR	UR	
Prosopis spp	UR	UR	UR	UR	UR	UR	
Rhigozum brevispinosum					O		
Rhigozum trichotomum	CA	CA	CA	CA	CA	CA	
Searsia ciliata		O					
Searsia lancea	O	O	O				Protected by forestry legislation
Searsia marlothii	CA	CA	CA		CA		
Searsia pyroides		O					
Searsia pyroides var *dinteri*	CA						
Schinus molle			UR				Alien
Tarchonanthus camphoratus	O	O	O				
Ziziphus mucronata	CA	CA	CA	CA	CA	CA	Protected by forestry legislation

Appendix B: Proof of Public Consultation

Notified and Registered IAPs

Name	Farm/Organisation
Andy	Kareeboomvlei FMK 4495A
Ingemar Christ	Klipvlei FMK 278
L W Christ	Klipvlei FMK 278
Lukas Brand Julie Feris	Danigas FMM/00289/00REM
Jannie Zaahl	Danigas FMM/00289/00REM
Wolfgang Sternegang	Ganeib FMM/00061/00001
Wolfgang Sternegang	Ganeib FMM/00061/00REM
Ryno	Ganeib Suid FMM/00215/00001
Apie Dames	Ganeib Suid FMM/00215/00REM
Dr Stellemacher	Kalkpan FMM/00450/00REM
Niela Denk	Mooiplaas FMM/00297/00002
Hendry Jagger Commuinty Chair (Bahnhoff Community)	Rehoboth Townlands FMM/00302 - Also Usib
JP Engelbrecht	Riet FMM/00287
Truida	Uisib FMM/00298/00002
IC de Groot	Usib FMM/00298/00001
Tienie de Groot	Koud Draai
Johann Morkel	Usib FMM/00298/00REM
Pikkie Van Wyk	Van Wyk FMM/00774
Charlotte Welman	Vogelpan FMM/00297/00001
Trudie	Vogelpan FMM/00297/00REM
Werner Bader	Wiese FMM/00062/00002
Rita Mirjam Zaahl	Kalkbrak FMM/00277/00001
Dr Mouton	FMM/00881/00003
Harold Mouton	FMM/00881/00003
Truida	
Jacken van Rooiyen	Usib - Same Jagger
Routh Lee-Janes	
Paul Mall	
Leon m van Wyk	Plaas 2/5 298 RHB
Rosetta Goagoses	Usib Community (School)
Johann Morkel	

Receipt of Notification /BID: Environmental Assessment

Environmental Assessment and Management Plan for Exclusive Prospecting License 10043/5, Khomas and Hardap Regions

Farm Name

Name & Surname	Organisation/Address	Email	Signature
Bouth Lee-Jane	N/A		
Paul Mall			
Leon. M. van Wyk	Plaas e/s 1B 298 RHB		
Hendrik Jagger	Us 1B 302 (Goxas) (Bahnhoff Community)		
Tjenie de Groot	Us 1B 302 (Koud Draai)		
Rosetta R Geagoses	Usib community		
Lukas Brand	Danigas		

Privacy Block

Farm Name

Name & Surname	Organisation/Address	Email	Signature
R.E Goetzee	Swartkoppies 279		
L. W. CHRIST	Kuy. Vlei 278		
JOHAN MERKEL	497D RHB		
Liam Bock	RHB		

Privacy Block

Notification Letters to Khomas and Hardap Regional Council

HKM
04/11/25
0612512435?

TEL.: (+264-61) 257411 ♦ FAX.: (+264) 88626368
CELL.: (+264-81) 1220082
PO BOX 11073 ♦ WINDHOEK ♦ NAMIBIA
E-MAIL: gpt@thenamib.com

To: **The Chief Regional Officer**
Khomas Regional Council
PO Box 3379
Windhoek

04 November 2025

Dear Sir/Madam

Re: **Environmental Clearance Certificate (ECC) Application, EPL 10045, Khomas and Hardap Region**

Geo Pollution Technologies (Pty) Ltd has been appointed by Votorantim Metals Namibia (Pty) Ltd to apply for an environmental clearance certificate (ECC) for the proposed exploration activities related to exclusive prospecting licence (EPL) 10045. The ECC is required as per the Environmental Management Act No. 7 of 2007 (EMA). In support of the ECC application, an environmental scoping impact assessment (EIA) and environmental management plan (EMP) will be submitted to the Ministry of Environment, Forestry and Tourism's Directorate of Environmental Affairs (DEA).

Project: Environmental Assessment and Management Plan for Exclusive Prospecting Licence 10045, Khomas and Hardap Region

Proponent: Votorantim Metals Namibia (Pty) Ltd

Environmental Assessment Practitioner: Geo Pollution Technologies (Pty) Ltd

The Proponent received an "Intention to Grant" from the Ministry of Industries, Mines and Energy in respect of their application for EPL 10045. The EPL will be granted to the Proponent upon successful acquisition of an ECC for the EPL area, as indicated on Page 2. The EPL is for the exploration of base and rare metals, industrial minerals and precious metals. Exploration may entail desktop studies, remote sensing, field surveys, soil and geochemical studies, geophysical surveys and exploration drilling.

The Khomas Regional Council is invited to register with the environmental consultant to receive further documentation and communication regarding the project. Please register at:

Fax: 088-62-6368 or **E-Mail:** epl_10045@thenamib.com.

Sincerely,

André Faul
Environmental Practitioner

COPY

Page 1 of 2

Directors: P. Botha (B.Sc. Hons. Hydrogeology) (**Managing**)

TEL.: (+264-61) 257411 ♦ FAX.: (+264) 88626368
CELL.: (+264-81) 1220082
PO BOX 11073 ♦ WINDHOEK ♦ NAMIBIA
E-MAIL: gpt@thenamib.com

To: **The Chief Regional Officer**
Hardap Regional Council
Private Bag 2017
Mariental

04 November 2025

Dear Sir/Madam

Re: **Environmental Clearance Certificate (ECC) Application, EPL 10045, Khomas and Hardap Region**

Geo Pollution Technologies (Pty) Ltd has been appointed by Votorantim Metals Namibia (Pty) Ltd to apply for an environmental clearance certificate (ECC) for the proposed exploration activities related to exclusive prospecting licence (EPL) 10045. The ECC is required as per the Environmental Management Act No. 7 of 2007 (EMA). In support of the ECC application, an environmental scoping impact assessment (EIA) and environmental management plan (EMP) will be submitted to the Ministry of Environment, Forestry and Tourism's Directorate of Environmental Affairs (DEA).

