APP-005684

EXPLORATION ACTIVITIES ON EXCLUSIVE PROSPECTING LICENSE (EPL) AREA 9975 IN THE OMAHEKE REGION

ENVIRONMENTAL ASSESSMENT SCOPING REPORT

Assessed by:

Assessed for:

April 2025

Project:	**EXPLORATION ACTIVITIES ON EXCLUSIVE PROSPECTING LICENSE (EPL) AREA 9975 IN THE OMAHEKE REGION: ENVIRONMENTAL ASSESSMENT SCOPING REPORT**	
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Report Approval:	 André Faul	

I, Michelle Dillmann, 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 20 day of May 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 Mines and Energy (MME), 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 Ministry of Mines and Energy for their application for exclusive prospecting licence (EPL) 9975 in the Otjombinde Constituency of the Omaheke Region. The EPL is located on communal land used for agricultural purposes. It falls within the Otjombinde Communal Conservancy and Otjombinde Community Forest. The EPL 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 proposed exploration activities. Relevant environmental data was compiled by using secondary data and during 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. Due to the dense vegetation in this EPL, aerial surveys with a helicopter, drone or airplane is likely to be conducted. 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 for analysis, at varying depths. 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 site notices at different locations within and around the EPL area, placing advertisements in two national newspapers, conducting two public meetings in the area, and notifying the conservancy and state forest committee, land owners, identified interested and affected parties and relevant authorities via email and/or hand delivered letter. 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; 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. Fire, dust, erosion, noise and deterioration of 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 must be clearly distinguishable through uniforms, identification 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 are pertinent to prevent and respond to fires.

The Proponent must reach a surface access agreement with all land owners prior to accessing the EPL. Since the EPL falls within a communal area, various families live within the EPL area, who are not the owners of the land. They should still be notified and be given due consideration in terms of planning site visits. This includes being notified in advance of when exploration teams will be on site. All activities should be restricted to day time. Any deviation from this should be communicated to land owners and/or inhabitants 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
CBNRM	Community-Based Natural Resource Management
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
MAWLR	Ministry of Agriculture, Water and Land Reform
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
NACSO	Namibian Association of CBNRM Support Organisations
MME	Ministry of Mines and Energy
MSDS	Material Safety Data Sheet
NASA	National Aeronautics and Space Administration
NDP	National Development Plan
NNF	Namibia Nature Foundation
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
WWF	World Wide Fund for Nature

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.

Land Owner – The rightful holder of the title deed of a portion of privately owned land, or in the case of communal land, the legal occupier of land and/or the Government of the Republic of Namibia.

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 Mines and Energy (MME), VMN has exclusive prospecting licenses (EPLs) across Namibia, with a focus on base, rare and precious metals.

The Proponent, received an "Intention to Grant" from the Ministry of Mines and Energy in respect of their application for EPL 9975 in the Otjombinde Constituency of the Omaheke Region. 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, precious metals and semi-precious stones. The EPL is located on communal land used for agricultural purposes. It falls within the Otjombinde Communal Conservancy and Otjombinde Community Forest.

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). The Proponent appointed Geo Pollution Technologies (Pty) Ltd (GPT), 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 are 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 must 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.
- Generation of new knowledge on, amongst others, the local geology and ecology of the exploration area.
- Potential discoveries of feasible minable mineral resources.

Note: Since the EPL mainly overlaps communal land, the term "Land Owner" as used in this report refers to the legal occupier of land and/or the Government of the Republic of Namibia.

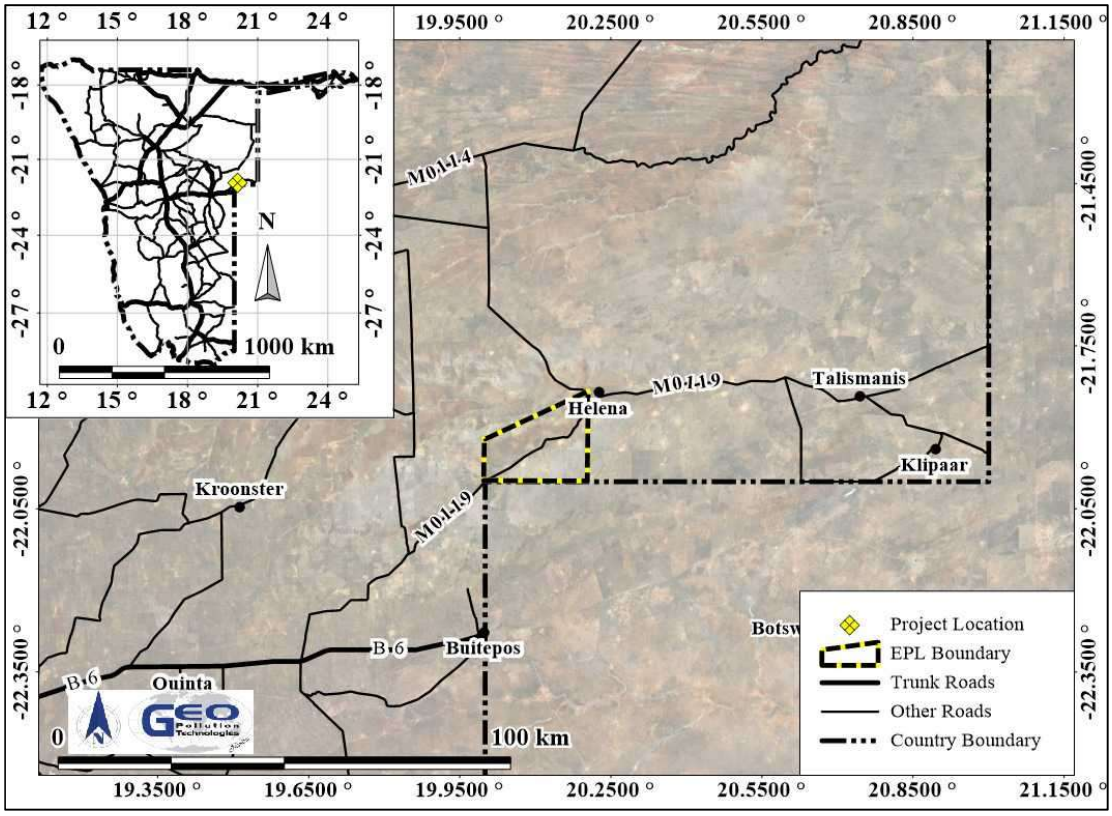

Figure 1-1 Project location

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 applying 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 once the EPL is granted, should additional literature and documentation become 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. For example, hyperspectral imaging can provide more detailed information by identifying specific minerals based on the spectral signatures they produce. A hyperspectral camera captures light from the earth's surface and separates it into its different wavelengths. Each pixel in the resulting image represents a specific spectrum of light, which is used to identify materials based on known spectral signatures.

Drone and aerial technology has also improved significantly over the last decade, and when equipped with geophysical survey equipment, provides detailed information in the subsurface structures such as geological structures, mineral deposits and voids. Drones, helicopters or aeroplanes can access areas where rough terrain makes entry by vehicle difficult, reducing 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. In-field surveys will be carried out to 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 injected into the ground. Materials like sulphide minerals, clays and graphite become polarised (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 described, when conducted in the field, the survey area (line or grid) requires some vegetation clearing to allow access and expose bare ground for equipment placement. For electrical resistivity tomography and induced polarization, small-diameter holes must be made in the ground to insert the electrodes. Due to the extremely dense vegetation in the EPL area, coupled to the lack of roads, aerial geophysical surveys are likely to be performed. This will entail flying transects with a helicopter fitted with geophysical survey equipment, over the area (Photo 4-3).

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**

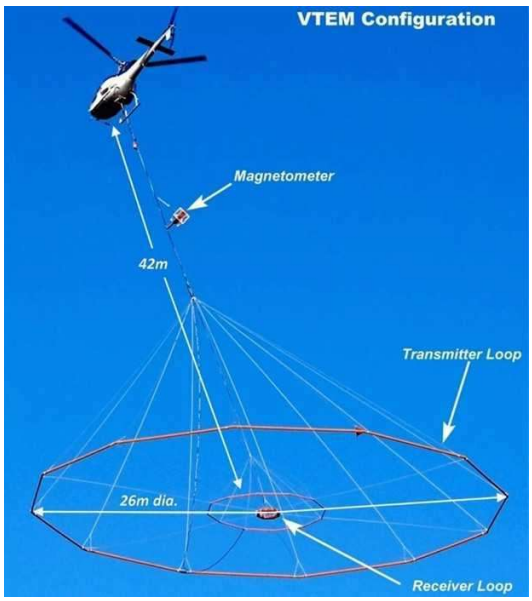

Photo 4-3 **Example of aerial geophysical survey (Parsin et al. 2021)**

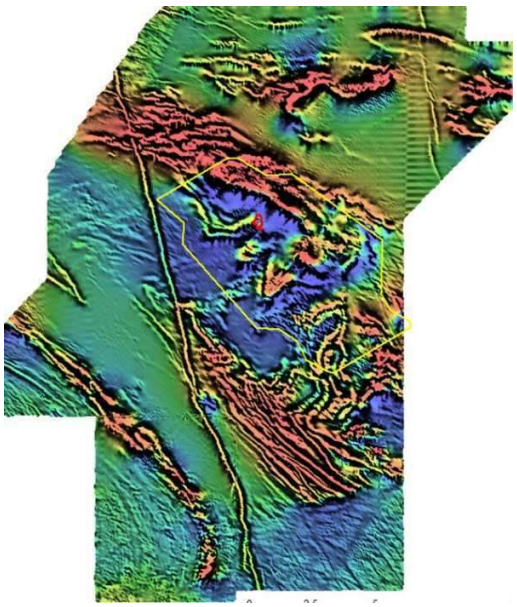

Photo 4-4 **Example of airborne magnetics (from Bourne and Pittard, 2009)**

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.

Photo 4-5 Soil sampling

Photo 4-6 Meticulous record keeping

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 or mounted on a truck. The 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 carried out using reverse circulation methods, which produce drill chips rather than cores.

Level drill pads will be created at each drill target to allow for placement of the drill rig (Photo 4-7 and Photo 4-8). 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 4-11). The area will be cleared of all infrastructure, waste products, etc., and the drill pad and surroundings will be ripped and contoured, if needed, to allow for easy re-establishment of vegetation (Photo 4-12). All roads not needed for future use by the landowner will also be rehabilitated. Vegetation re-growth is reliant on rain.

Photo 4-7 Core drilling site

Photo 4-8 Core drilling site

Photo 4-9 Safety signage and demarcation of restricted areas at drill site

Photo 4-10 Firefighting equipment at drill site

Photo 4-11 Borehole

Photo 4-12 Rehabilitated drill site

4.7 GENERAL

Prior to any access to an EPL area, surface access agreements must be negotiated and signed with land owners. Such agreements will clearly stipulate the landowners' requirements and expectations. 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. Since EPL 9975 overlaps communal land of which ownership remains with government, and it is within a registered communal conservancy and community forest, both the government and the lawful occupiers of the land will be consulted in terms of surface access agreements.

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 gained via existing roads. 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 farms 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 landowner has such facilities available themselves, or if no nearby facilities exist. 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 4-13) 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 be present at all times during drilling (Photo 4-14).

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 4-15). 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 4-13 Waste bin

Photo 4-14 Spill kit

Photo 4-15 Mobile toilet

Photo 4-16 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 Ministry of Mines and Energy. Alternative locations in terms of the project location are 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
Method for Geophysical Surveys			
In field surveys	Less expensive Equipment readily available	Clearing survey lines is time consuming	Aerial survey
Aerial surveys	Quick coverage of large areas No need for clearing dense vegetation	Expensive Noise can scare wildlife and livestock	
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

Alternative	Advantages	Disadvantages	Preferred Alternative
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 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 ♦ Requires mining companies to obtain permission to access communal land for prospecting or mining
Soil Conservation Act Act No. 76 of 1969	♦ 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	♦ 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 No. 332 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 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

Law	Key Aspects
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 ♦ Provides the legal framework for the establishment and management of community forests ♦ Emphasizes sustainable forest management and the involvement of local communities
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.
Civil Aviation Act (Act No. 6 of 2016, Government Notice No. 137 of 2016)	♦ Consolidate the laws relating to civil aviation and civil aviation offences ♦ Provides civil aviation regulatory and control framework for maintaining, enhancing and promoting the safety and security of civil aviation for ensuring the implementation of international aviation agreements; ♦ Provides for the establishment of Namibia Register of Aircraft and the Civil Aviation Registry. ♦ Civil aviation regulations
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)
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)
Communal Land Reform Act Act No 5 of 2002, Government Notice No. 137 of 2002	♦ Declares communal areas ♦ Provides for the allocation of rights in respect of communal land ♦ Provides for the powers of Chiefs and Traditional Authorities and boards in relation to communal land ♦ Subject to the provisions of this Act, all communal land areas vest in the State in trust for the benefit of the traditional communities residing in those areas and for the purpose of promoting the economic and social development of the people of Namibia, in particular the landless and those with insufficient access to land who are not in formal employment or engaged in non-agriculture business activities ♦ No right conferring freehold ownership is capable of being granted or acquired by any person in respect of any portion of communal land ♦ Allows the Minister to make regulations regarding the conditions, in addition to conditions imposed by or under any other law, under which prospecting or mining operations may be carried out on communal land ♦ Supports the sustainable use of communal land

Law	Key Aspects
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
Nature Conservation Amendment Act Act No 5 of 1996, Government Notice No. 151 of 1996	♦ Amends the Nature Conservation Ordinance, 1975, so as to provide for an economically based system of sustainable management and utilisation of game in communal areas ♦ Allows for the establishment of communal conservancies and conservancy committees ♦ Granting communities rights to manage and benefit from wildlife and other natural resources in their areas
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
National Policy on Community-Based Natural Resource Management (CBNRM)	♦ Provides a framework that promotes the wise and sustainable use of natural resources on State land outside Protected Areas ♦ Promotes integrated land and natural resource planning and decision making that considers the most appropriate land uses based on land capability, optimum economic return, environmental and human needs.

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, afforestation, 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 upcoming 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 28,282.6721 ha in size and lies in the south-western corner of the Otjombinde Constituency of the Omaheke Region (Figure 7-1). The EPL is about 35 km north of the Namibia-Botswana border post, Buitepos, and 115 km northeast of the region's capital, Gobabis. Talismanus, located 60 km east of the EPL, is the only declared settlement within the Otjombinde Constituency (Photo 7-1). It hosts the constituency office, a clinic, a police station, a post office, an office of the Directorate of Agriculture, two schools, a fuel retail facility and a few small shops. A small settlement called Helena is located on the eastern border of the EPL. It has one school, the Helena Primary School and its associated hostel.

The EPL overlaps communal land (Figure 7-2). Based on information obtained from Mendelsohn and El Obeid (2002), the area where the EPL is located, was surveyed and farms ranging between 4,000 and 6,000 ha were established and fenced in the 1950's (Figure 7-2). These farms were located in what was known as the Rietfontein Block. They were originally earmarked for use by white farmers, but the scarcity of water, and the remoteness of the area, resulted in only limited occupation of the farms. The farms were then handed over to Herero farmers who started settling in the area in 1966. Today, some of the farms are allocated to individual families, while groups of farmers occupy others. All the communal land, including the surveyed farms, belong to the Government of the Republic of Namibia in accordance with the Communal Land Reform Act 5 of 2002, with certain powers on its management belonging to chiefs and traditional authorities and councils. Two traditional authorities are legally recognised in the Otjombinde Constituency. These are the Ovambanderu Traditional Authority and the Hoveka Royal House.