Project: Environmental Assessment and Management Plan for Exclusive Prospecting Licence 10045, Khomas and Hardap Region

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Environmental Assessment Practitioner: Geo Pollution Technologies (Pty) Ltd

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Since a small portion of the EPL overlaps the Hardap Region, the Hardap Regional Council is invited to register with the environmental consultant to receive further documentation and communication regarding the project. Please register at:

Fax: 088-62-6368 or **E-Mail:** epl_10045@thenamib.com.

Sincerely,

André Faul
Environmental Practitioner

Received: 13/11/2025
Mrs. K.B. Van Wyk – ACHRP

Notification Letter to Ministry of Agriculture, Fisheries, Water and Land Reform

GEO Pollution Technologies

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E-MAIL: gpt@thenamib.com

To: The Executive Director
Ministry of Agriculture, Fisheries Water and Land Reform
Private Bag 13184
Windhoek

04 November 2025

Dear Ms Nghituwamata

Re: ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN FOR EXCLUSIVE PROSPECTING LICENCE 10045, KHOMAS AND HARDAP REGIONS

Geo Pollution Technologies (Pty) Ltd has been appointed by Votorantim Metals Namibia (Pty) Ltd to apply for an environmental clearance certificate (ECC) for the proposed exploration activities related to exclusive prospecting licence (EPL) 10045. The ECC is required as per the Environmental Management Act No. 7 of 2007 (EMA). In support of the ECC application, an environmental scoping impact assessment (EIA) and environmental management plan (EMP) will be submitted to the Ministry of Environment, Forestry and Tourism's Directorate of Environmental Affairs (DEA).

Project: Environmental Assessment and Management Plan for Exclusive Prospecting Licence 10045, Khomas and Hardap Region

Proponent: Votorantim Metals Namibia (Pty) Ltd

Environmental Assessment Practitioner: Geo Pollution Technologies (Pty) Ltd

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The Ministry of Agriculture, Fisheries, Water and Land Reform is invited to register with the environmental consultant to receive further documentation and communication regarding the project. Please register at:

Fax: 088-62-6368 or **E-Mail:** epl_10045@thenamib.com.

Sincerely,

André Faul
Environmental Practitioner

RECEIVED
2025 -11- 04
EXECUTIVE DIRECTOR'S OFFICE
MAFWLR

COPY

Notification Letter to Ministry of Industries, Mines and Energy

Friedburgh

GEO Pollution Technologies

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E-MAIL: gpt@thenamib.com

To: **The Executive Director**
Ministry of Industries, Mines and Energy
Private Bag 13297
Windhoek

04 November 2025

Dear Sir/Madam

Re: **ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN FOR EXCLUSIVE PROSPECTING LICENCE 10045, KHOMAS AND HARDAP REGION**

Geo Pollution Technologies (Pty) Ltd has been appointed by Votorantim Metals Namibia (Pty) Ltd to apply for an environmental clearance certificate (ECC) for the proposed exploration activities related to exclusive prospecting licence (EPL) 10045. The ECC is required as per the Environmental Management Act No. 7 of 2007 (EMA). In support of the ECC application, an environmental scoping impact assessment (EIA) and environmental management plan (EMP) will be submitted to the Ministry of Environment, Forestry and Tourism's Directorate of Environmental Affairs (DEA).

Project: Environmental Assessment and Management Plan for Exclusive Prospecting Licence 10045, Khomas and Hardap Region

Proponent: Votorantim Metals Namibia (Pty) Ltd

Environmental Assessment Practitioner: Geo Pollution Technologies (Pty) Ltd

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The Ministry of Industries, Mines and Energy is invited to register with the environmental consultant to receive further documentation and communication regarding the project. Please register at:

Fax: 088-62-6368 or **E-Mail:** epl_10045@thenamib.com.

Sincerely,

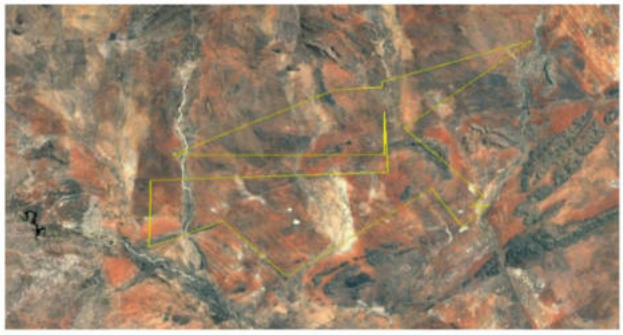
André Faul
Environmental Practitioner

COPY

Background Information Document

ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN FOR EXCLUSIVE PROSPECTING LICENCE 10045, KHOMAS AND HARDAP REGIONS

BACKGROUND INFORMATION DOCUMENT



Prepared by:

Prepared for:

March 2025

1 INTRODUCTION

Votorantim Metals Namibia (Pty) Ltd (the Proponent) received an "Intention to Grant" from the Ministry of Mines and Energy in respect of their application for exclusive prospecting licence (EPL 10045), in the Khomas and Hardap Regions. The EPL will be granted to the Proponent upon successful acquisition of an environmental clearance certificate (ECC) for the EPL area, as indicated in Figure 1. The EPL is for the exploration of base and rare metals, industrial minerals and precious metals and covers an area of 51,885 ha.

The Proponent requested Geo Pollution Technologies (Pty) Ltd (GPT) to apply for an ECC for the proposed exploration activities related to EPL 10045. The ECC is required as per the Environmental Management Act No. 7 of 2007 (EMA). In support of the ECC application, an environmental scoping impact assessment (EIA) and environmental management plan (EMP) will be submitted to the Ministry of Environment, Forestry and Tourism's Directorate of Environmental Affairs (DEA).