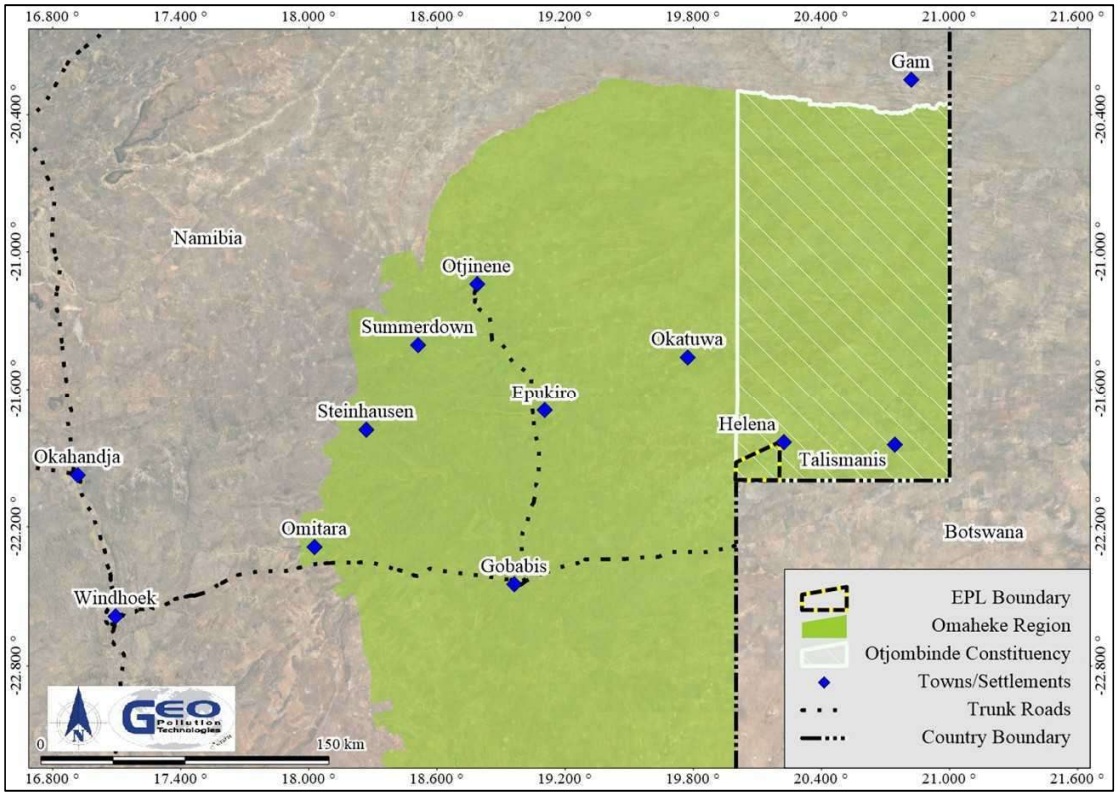

Figure 7-1 Location of EPL in context to the Omaheke Region

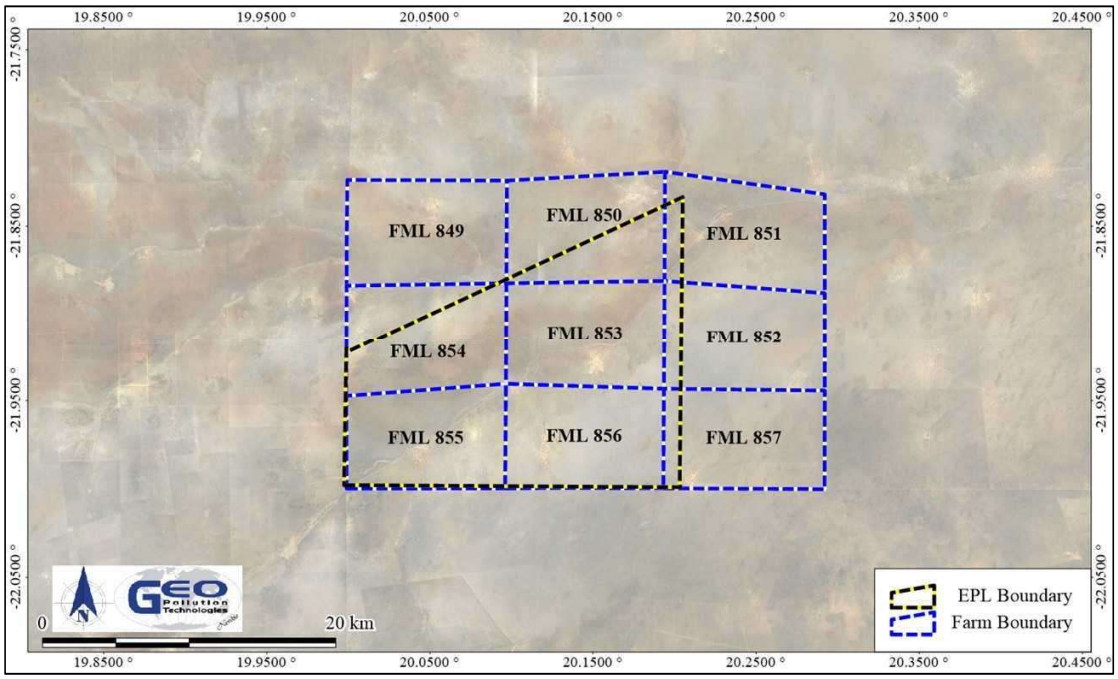

Figure 7-2 Farms overlapping with the EPL

Photo 7-1 Talismanus main road

Photo 7-2 Signage for the Ovambanderu traditional authority

Implications and Impacts

The EPL area overlaps communal land. This necessitates surface access agreements to be reached between the Proponent, the Government, traditional authorities and legal occupiers 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 data indicates the average rainfall range as 350 to 400 mm/a within the EPL area. Variation in annual rainfall is between 40 to 50% which means rainfall is unpredictable. Monthly rainfall usually peaks from December to March with on average between 240 and 280 mm of rain in these 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 thunderstorm cells would be averaged out, thereby providing a reduced daily maximum rainfall value. Due to the size of the EPL area, precipitation data for ten 25 km^2 areas were used. The precipitation 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 350.82 mm/a, with a coefficient of variance of 33.9%. The rainfall pattern correlates with the Atlas data. Heavier precipitation (single day events) occur between December and March with a single event of 54.64 mm in March (last 43 years data) being the highest total for the area. Maximum precipitation received over a 3-day period is 93.36 mm, indicating that heavy rainfall over long periods can occur. 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 to 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 0.14, 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/m)	14.80	20.46	8.81	10.73	0.00	0.00	0.00	0.00	0.00	0.00	8.74	9.48
Maximum (mm/m)	266.30	205.86	109.45	97.55	9.77	2.32	0.33	1.45	10.04	47.67	103.12	136.22
Average (mm/m)	77.95	73.14	52.91	32.35	2.54	0.24	0.03	0.06	1.81	14.55	37.92	54.17
Variability (%)	74.67	66.21	49.11	61.18	120.45	250.95	261.40	365.38	141.12	73.73	57.58	49.33
Daily Maximum (mm)	33.36	49.58	54.64	45.46	7.45	2.12	0.33	1.18	4.24	14.08	23.64	28.27
Average Rain Days	12.19	11.05	7.63	5.12	1.53	0.47	0.30	0.23	1.44	6.05	10.53	12.07

Season July - June average 350.82			Season coefficient of variation: 33.9		3 Day return period: 93.36
Date range:	1981-Jan-01	to	2024-Jun-30	Lat: 21.945°S	Long: 20.107°E
Number of stations: 10			Statistical deviation of the seasonal average:		350.82 mm/a ±2.38 mm/a

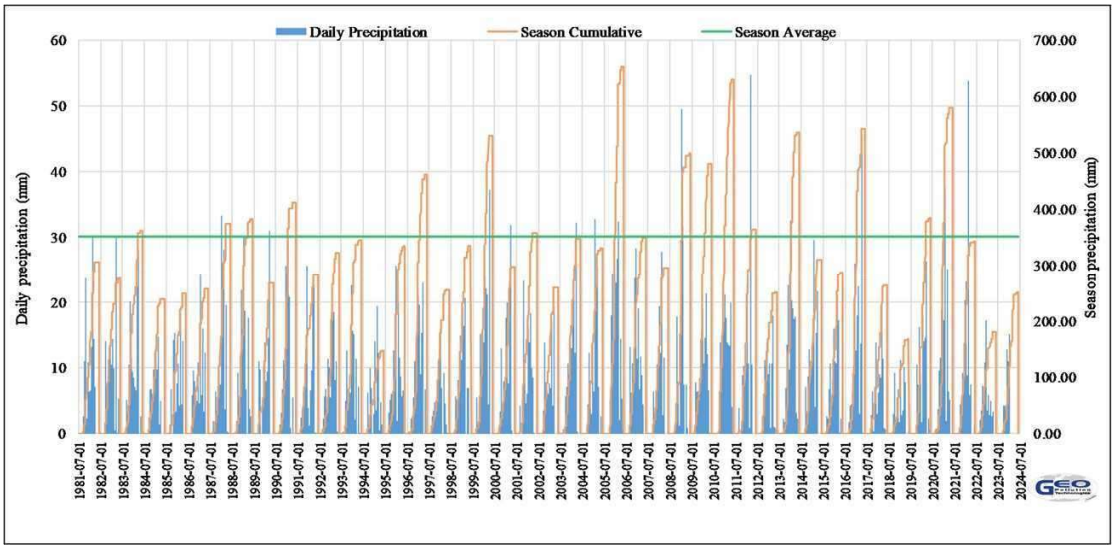

Figure 7-3 Daily and seasonal rainfall from CHIRPS-2 data (Funk et al., 2015)

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 41 years. The lowest temperature of -4.25 °C was recorded in July, with sub-zero temperatures occurring relatively frequently in winter months. The average annual minimum temperature is 3.8 °C. A maximum temperature of 40.76 °C was measured in January, while the average annual maximum temperature is very high at 36.5 °C. The average annual temperature range is 21.1 °C, while the average diurnal temperature (difference between daily minimum and maximum temperature) for this area is around 25.0 °C. Direct normal solar irradiance for the area is 7.486 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. Strong winds are more frequent from the north-northeast to east-northeast, with less frequent, lower velocity winds from the north, east and east-southeast. South to westerly winds are infrequent and of low velocity (calm).

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)	9.72	11.22	7.19	4.15	-0.37	-2.53	-4.25	-1.95	-0.28	4.19	8.36	10.26
Maximum (°C)	40.76	40.25	38.68	36.38	31.89	29.16	30.06	33.43	36.54	40.37	40.02	40.21
Average (°C)	26.60	25.66	24.06	20.46	17.18	14.06	13.41	16.34	20.10	23.38	25.20	26.29
Diurnal (°C)	21.33	20.50	21.31	23.00	24.54	25.58	26.79	28.89	29.16	27.01	25.35	22.86
Season July - June					Seasonal average Temperature: 21.06							
Date range:		1980-Jan-01		to	2021-Sep-30			Lat: 21.945°S			Long: 20.107°E	

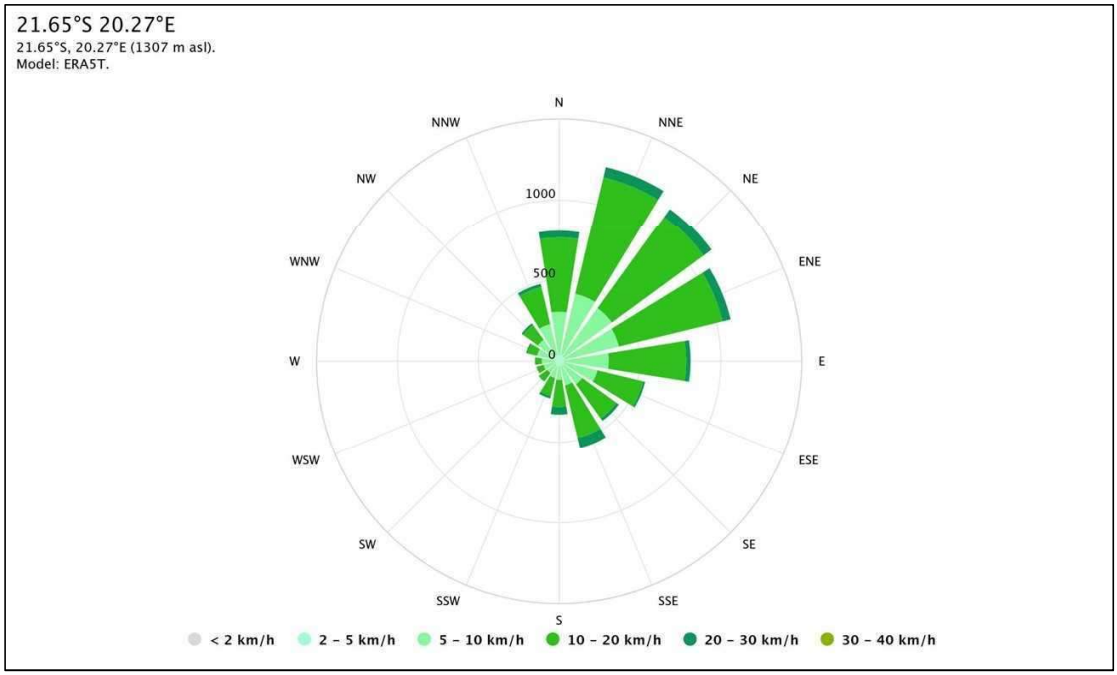

Figure 7-4 Average wind speed and direction (https://www.meteoblue.com)

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 surrounding river courses and make driving conditions on gravel roads dangerous. 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 characterised by aeolian landforms, including linear dunes and pans. The Kalahari Sandveld landscape formed through the accumulation of sand from river flow in a wetter climate during post Gondwana breakup. These sediments were reworked during a subsequent drier period. Today relict dunes remain at places from this former drier climate period.

Ground surface elevation in the EPL area ranges from 1,270 mamsl in the northeast to 1,340 mamsl in the west. The overall relief gently slopes to the northeast (Figure 7-5), creating a landscape that can be characterised as flat to undulating with slopes of less than 5° (Figure 7-6). Notably, there are no significant features such as hills or mountain sides in the EPL area, which contributes to its relatively even topography. The absence of prominent topographical features suggests minimal natural barriers to surface drainage and wind patterns, allowing for relatively uniform environmental conditions across the area. The primary surface drainage feature in the EPL is the Rietfontein River, along with its tributaries (Figure 7-5). The surrounding drainage

system plays a crucial role in the region's hydrology, affecting the surface water flow and potential for runoff, which in turn impacts the local ecosystem and land use patterns.

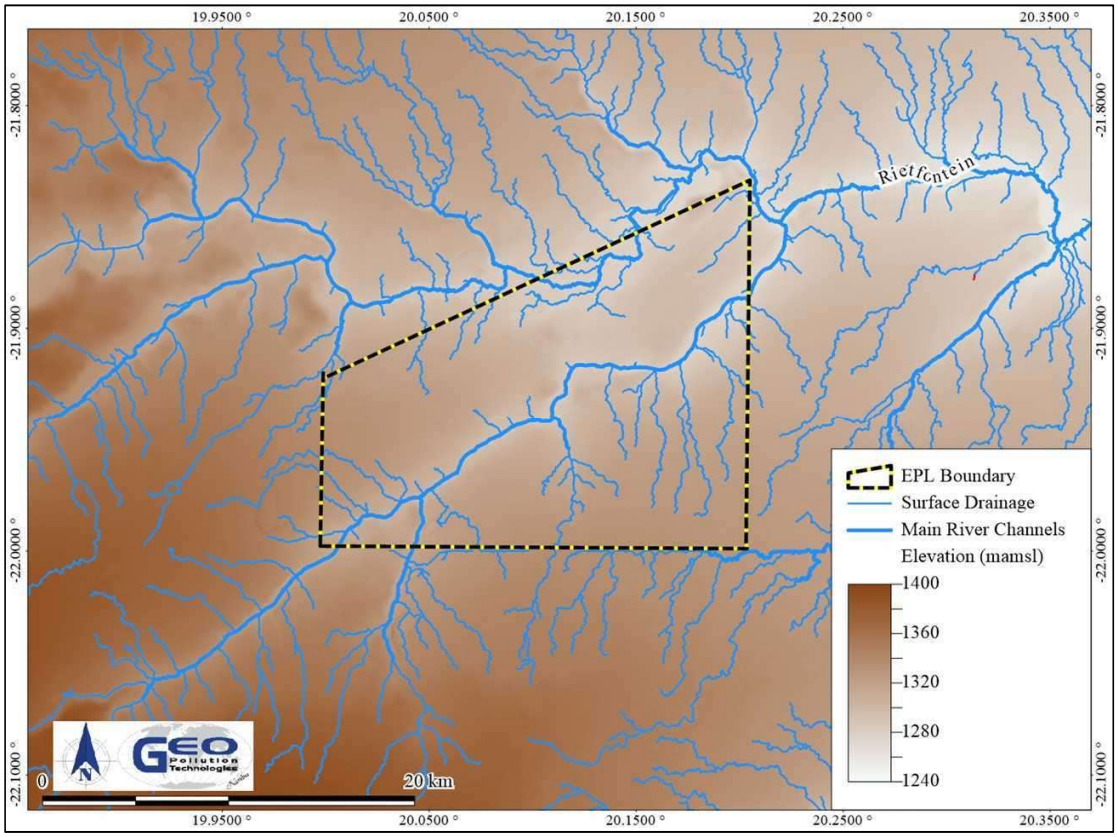

Figure 7-5 Elevation changes and surface drainage within the EPL area

Implications and Impacts

Surface water runoff can act as a transport medium for pollutants or hazardous substances. Due to the flat land surface, very little runoff will occur and pollutants will likely infiltrate into the subsurface.