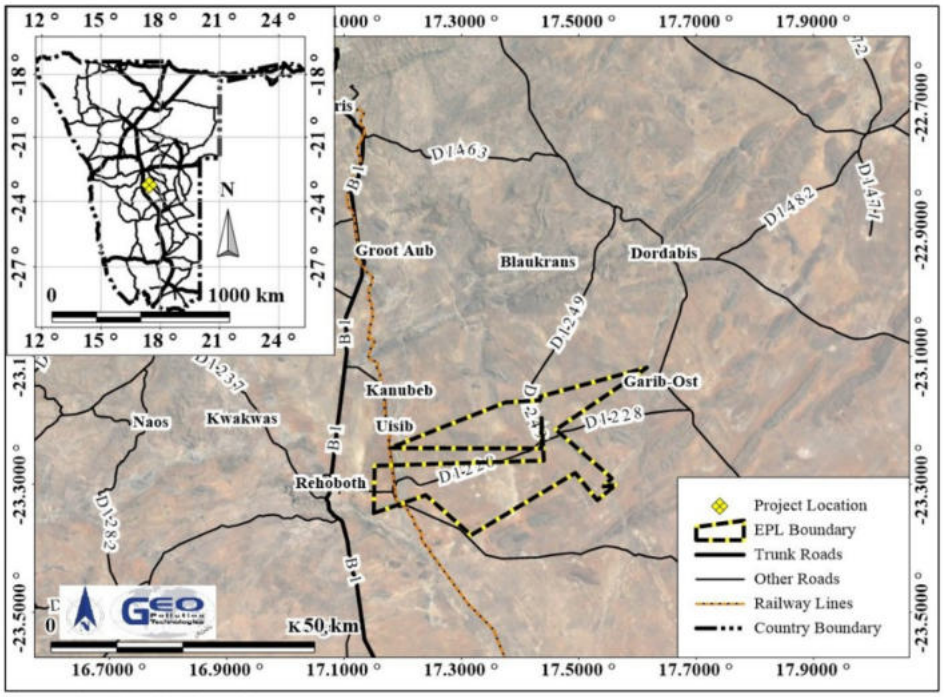


Figure 1 Project location

2 PURPOSE OF THE BID

With this background information document (BID), GPT aims to provide information to, and interact with, interested and affected parties (IAPs) regarding the project and the environmental assessment process. IAPs are therefore invited to register with GPT to:

- Provide information which should be taken into account in the assessment of impacts.
- Share any comments, issues or concerns related to the project.
- Review and comment on the EIA and EMP.

3 PROJECT DESCRIPTION

Activities considered for the environmental assessment have been divided into the following phases: planning, construction, operational and decommissioning phases. A brief outline of expected activities for each phase is detailed below.

3.1 PLANNING PHASE

Planning is ongoing and include planning for the various phases involved with the exploration activities. As part of the planning phase, it is the responsibility of Proponent to ensure they are and remain compliant with all legal requirements. The Proponent must also ensure that all required management measures are in place, prior to and during all phases, to ensure potential impacts and risk are minimised. Typical planning activities include:

- Obtain or renew permits, licences and approvals from all relevant local and national authorities. This includes the ECC and drilling authorisation from the Ministry of Agriculture, Water and Land Reform.
- Planning to meet the various conditions that may be prescribed by the MEFT as issued as part of the ECC.
- Liaison and reaching surface access agreements with all land owners regarding access to their property.
- Make provisions to have a health, safety and environmental coordinator to implement the EMP.
- Ensure provisions for a fund to cater for restoration or rehabilitation in areas where exploration activities occurred, and for the eventuality of environmental incidents or pollution resulting from exploration activities.
- Ensure all appointed contractors and employees enter into an agreement with the Proponent which includes the EMP.
- In accordance with the ECC conditions, maintain a reporting system to report on the various management parameters as outlined in the EMP. This is a standard requirement of ECC conditions.

3.2 CONSTRUCTION PHASE

Construction related activities pertain mainly to the establishment of access roads to specific areas targeted mainly for exploratory drilling, setting up temporary worker camps (if required), clearing and possibly levelling of drilling pads and associated laydown areas, and construction of temporary ablution facilities. The Proponent however prefers to make use of existing accommodation facilities in close vicinity of the EPL and will only have temporary worker camps where no other option is available.

To minimise impacts, existing roads or fire breaks will be used to gain access to the exploration sites or drill locations, where possible. Such access routes will be determined in consultation with the land-owner and an agreed post exploration use of the area will also be confirmed. Alternative routes will be considered to avoid slopes, animal burrows, nests and sensitive vegetation such as large or mature trees. These measures will form part of the surface access agreement. Roads, camps and laydown areas will be created by bulldozer and/or manual labour, depending on the terrain and vegetation type and density.

3.3 OPERATIONAL PHASE

The operational phase encompass all operational activities performed within the EPL for purposes of exploring for the relevant commodities (base and rare metals, industrial minerals and precious metals). These include:

- Desktop studies: Review of existing geological literature and data for the area of interest.

- Remote sensing: Imagery and spectral data obtained from aerial surveys or satellites. Such data will be used to map geological characteristics and structures, with the aim of determining focus areas for more detailed exploration activities.
- Field surveys: Geological mapping of focus areas by visual confirmation of surface geology.
- Soil and geochemical sampling: Rock and soil collection and analysis to determine mineral content and thereby further refining the focus areas for exploration.
- Geophysical surveys: Surveys used to determine and map subsurface features without drilling. Various geophysical survey methods exist and include seismic, magnetic, electrical, electromagnetic and gravity methods. The Proponent will mainly use electrical (induced polarization and electrical resistivity tomography) and electromagnetic (audio-magneto telluric or electromagnetic sounding surveys) methods. These measure the electrical and electromagnetic properties of the subsurface to identify different materials and subsurface geology to refine focus areas. For both, survey lines need to be cleared to ensure unrestricted access for the equipment and cables. The survey lines are usually about 1 m wide, but may be of varying length. Limited vegetation is cleared for such lines.
- Exploratory drilling: Once sufficient information is gathered from the above methods, and focus areas for exploration have been determined, a drilling plan can be determined and executed. This constitutes the most invasive part of exploration. Drilling typically involves a diamond core drilling rig used to cut and extract cylindrical rock cores from the subsurface. Drilling logs will be kept and drill chips or cores will be collected for analysis in order to determine ore reserves and resource feasibility.

Access to privately owned land will only be gained as per agreed schedule and in conformance with the requirements as determined and agreed upon in the surface access agreement. This will typically include all members of the exploration team wearing clearly identifiable clothing (uniforms) with identification tags. All vehicles will also be clearly branded as belonging to the Proponent. These measures aim to address security concerns related to unauthorised persons gaining access to land, by posing as members of the exploration team.

Should exploration advance to the exploratory drilling stage, the drill rig and its associated equipment such as compressors, drill rods, etc., will be mobilised to site. Water and fuel for drilling operations will be carted to the drill sites. Adequate temporary ablution and mess facilities will be provided to workers who will be present on site for extended periods (e.g. during drilling). All waste, including any polluted soil or water, will be collected for disposal at recognised waste disposal facilities. Where possible, sewage will also be collected and disposed of at a registered wastewater treatment facility. Sewage may also be disposed of in existing or newly constructed pit latrines, septic tanks or french drain systems on the farm, in agreement with the land owner. Daily operations further include administrative tasks, security services and procedures, site maintenance and related activities. Maintenance of access roads will continually be conducted and includes dust management if and when required.

3.4 DECOMMISSIONING PHASE

Decommissioning during the exploration phase entails vacating exploration areas and removal of all equipment and infrastructure used by the Proponent or their contractors. All areas and roads will at such time be rehabilitated, or handed over to the land owner, in accordance with the surface access agreements reached prior to initiation of exploration activities. Rehabilitation may include shaping and/or ripping of roads, campsites, laydown and drilling areas to prevent erosion, allow rapid establishment of vegetation, and reduce the visual impact by contouring such areas to fit in with the natural topography of the land. Any pollution (e.g. fuel. oil, hydraulic fluid) as well as all drilling cores and cuttings present on and around explorations sites must be removed at such time. Drill cuttings can also be used for beneficial purposes (e.g. road surfacing, backfilling erosion ditches, etc.) in agreement with the land owner. Any potential hazardous cuttings should however be identified and removed accordingly.

3.5 PRELIMINARY IDENTIFIED IMPACTS

During the preparation of the environmental assessment, all components of the environment will be considered. However, only those components which are, or may be, significantly impacted, or are deemed to be sensitive, will be assessed. These may include, but is not limited to, the following:

- Social (demographic profile, employment, social ills, etc.)
- Security (theft, unauthorised access, etc.)
- Economic (wages, procurement, taxes, etc.)
- Waste (general, sewage, hazardous, etc.)
- Soil and water (groundwater, surface water and soil pollution, erosion, compaction)
- Ecology (habitat loss, poaching, protected species, disturbances)
- Health and safety (injuries, exposure, noise, etc.)
- Visual (erosion, scarring, pollution)
- Heritage and archaeology (historic artefacts, paleontological finds, etc.)

4 PUBLIC CONSULTATION

GPT invites all IAPs to provide in writing, any issues and suggestions regarding the project. This correspondence must include:

- Name and surname
- Organisation represented or private interest
- Position in the organization
- Contact details
- Any direct business, financial, personal or other interest which you may have in the approval or refusal of the application.

All contributions become public knowledge and will be circulated along with the reports as per the EMA requirements. The comments, inputs and suggestions will also be submitted to the DEA, along with how any issues have been addressed in the EIA. The public participation process will remain ongoing during the environmental assessment. However, all comments and concerns should timeously be provided to GPT to ensure incorporation into the final report. For any additional information the project team may be contacted at:

Geo Pollution Technologies (Pty) Ltd
Telephone: (+264-61) 257411
Fax: (+264) 88626368
e-mail: epl_10045@thenamib.com

Your Rights as an IAP according to the Environmental Management Act, No7 of 2007, Government Notice No 30 (Environmental Impact Assessment Regulations)

Section 23.

(1) A registered interested or affected party is entitled to comment in writing, on all written submissions made to the Environmental Commissioner by the applicant responsible for the application, and to bring to the attention of the Environmental Commissioner any issues which that party, believes may be of significance to the consideration of the application, as long as -

(a) comments are submitted within 7 days of notification of an application or receiving access to a scoping report or an assessment report;

(b) the interested and affected party discloses any direct business, financial, personal or other interest which that party may have in the approval or refusal of the application.

(2) Before the applicant submits a report compiled in terms of these regulations to the Environmental Commissioner, the applicant must give registered interested and affected parties access to, and an opportunity to comment in writing on the report.

(3) Reports referred to in sub regulation (2) include

(a) scoping reports;

(b) scoping reports amended and resubmitted;

(c) assessment reports; and

(d) assessment reports amended and resubmitted.

(4) Any written comments received by the applicant from a registered interested or affected party must accompany the report when the report is submitted to the Environmental Commissioner.

(5) A registered interested or affected party may comment on any final report that is submitted by a specialist reviewer for the purposes of these regulations where the report contains substantive information which has not previously been made available to a registered interested or affected party.

Section 24:

The applicant responsible for an application must ensure that the comments of interested and affected parties are recorded in reports submitted to the Environmental Commissioner in terms of these regulations, and comments by interested and affected parties on a report which is to be submitted to the Environmental Commissioner may be attached to the report without recording those comments in the report itself.

Press Notice: New Era - 10 and 17 March 2025

DRC gets new police station

■ Eveline de Klerk

SWAKOPMUND - The Democratic Resettlement Community (DRC), a township in Swakopmund, which is home to over 40 000 residents, has long faced challenges with criminal activities, leaving residents in constant fear for years.

However, thanks to a generous donation from Rössing Uranium, the community now has access to police services, after the mining company constructed a police station.

Rössing constructed a state-of-the-art police station to the tune of N$23 million. The station, which was inaugurated on Thursday, was constructed within five months. A total of 22 officers have been assigned to the new station.

The facility boasts four holding cells, each with an exercise courtyard, an interrogation room, a doctor's consultation room, a visitors' room, an armoury room, a records and archives room, an evidence room, four offices, a boardroom, ablution facilities, a secure passage for inmate drop-offs, dining area, a pantry, a laundry room, staff kitchen and a server/radio room. Safety and security minister Albert Kawana applauded the mine for their generous donation while acknowledging the ongoing challenges faced by residents due to the lack of a local police station.

Kawana said the station would significantly improve police response times, bringing law-enforcement services closer to the community and enhancing public safety. Police supremo Joseph Shikongo on the day also expressed gratitude towards Rössing Uranium, saying the station is more than just bricks and mortar.

"It is a testament to the commitment of the Namibian government, the ministry of home affairs and key stakeholders, including Rössing Uranium whose financial contribution made the facility possible," he said.

Rossing Uranium's board chairperson, Steve Galloway, pointed out that they opted to construct the police station to keep the community as well as their employees safe.

"Many people in the community lived in constant fear, not knowing whether they would wake up to a safe tomorrow.

Many of our employees had been victims while on their way to work or returning home," he said.