7.4 GEOLOGY

The dominant soil type for the EPL area is Sideralic Arenosol (Figure 7-7). Arenosol refers to the soil type that is a deep, loose, windblown sand with poor water storage and nutrient levels. In addition to this, the Arenosol of this particular area is known for having Sideralic properties, which means it has a low cation exchange capacity of less than 7 cmol/kg, and thus do not retain nutrients well. Along the few better developed drainage lines, Arenic (sandy) Fluvisols are present as a result of alluvial deposition.

The composition of soil in this area is roughly 85-90% sand, 5-10% silt and 10-15% clay which gives it the characteristics and texture of loamy sand soil. Bulk density is 1,400 to 1,450 mg/cm³ which means that the soil has the ideal density for plant growth, but is limited by poor water and nutrient retention. Soils in this area typically reach depths of more than 190 cm and have a pH of 5.5 to 6. Furthermore, this region has a water capacity of 100-120 mm at root depth.

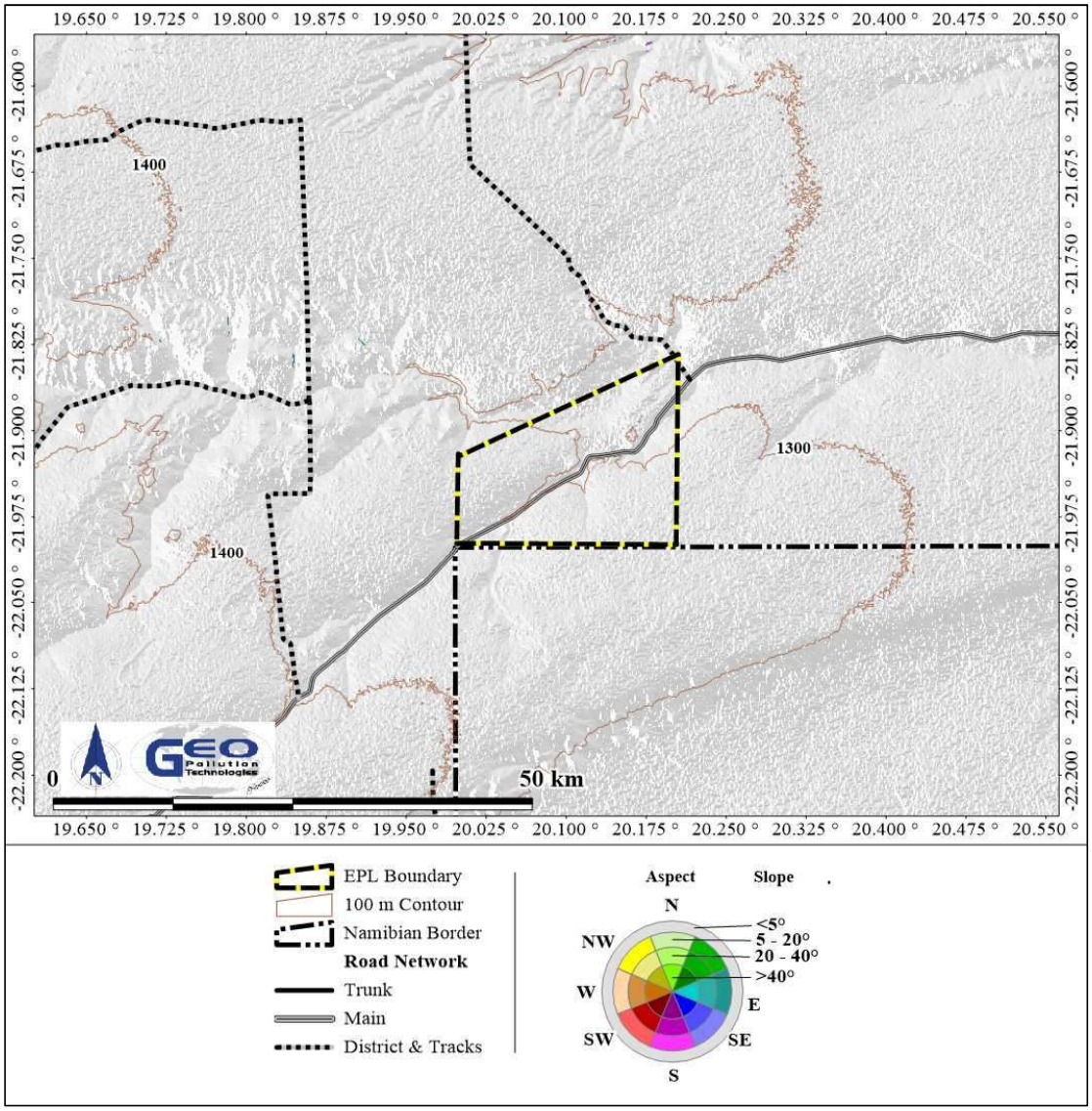

Figure 7-6 Slope-aspect map

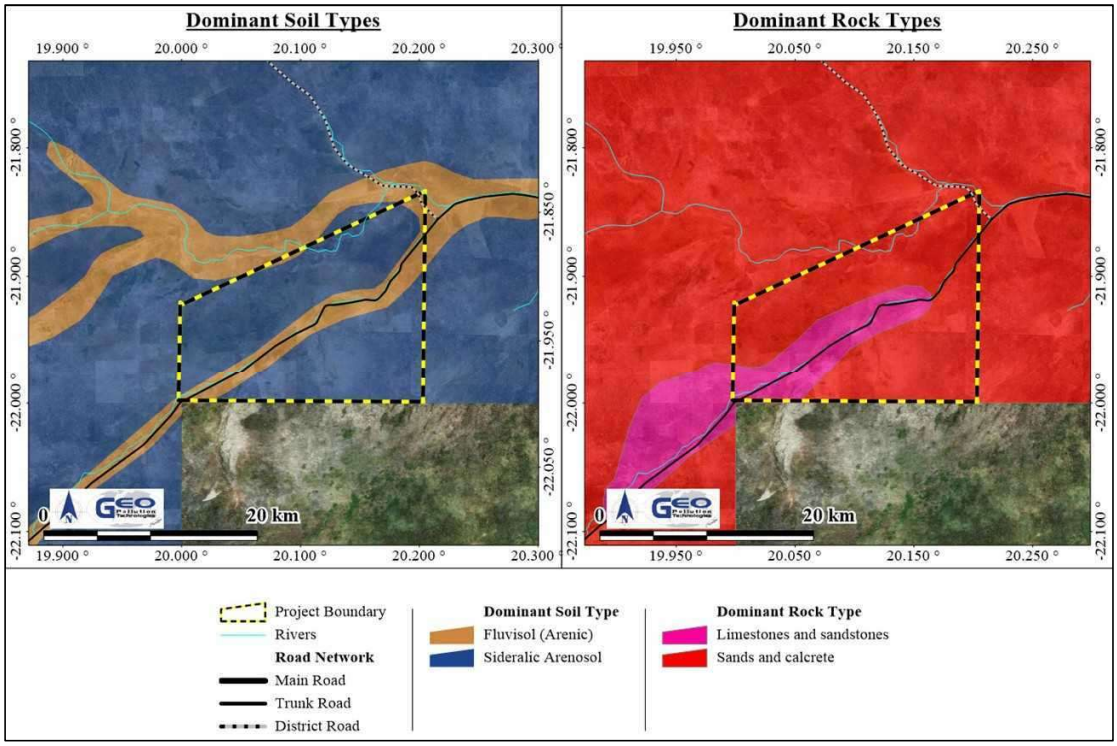

Figure 7-7 Soils and rock types

The geology underlaying the EPL area ranges from the Namibian Age (Damara Sequence) to Late Cretaceous- to Quaternary Age (Kalahari Group). Locally the soil cover from the Quaternary Age comprises of Kalahari Sediments which includes sand, calcrete and gravel. These sediments originated mainly from fluvial deposition and reworking through aeolian processes. The thickness of the Kalahari sediments is expected to ranges from 10 to 50 m in the region (Klock, 2001). 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.