-edeklerk@nepc.com.na

Service... The new police station in Swakopmund's DRC settlement. *Photo: Contributed*

Shangula commissions medical boat for Zambezi

Universal healthcare... Health minister Dr Kalumbi Shangula (left) on Friday officially commissioned a purpose-built medical boat aimed at bridging the gap in healthcare access for communities in flood-prone areas. *Photo: Albertina Nakale*

■ Albertina Nakale

KATIMA MULILO - Health Minister Dr Kalumbi Shangula on Friday commissioned a purpose-built medical boat aimed at bridging the gap in healthcare access for communities in flood-prone areas in Zambezi region.

"We gathered here today for a very special occasion to witness the commissioning of a purpose-built boat, designed to facilitate the transportation of health workers and patients on the water course," said Shangula. The boat, donated by the United States President's Emergency Plan for AIDS Relief (PEPFAR) at a cost of over N$600 000, is set to serve as a crucial healthcare lifeline for remote communities.

The minister said that the donation marks a significant milestone in Namibia's ongoing mission to provide integrated, affordable and quality healthcare services.

"The geography of the Zambezi Region presents unique challenges, particularly during the rainy season when flooding disrupts access to essential health services," Shangula stated.

Shangula added the boat is a targeted solution to ensure that all citizens, irrespective of location, have access to necessary healthcare services.

The introduction of the medical boat aligns with Namibia's recently approved Universal Health Coverage (UHC) policy.

"Namibia's UHC Service Coverage Index currently stands at 63%—one of the highest in the SADC region," Shangula noted.

Recognising the growing impact of climate change on healthcare service delivery, the minister underscored the need for innovative solutions. "Recurrent floods not only disrupt everyday life but also hinder critical healthcare services. This boat is not just a mode of transport - it is a lifeline. It can make a huge difference in maternal and child health services, as well as in managing disease outbreaks," he said.

Speaking at the event, Kabbe North constituency councillor Bernhard Sisamu echoed Shangula's sentiments, urging local communities to take responsibility for maintaining the donated boat.

"This boat is an invaluable resource, and it is imperative that we all take ownership of it. Let us work together to safeguard and maintain it so that it can serve us for many years to come," Sisamu stated.

-anakale@nepc.com.na

MTC Trivia awards three winners

Pricilla Mukokobi

MTC Trivia Summer awarded three brand new vehicles to lucky winners of the MTC Trivia Competition, which ran from 2 December 2024 to 2 March 2025.

Eneas Mulike (Windhoek), Edward Gei-Aibeb (Gocheganas) and Bind Penti-Ziipo (Walvis Bay) received keys to their brand-new cars on Thursday at MTC headquarters in Windhoek.

Mulike scooped the first prize of a 2024 Toyota Hilux double-cab bakkie, while Gei-Aibeb walked away with the second prize, a 2024 Toyota Corolla Cross 1.8, and Bind Penti-Ziipo triumphantly took home the third prize, a 2024 Toyota Starlet.

During the prize-giving ceremony, excitement was evident on the winners' faces, when they officially received their grand winnings, describing them as life-changing.

Receiving the car on behalf of her husband Eneas, Letta Mulike expressed gratitude for what she termed as a life-changer for her family.

"My husband has always participated in MTC competitions, but we never expected luck to pay off this big. I am filled with gratitude and excited and would like to encourage MTC to continue giving this life-changing opportunity to their customers," she said.

Gei-Aibeb expressed happiness to win a 2024 Toyota Corrola Cross 1.8 and gratitude to MTC.

"I encourage everyone to participate in the MTC trivia. I know its not easy but you just need to have faith," he said.

The big three winners were not the only winners as the campaign also had monthly prizes which saw

Trivia winners... Winners in blue shirts, Letta Mulike (Windhoek), Edward Gei-Aibeb (Gocheganas) and Bind Penti-Ziipo (Walvis Bay) received keys to their brand-new vehicles on Thursday at MTC headquarters in Windhoek. Photo: Heather Erdamm

30 participants each walk away with brand new IPad. This is in addition to airtime worth more than N$200 000 given out during the duration of the campaign.

Shedding light on how the draw was conducted, MTC chief brand, marketing, corporate affairs, and sustainability officer Tim Ekandjo said all campaign draws were meticulously executed with transparency and fairness.

"We had a panel which consisted of two representatives from the Value-Added Services (VAS) team, one from Corporate Affairs, and one from Internal Auditor, ensuring the integrity of the selection process. Throughout the campaign, we witnessed a remarkable active engagement and gained valuable insights into customers behaviour and preferences when it comes to gamification," he said.

-pmukokobi@nepc.com.na

Press Notice: The Republikein - 10 and 17 March 2025

2 NUUS Republikein Maandag 10 Maart 2025

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WEER

BINNELAND: Gedeeltelik bewolk en warm tot baie warm met geïsoleerde tot verspreide donderbuie in die noordwestelike en sentrale dele van die land, asook die Hardapstreek, maar enkele tot geïsoleerde donderbuie word oor die noordoostelike dele verwag.
KUS: Gedeeltelik bewolk en warm tot baie warm met buie en donderbuie in die Noorde.
GETYE BY WALVISBAAI: L: 07:44 H: 13:53 L: 19:59

VOORUITSIGTE

WINDHOEK	17°	28°
RUNDU	18°	30°
OSHAKATI	18°	29°
GOBABIS	19°	33°
MARIENTAL	18°	34°
KEETMANSHOOP	20°	33°
WALVISBAAI	16°	30°
LUANDA	24°	30°
JOHANNESBURG	15°	27°
KAAPSTAD	13°	24°

Swakopmund se strandpromenade strek van die Mole-strand tot by die Platz Am Meer-waterfront. FOTO ADAM HARTMAN

Nuwe baadjie

VAN BL. 1

Die ooreenkoms, wat deur die raad op sy laaste raadsvergadering op 27 Februarie goedgekeur is, word as 'n wen-wen-vennootskap vir beide partye beskou. Terwyl Swakopmund finansieel bevoordeel word om die gewilde wandelpad te help onderhou, verkry Hollard Namibië handelsmerksigbaarheid op 'n manier wat die promenade se geskiedkundige en kulturele betekenis respekteer.

Die promenade is 'n fokuspunt van die dorp se toerisme en ontspanning en verbind met ander bekende terreine, insluitend die jetty, Schad-promenade en Strand Hotel.

"Hierdie vennootskap sal help om te verseker dat die promenade 'n trekpleister vir beide plaaslike inwoners en internasionale besoekers bly, terwyl die finansiële druk op die munisipaliteit verminder word," het Wilfried Groenewald, voorsitter van die raadsbestuurskomitee op die raadsvergadering gesê.

Behalwe vir handelsmerke, maak die vennootskap die deur oop vir bykomende bydraes van Hollard Namibië, insluitend die moontlikheid vir vullisdromme langs die wandelpad om die gebied skoon te hou.

"Die voorstel is ook daarop gemik om Swakopmund se posisie as 'toonaangewende, innoverende toeristebestemming te verhoog," het Hollard gesê, wat die bekendstelling van QR-kodes op naamborde voorstel om besoekers digitale toegang tot geskiedkundige en toeriste-inligting oor die promenade te gee.

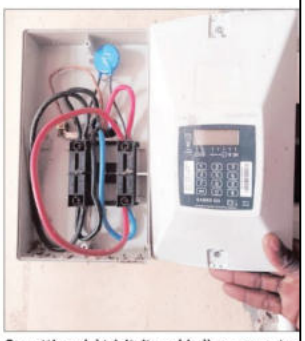
adam@erongo.com.na

Nored

VAN BL. 1

Hy het gesê Nored het 'n bewusmakingsveldtog begin om die gemeenskappe in te lig oor die gevare van onwettige verbindings en die koste daaraan verbonde.

"Inwoners moet verstaan hoe hierdie kriminele aktiwiteite bedryfskoste verhoog, diegene wat die misdade pleeg in gevaar stel, infrastruktuur in gevaar stel en risiko's inhou vir Nored-personeellede wat aan elektrisiteitsinstallasies werk," het Lukas gesê.



Onwettige elektrisiteitsverbindings neem toe

FOTO VERSKAF

OPSPORING

Hy het verduidelik dat Nored onwettige elektrisiteitsverbindings opspoor deur veldtegnici se roetineinspeksies, monitering van kragverbruik, patrone deur meterlesings, samewerking met die Namibiese polisie en openbare bewusmakingsinisiatiewe, insluitend radioprogramme en gemeenskapsvergaderings.

"Onwettige verbindings kan ook wanbalanse in die netwerk skep, wat die stabiliteit en doeltreffendheid daarvan beïnvloed. Elektrisiteit is uiters gevaarlik en moet altyd wettig en veilig verskaf word om die verlies van onskuldige lewens en beserings te voorkom," het Lukas beklemtoon.

Nored se woordvoerder, Simon Lukas, waarsku teen onwettige elektrisiteitsverbindings.

FOTO VERSKAFFOTOS: FILE

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Skoolvoedingsprogram

VAN BL. 1

Verder is daar 'n onderwysontwikkelingsfonds wat onder meer vir skooluniforms vir gemarginaliseerde leerders kan betaal wanneer skole daarvoor aansoek doen.

"As daar voorvalle is waar leerlinge weggewys word weens onvermoë om te betaal, moet dit onmiddellik aan die streekskantoor aangemeld word wat die situasie sal regstel," sê die uitvoerende direkteur se kantoor.

Die onderwysministerie moedig ook ouers aan om die ministerie van geslagsgelykheid, armoede-uitwissing en maatskaplike welsyn te nader vir bystand met finansies, vervoer en toegang to onderwys vir lede van gemarginaliseerde gemeenskappe. Leerlinge wat nie koshuisfooie kan bekostig nie, word aangemoeding om aansoek vir vrystelling by die betrokke skoolraad te doen. Die onderwysministerie verskaf ook N$22 per kind per dag vir die huisvesting van leerlinge in gemeenskapskoshuise.

Die uiters belangrike nasionale skoolvoedingsprogram is onder druk weens hoë mielieprys, aldus die onderwysministerie. FOTO ARGIEF

Oor die afgelope jaar het die ministerie twee koshuise gebou, met verdere uitbreidings van koshuisakkomodasie vir die komende vyf jaar beplan. Bouwerk aan koshuise by die Pendukeni I Ithana Sekondêre Skool gaan voort, soos ook by die Onkumbula Gekombineerde Skool, Schuckmansburg fase twee en Ndoro. Skole op Driomopsis, Otjivanda, Aussenkehr, Bravel, Onamutayi en Nkurenkuru is ook ingesluit in die beplanning vir die uitbreiding van koshuisgeriewe.

In agt van vroeëkinderontwikkelingsentrums is die betaling van onderwysers steeds die verantwoordelikheid van die ministerie van geslagsgelykheid, armoede-uitwissing en maatskaplike welsyn, volgens die onderwysministerie. Die ministeries werk egter saam om kinderontwikkeling na die ministerie van onderwys, kuns en kultuur oor te dra.

Verder moet skole nie leerlinge sonder identiteitsdokumente wegwys nie, maar kan beëdigde verklarings van hoofmanne of kerkleiers gebruik word om ouderdom vas te stel. Daarna moet die skool help dat leerlinge teen die einde van primêre skool identiteitsdokumente bekom.

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WEER

WEERWAAK: Swaar donderbuie en reën met kitsvloede kan die week oor dele van die noordelike, sentrale en suidelike streke voorkom. Móre kan swaar donderbuie en reën oor die noordelike en sentrale kus uitsak.
BINNELAND: Gedeeltelik bewolk en matig tot baie warm met wydverspreide donderbuie oor Kunene, Omusati, Oshana, Ohangwena, Oshikoto, Otjozondjupa, Omaheke, Erongo, Khomas, Hardap en ǁKharas.
KUS: Gedeeltelik bewolk en matig tot warm met miskolle in die oggend.
GETYE BY WALVISBAAI: H: 05:00 L: 09:33 H: 17:15

VOORUITSIGTE

WINDHOEK	16°	25°
RUNDU	17°	29°
OSHAKATI	20°	26°
GOBABIS	19°	26°
MARIENTAL	17°	32°
KEETMANSHOOP	18°	30°
WALVISBAAI	16°	25°
LUANDA	24°	31°
JOHANNESBURG	12°	20°
KAAPSTAD	25°	0°

Ouetehuise

VAN BL. 1

Vir pensioenarisse wat uitsluitlik op die regering se pensioentoelaag van N$1 600 staatmaak, beteken dit N$64 met 'n bykomende N$12,45 vir water. Elektrisiteitsrekeninge wat wissel van N$400 tot N$500 per maand, is die huurder se eie verantwoordelikheid.

Die ministerie dra die oorblywende bedryfskoste, wat maandeliks tussen N$400 000 en N$600 000 beloop.

Die vertraging in die plasing van nuwe huurders word toegeskryf aan uitstaande skuld wat deur vorige huurders agtergelaat is wat óf verhuis óf gesterf het.