There is an unconformity between the Kalahari sediments and the older underlaying Damara formations. The Damara Sequence is divided into various tectonostratigraphic zones and it is inferred from literature that the project area is likely located within the Southern Margin Zone of the Damara Sequence. Note that the relative thick Kalahari sediment cover in the area makes interpretation of the tectonostratigraphic zoning in the area uncertain. The Southern Margin Zone represents one of the foreland basins of the Damara Belt and is characterised by thrusting and folding with nappe, resulting in northeast trending anticlines and synclines. Locally the Damara Sequence comprises of undifferentiated feldspathic quartzite, schists, conglomerates and / or marbles of the Kamtsas Formation (Nka), some of which are undercover (Nka_uc), which forms part of the Nosib Group.

This Damara fold belt overprints Mesoproterozoic volcanic and intrusive rocks. A zone of roughly 1,000 km long and 250 km wide, also referred to as the Kalahari Copper Belt occurs discontinuously from western Namibia and stretches into northern Botswana along the north-western edge of the Paleoproterozoic Kalahari Craton. The belt contains mainly copper mineralisation, which is generally strata bound and hosted in metasedimentary rocks that have been folded and metamorphosed to greenschist facies (Lehmann et al., 2014).

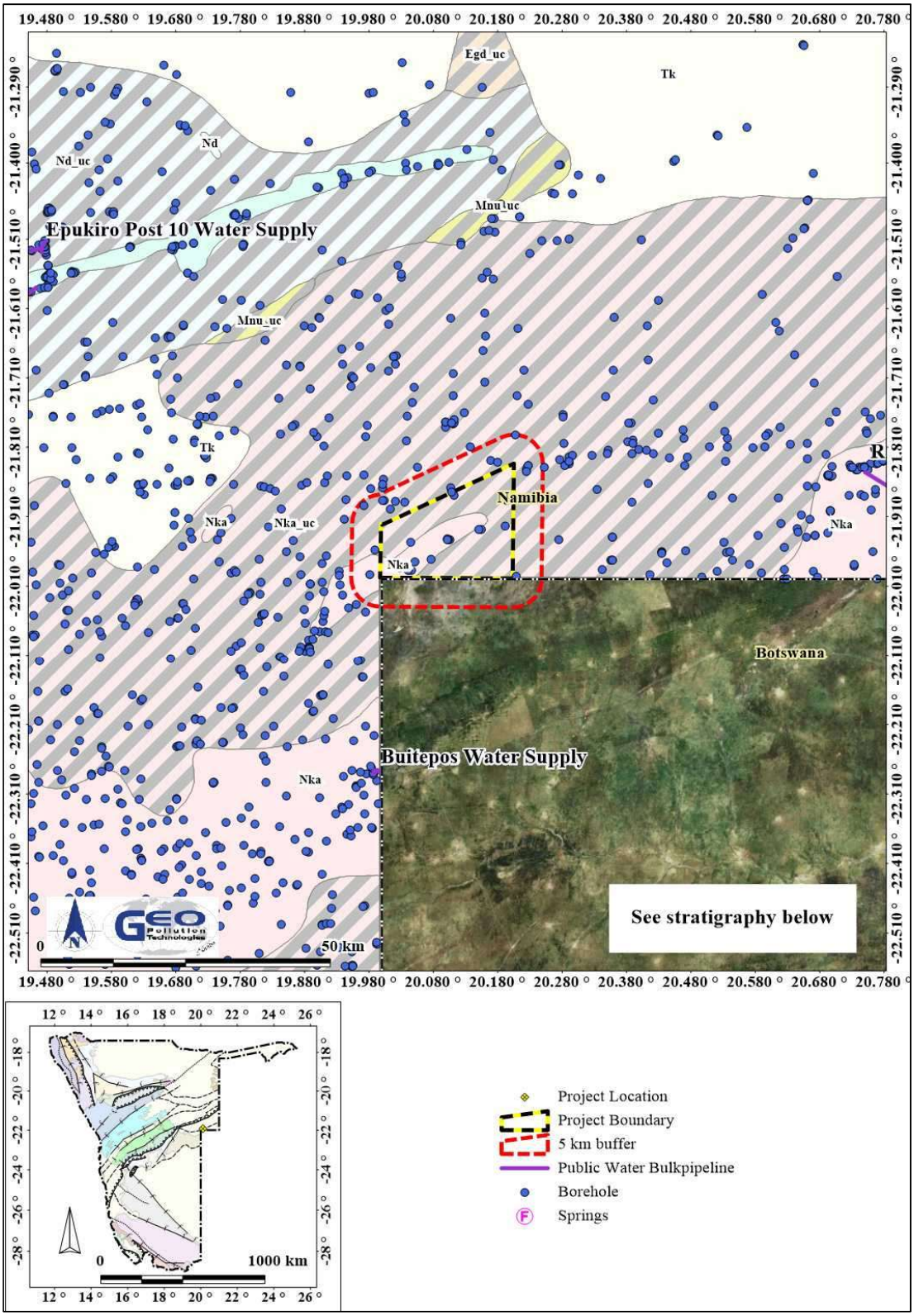

Figure 7-8 Geology

Table 7-3 Stratigraphy

Age	Lithcode	Sequence	Group	Formation	Rocktypes	Remarks
Quaternary and Tertiary	Tk		Kalahari		Sand, calcrete, gravel	
Cambrian	Egd_uc				Granite	Undifferentiated Damara Granite/Suboutcrop below Tk, Qn and other superficial deposits
---------- Namibian	Nsc	Damara	Swakop		Marble, schist, quartzite, calc-silicate, graphitic schist	Undifferentiated Lower Swakop Group
	Nka_uc	Damara	Nosib	Kamtsas	Quartzite, conglomerate, schist, marble	Suboutcrop below Tk, Qn and other superficial deposits
	Nka	Damara	Nosib	Kamtsas	Quartzite, conglomerate, schist, marble	
	Nd_uc	Damara			Schist, marble, quartzite, conglomerate, graphitic schist	Undifferentiated Swakop and Nosib Groups/Suboutcrop below Tk, Qn and other superficial deposits
---------- Mokolian	Mnu_uc	Sinclair		Nuckopf	Rhyolite, ignimbrite, conglomerate, quartzite, shale, basalt	Suboutcrop below Tk, Qn and other superficial deposits

7.5 HYDROGEOLOGY

The EPL falls outside a water control area, but forms part of the Omaheke Groundwater Basin (Figure 7-9). It should be noted that this groundwater basin is more of a management basin and does not strictly follow groundwater basin boundaries. Groundwater Basin committees will be formed under the Water Resources Management Act, Act No. 11 of 2013. It will likely give more powers to groundwater users in a basin to ensure sustainability of groundwater usage, but also encourage the optimal usage of groundwater. The Act requires that all boreholes be registered and that permission to drill be obtained prior to drilling. Groundwater abstraction and effluent disposal are also regulated.

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 Kamtsas Formation. Regional groundwater flow is expected to be mainly into a south-eastern direction, with a groundwater divide to the north of the EPL (Figure 7-9). It should be noted that groundwater in the area is part of aquifers shared between Namibia and Botswana.

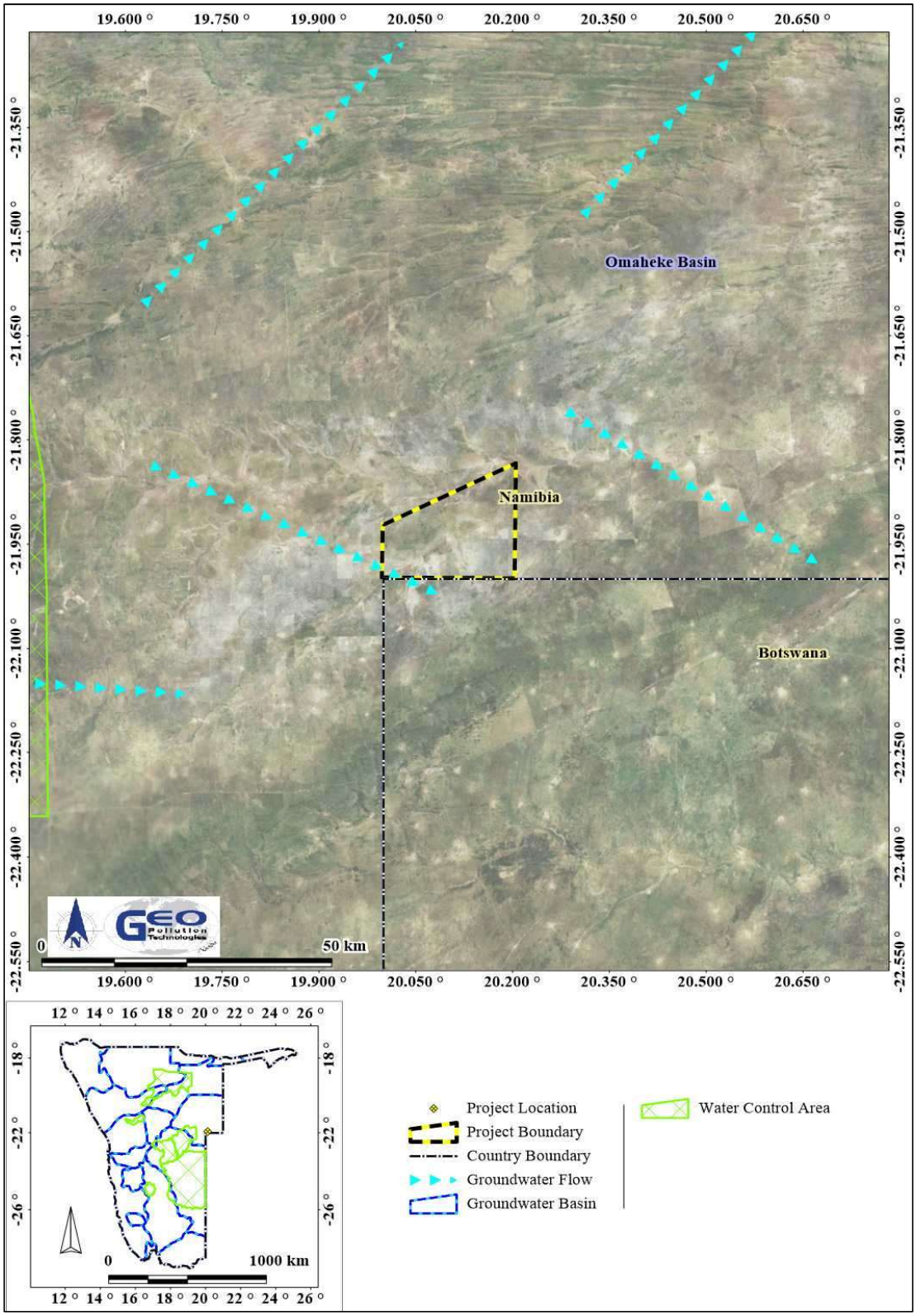

Figure 7-9 Groundwater basins and water control areas

Table 7-4 presents groundwater statistics for 33 boreholes in a 5 km radius around the EPL project. 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 22 of the boreholes is 147.05 m below surface and the yield of 21 of the boreholes ranges between 0.10 and 9.00 m³/h, with an average yield of 1.91 m³/h. The average groundwater level of 12 of the boreholes is 76.01 m below surface, ranging between 60.00 m and 110.00 m below surface.

The data summarised in Table 7-4 was presented graphically in Figure 7-10. From the information presented it is concluded that an increase in depth marginally correlates to an increase in yield, especially when depths exceeds 150 m below surface. Regionally, it is observed that most of the water quality analysis falls in the Group A category, with some exceptions being in the Group B concentrations for sulphate and nitrate at depths of around 150 m below surface. It is further interpreted that all water strikes took place within the underlaying Damara Sequence formations.

Table 7-4 Groundwater Statistics

	DEPTH (mbs)	YIELD (m^3/h)	WATER LEVEL (mbs)	TDS (ppm)	SULPHATE (ppm)	NITRATE (ppm)	FLUORIDE (ppm)
Data points	22	21	12	15	15	13	14
Minimum	32.00	0.10	60.00	292.00	2.00	0.10	0.10
Average	147.05	1.91	76.01	692.40	201.00	9.23	0.45
Maximum	301.00	9.00	110.00	1,604.00	825.00	67.50	0.80
Group A	9.09%	0.00%	0.00%	73.33%	60.00%	84.62%	100.00%
Limit	50	>10	10	1000	200	10	1.5
Group B	18.18%	4.76%	0.00%	20.00%	33.33%	7.69%	0.00%
Limit	100	>5	50	1500	600	20	2.0
Group C	50.00%	61.90%	91.67%	6.67%	6.67%	0.00%	0.00%
Limit	200	>0.5	100	2000	1200	40	3.0
Group D	22.73%	33.33%	8.33%	0.00%	0.00%	7.69%	0.00%
Limit	>200	<0.5	>100	>2000	>1200	>40	>3
33 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.