In sommige gevalle het die huurders agterstallig met hul huur en munisipale rekeninge geraak, wat volgens die ministerie tot finansiële komplikasies lei.

Volgens die ministerie is skuld in 2023 afgeskryf en is die plasing van nuwe huurders aan die gang. Geen tydlyn hiervoor is egter aan NMH verskaf nie.

Ten spyte van die verduidelikings, groei frustrasie daagliks onder bejaardes wat op behuising wag.

Verskeie het beweer hulle het reeds jare gelede aansoek gedoen en nooit enige terugvoering ontvang nie.

Die vervalle toestand van eenhede wat glo al jare lank by Senior Park in Windhoek leeg staan. FOTO'S PHILLIPUS JOSEF

'n Bejaarde bron wat verkies het om anoniem te bly, het bevestig inwoners by die ouetehuis word gereeld deur pensioenarisse genader wat desperaat is vir verblyf.

"Hulle kom vra hier of daar plek is, maar al wat ek kan sê is dat hulle met die ministerie moet opvolg," het die bron gesê.

SWAKOPMUND

Dit is egter nie net in die hoofstad waar staatsbeheerde behuising vir bejaardes 'n probleem is nie.

In Swakopmund het 'n inwoner van Welwitschia Park gesê inwoners is verantwoordelik vir die instandhouding van die huise.

"Tog bly dit toe en word vir ons gesê mense kan nie daarin woon nie," het Rita Bronkhorst gesê.

"My broer is al vir ses jaar op 'n waglys. Ten spyte van die feit dat hy aangebied het om een van die huise self op te knap, is hy nog elke keer afgewys.

"Intussen word huise toegeken aan diegene wat eerste 'n bod insit," het sy gesê.

Brigitte Thaumüller, wat vir meer as 20 jaar tot 2011 huur by Senior Park en Eastern Court in Windhoek ingevorder het, meen dat wanbestuur 'n kernprobleem is.

"Beide plekke was tot dan in 'n goeie toestand. Ek dink die beamptes wat verantwoordelik is vir die toekenning van die huise is onbevoeg.

"Daar is aan 'n persoon wat ek ken gesê as sy N$3 000 betaal, sou sy 'n kans staan om plek te kry.

"Ek het dit self aangemeld, maar dit is moontlik net onder die mat ingevee," het sy beweer.

Namibië het 17 private ouetehuise wat by die ministerie geregistreer is en onder meer in Windhoek, Swakopmund, Keetmanshoop, Okahandja en Lüderitz geleë is.

Sewe staatsbeheerde geriewe fokus op bejaarde inwoners met 'n lae inkomste, insluitend Senior Park, Eastern Court en ook geriewe op Outjo, Gobabis, Keetmanshoop en Swakopmund.

Dié tehuise vir bejaardes word in samewerking met die ministerie van werke en vervoer bestuur, wat oorhoofs verantwoordelik is vir instandhouding en herstelwerk.

Die gesondheidsministerie het die behoefte aan dringende opknappings- en instandhoudingswerk by Senior Park erken, maar gesê dit val onder kapitale projekte wat onderhewig is aan begrotingstoekennings.

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In situ-mynbou

VAN BL. 1

Die president van die Namibiese Hidrogeologiese Vereniging, Ester Gustavo, het Miller beskryf as die "oupa van geologie in Namibië".

"Ons vertrou sy navorsing," het sy namens die klein groepie Namibiese kundiges op hierdie gebied van wetenskap gesê.

Miller beskryf die uiters belangrike kom as sandsteen waarin die uraanerts binne 'n spesifieke liggaam opgelos word, binne die hoofbron Auob-formasie wat drinkwater aan gemeenskappe in Suid-Afrika, Botswana en Namibië verskaf. Rotsbreuke loop deur die lae van die ondergrondse waterdraende gesteentes, na die weste van noord na suid en in die ooste van wes na oos. Hierdie sones van gebreekte rots is waar water opwaarts kan sypel, verduidelik Miller.

Volgens hom is dit 'n groot probleem vir die tipe mynbou wat voorgestel word, en ook die enigste tipe mynbou wat die uraan daar kan ontgin.

"Die proses waaroor ons so ontevrede is, in situ, behels dat 'n oplossing tot binne die ertsliggaam gepomp word om die uraan vry te stel," sê hy. Die oplossing word weer opgepomp vir verwerking. Met herhaalde gebruik word dieselfde oplossing meer en meer gekonsentreerd met uraan en ander radioaktiewe radionuklied.

Dit bestaan uit 'n swak swaelsuur en 'n sterk oksidant wat gewoonlik deur twee boorgate ingespuit word en deur 'n ander herwin word, met omliggende boorgate om binne en aan die rand van die mygebied vir enige ontsnapping van die oplossing te monitor.

So 'n in situ-myngebied kan tot 26 000 boorgate oor 'n tydperk van tot 50 jaar hê. Die praktyk is wêreldwyd gewild en word streng in Amerika gereguleer, waar 750 lisensie-oortredings sedert 2003 aangeteken is, brei hy uit.

"Byna die helfte van die wêreld se ontginde uraan kom tans van in situ-mynbou," sê Miller.

"By Stampriet is die risiko van kruisbesmetting onaanvaarbaar weens die belangrikheid van die ondergrondse drinkwater wat landbou moontlik maak deur grootskaalse besproeiing, en sonder enige oppervlakwaterbron, as die enigste bron van water vir honderde kilometers dien.

"Kruisbesmetting is moontlik omdat die sandsteenlae aan mekaar en deur die rotsbreuke raak, sê Miller.

"Daar is baie plekke vir natuurlike kruisbesmetting," voer hy aan.

In die geval dat die oplossing uit die myngebied sou ontsnap, word die inspuiting daarvan onmiddellik gestaak en kan alle boorgate gebruik word om dit te probeer onttrek. Daar is egter geen sekerheid oor waarheen die besmette water sal vloei nie, en hoewel die ondergrondse water baie stadig ongestoord vloei, sal in situ-mynbedrywighede die vloei beïnvloed en versterk, volgens Miller.

"'n Mens weet eenvoudig nie waarheen die water gaan nie," sê hy.

Miller se navorsing dui daarop dat meer as ses miljoen kubieke meter vars water jaarliks uit die Stamprietkom gebruik word, met tot 100 000 mense wat van die waterbron afhanklik is.

"Ons kos kom daarvandaan," sê hy.

Miller sê pogings deur 'n Russiese maatskappy om uraanmynbou op Stampriet tot die toetsfase te bevorder, is gestaak weens 'n onvoldoende omgewingsimpakstudie wat by die ministerie van die omgewing, bosbou en toerisme ingedien is, en dat die minister van landbou, water en grondhervorming, Calle Schlettwein, ook nie in situ-loging-mynbou op Stampriet toelaat nie.

"Ons weet nie wat met die volgende minister gaan gebeur nie," sê Miller.

"Ons organisasie (die Vereniging vir Uraanmynbou in die Stampriet-akwifer, Sauma) het herhaaldelik probeer om met die omgewingsminister en die mynminister te praat, sonder sukses.

"Ministeriële amptenare, veral van mynbou, het wel van my toesprake bygewoon, maar ek het geen benul wat hulle dink of wat hulle vir mekaar sê nie," sê hy.

Miller hou vol: "Dit is baie belangrik om te verstaan om ons water te beskerm. Ons redes is wetenskaplik. Ons werk is om die besluitnemers te oortuig," voer hy aan. Gustavo het gesê: "Kom ons bid dat ons regering na ons sal luister."

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ACC

VAN BL. 1

Een van die grootste aantygings betrek die Nawa Nawa-konstruksiemaatskappy wat glo kontrakte vir beide Fase 1 en Fase 2 vir die Lüderitz Waterfront-ontwikkeling ontvang het sonder 'n oop tenderproses.

Nadat die Nexus-groep se kontrak beëindig is, het Nawa Nawa met die projek voortgegaan sonder duidelike motivering of 'n nuwe tender wat geadverteer is, wat kommer oor deursigtigheid laat ontstaan het.

Nawa Nawa bou na bewering ook Samuehl se private woning wat vrae laat ontstaan het oor 'n potensiële konflik van belange.

LWDC het na bewering gimnasiumtoerusting teen die hoogste gekwoteerde prys aangekoop eerder as die mees kostedoeltreffende opsie.

Die gimnasium se eienaar is glo ook van Samuehl se tuisdorp, wat tot die bespiegeling van begunstiging gelei het.

Nog 'n bewering sluit in onreëlmatige aanstellingspraktyke binne LWDC, met verskeie werknemers, insluitend skoonmakers, wat na bewering vir die poste gewerf is sonder 'n formele proses of openbare advertensies.

Die hoof van die skoonmaakdepartement is glo Samuehl se suster en daar is geen rekord oor hoe sy die pos gekry het nie.


Die ACC se adjunkdirekteur, Erna van der Merwe. FOTO NIKANOR NANGOLO

Angel Tordesillas het sedert 2009 as LWDC se raadsvoorsitter gedien, ten spyte van raadslede wat oor die jare geroteer het.

Bewerings dui daarop dat hierdie verlengde ampstermyn gekoppel kan word aan pogings om beheer oor LWDC se bedrywighede te behou sonder eksterne toesig.

Kommer is ook geopper oor die finansiering van Samuehl se boek *Lüderitz: A Journey Through Time*, met Tordesillas as mede-outeur.

Die boek is na bewering deur LWDC se lopende rekening gefinansier, ondanks aansprake dat Novanam dit geborg het.

Dit het vrae laat ontstaan oor of die maatskappy se geld vir 'n persoonlike projek misbruik is.

Bewerings dui daarop dat personeel wat kommer oor korrupsie by LWDC geopper het, intimidasie, viktimisering en afdanking in die gesig gestaar het.

Samuehl is vir kommentaar genader en het alle vrae na Tordesillas verwys, wat nie kommentaar op die bewerings wou lewer nie.

NMH het vroeër berig Samuehl word oorweeg om George Simataa op te volg as sekretaris van die kabinet, wat aftreeouderdom bereik het. Samuehl het egter verlede week ontken dat hy enige amptelike aanbod ontvang het.

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Comments and Responses

Apart from general clarification questions, no concerns, objections were raised by any of the IAPs.

Appendix C: Consultant's Curriculum Vitae

ENVIRONMENTAL SCIENTIST **André Faul**

André entered the environmental assessment profession at the beginning of 2013 and since then has worked on more than 250 environmental impact assessments including assessments of the petroleum industry, harbour expansions, irrigation schemes, township establishment and power generation and transmission. André's post graduate studies focussed on zoological and ecological sciences and he holds a M.Sc. in Conservation Ecology and a Ph.D. in Medical Bioscience. His expertise is in ecotoxicological related studies focussing specifically on endocrine disrupting chemicals. His Ph.D. thesis title was The Assessment of Namibian Water Resources for Endocrine Disruptors. Before joining the environmental assessment profession he worked for 12 years in the Environmental Section of the Department of Biological Sciences at the University of Namibia, first as laboratory technician and then as lecturer in biological and ecological sciences.

CURRICULUM VITAE ANDRÉ FAUL

Name of Firm	:	Geo Pollution Technologies (Pty) Ltd.
Name of Staff	:	ANDRÉ FAUL
Profession	:	Environmental Scientist
Years' Experience	:	24
Nationality	:	Namibian
Position	:	Environmental Scientist
Specialisation	:	Environmental Toxicology
Languages	:	Afrikaans – speaking, reading, writing – excellent
		English – speaking, reading, writing – excellent

EDUCATION AND PROFESSIONAL STATUS:

B.Sc. Zoology	:	University of Stellenbosch, 1999
B.Sc. (Hons.) Zoology	:	University of Stellenbosch, 2000
M.Sc. (Conservation Ecology)	:	University of Stellenbosch, 2005
Ph.D. (Medical Bioscience)	:	University of the Western Cape, 2018

First Aid Class A	EMTSS, 2017; OHS-Med 2022
Basic Fire Fighting	EMTSS, 2017; OHS-Med 2022

PROFESSIONAL SOCIETY AFFILIATION:
Environmental Assessment Professionals of Namibia (Practitioner)

AREAS OF EXPERTISE:
Knowledge and expertise in:
- Environmental Assessment and Environmental Management Plans
- Water Sampling, Extractions and Analysis
- Biomonitoring and Bioassays
- Biodiversity Assessment
- Toxicology
- Restoration Ecology

EMPLOYMENT:

2013-Date	:	Geo Pollution Technologies – Environmental Scientist
2005-2012	:	Lecturer, University of Namibia
2001-2004	:	Laboratory Technician, University of Namibia

PUBLICATIONS:

Publications:	5
Contract Reports	+250
Research Reports & Manuals:	5
Conference Presentations:	1