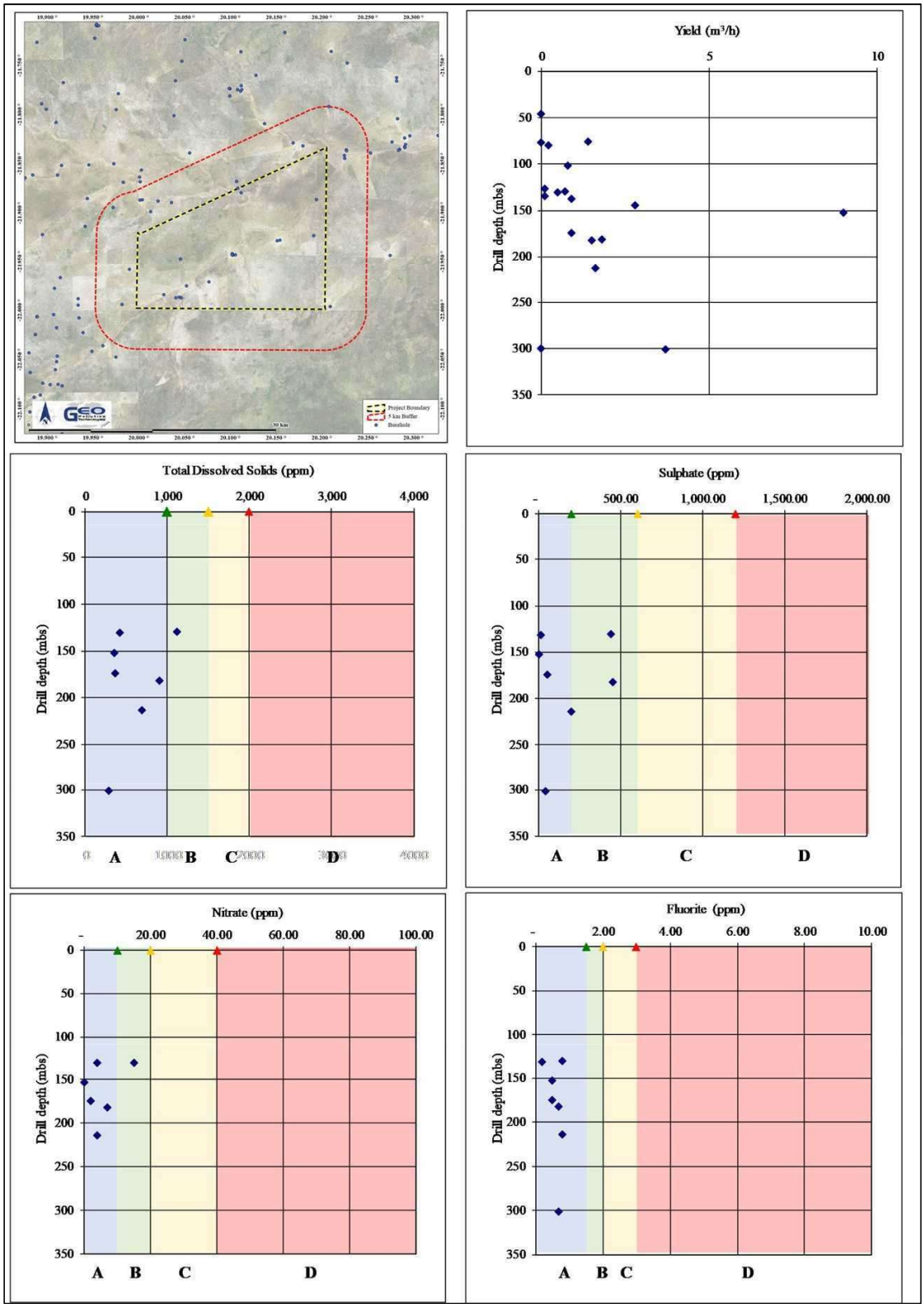

Figure 7-10 Water quality of boreholes in the area

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 such 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 farms intersected by the EPL is from boreholes. There are no water supply schemes in or near the EPL.

Implications and Impacts

Public water supply may be impacted if groundwater contamination or over abstraction takes place. Exploration does however not require large volumes of water. Should exploration drilling occur, the land owners can benefit from the borehole log information, to more accurately determine where groundwater exploration can potentially be targeted.

7.7 ECOLOGY

7.7.1 Conservation Status

The EPL is located within the registered Otjombinde Communal Conservancy and a declared Community Forest (Figure 7-11). A conservancy and community forest committee is in charge of management and performing tasks such as game counts and reporting of human-wildlife conflict in the conservancy and community forest. Together, communal conservancies and community forests aim to empower local communities to sustainably manage and benefit from the natural resources within these areas. In Namibia, they play an important role in environmental conservation and the promotion of biodiversity. Activities, such as farming, are not excluded from conservancies and community forests, but it aims at also attracting tourism into the area to create additional economic benefits and opportunities. For the Otjombinde conservancy and community forest, these benefits have not realised yet, mainly due to the remoteness of the area and the fact that they are far off the popular tourist routes. Possibly also because they have very limited wildlife and the lack of accommodation establishments and related hospitality and tourism services.

Photo 7-3 Signage on M0119 road

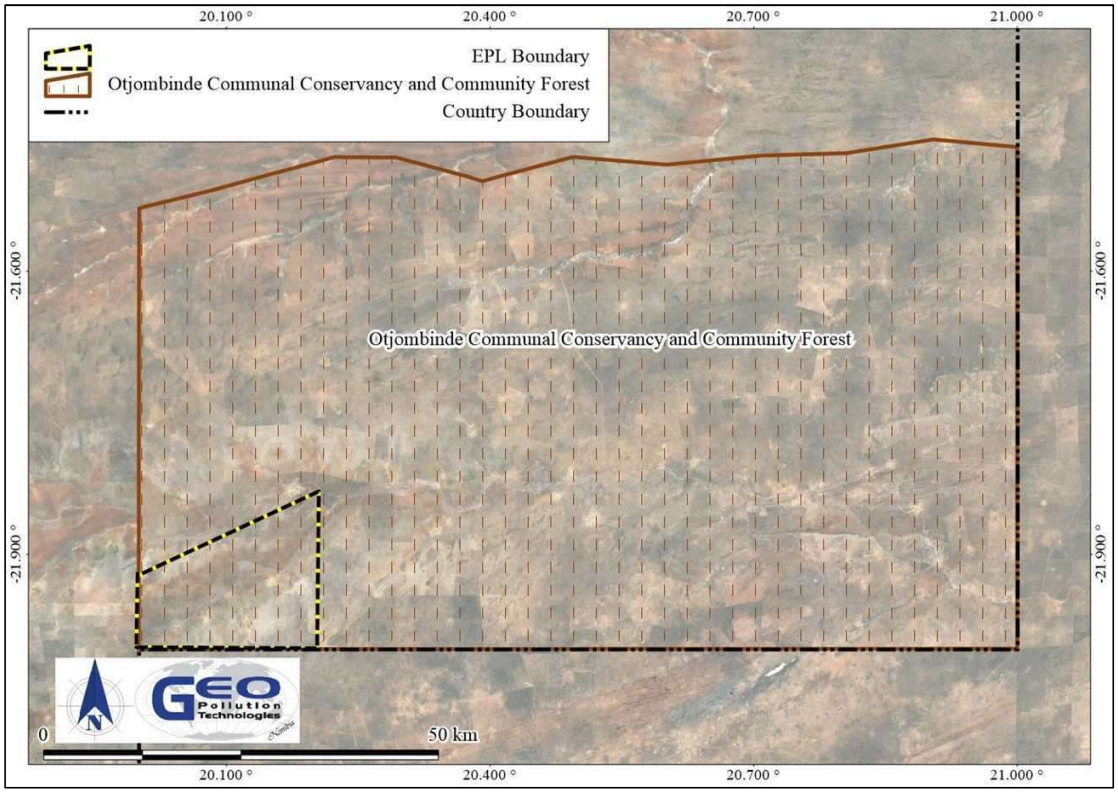

Figure 7-11 Communal conservancy and community forest

7.7.2 Vegetation

The EPL is located in the Acacia savanna sub-biome of the tree and shrub savanna biome with a central Kalahari vegetation type (Atlas of Namibia Team, 2022) (Figure 7-12). The EPL area is uniformly located in the Zambezian domain floristic group.

Vegetation in Namibia is characterised by low species richness, but high endemism, in the west to south, while species richness increase to the northeast, with a decline in the number of endemics. The relatively homogenous physical characteristics of the EPL area (i.e. topography, soils, etc.) resulted in relatively homogenous vegetation. It is dominated by trees like *Terminalia sericea* (silver cluster-leaf or "geelhout" (Photo 7-4), *Ziziphus mucronata* (Buffalo-thorn), *Dichrostachys cinerea* subsp *Africana* (sickle-bush) (Photo 7-6) and various *Acacia* species like *A. mellifera* subsp *detinens* (blue-thorn Acacia) , *A. hebeclada* (candle-pod acacia) (Photo 7-7), *A. luederitzii* var *luederitzii* (Kalahari Acacia) and *A. fleckii* (Sand-veld Acacia). These trees and other vegetation forms such dense stands in certain areas, that it is almost impossible to go in on foot, and access is only possible in the few and far apart gravel tracks leading to homesteads.

Due to the remoteness of the area, very few biodiversity surveys or records exist. The Tree Atlas of Namibia lists tree data for the quarter degree square covered by the EPL, namely QDS 2120CC. A total of 25 trees are listed as presented in Appendix A. Four are listed as protected by forestry legislation, namely *A. erioloba* (camel-thorn), *Boscia albitrunca* (Shepherd's tree), *Burkea Africana* (burkea) and *Z. mucronata*. Four, *A. mellifera* subsp *detinens, D. cinerea* subsp *africana, T. sericea* and *Catophractes alexandri* (trumpet-thorn or rattlepod) are species with varying invasive tendencies, depending on where in Namibia they grow. During the site visit to the EPL and surrounding areas, the dominant species observed was *T. sericea* with *A. mellifera* subsp *detinens* also occurring in very dense stands in many areas. The latter indicating invasion by this species, likely due to overgrazing. Numerous, very large and healthy *A. erioloba* trees occur throughout the EPL and surrounding areas. Where areas previously cleared of trees and bush were encountered, grasses were much more prevalent, as opposed to dense bush areas where very little grass cover could be observed.

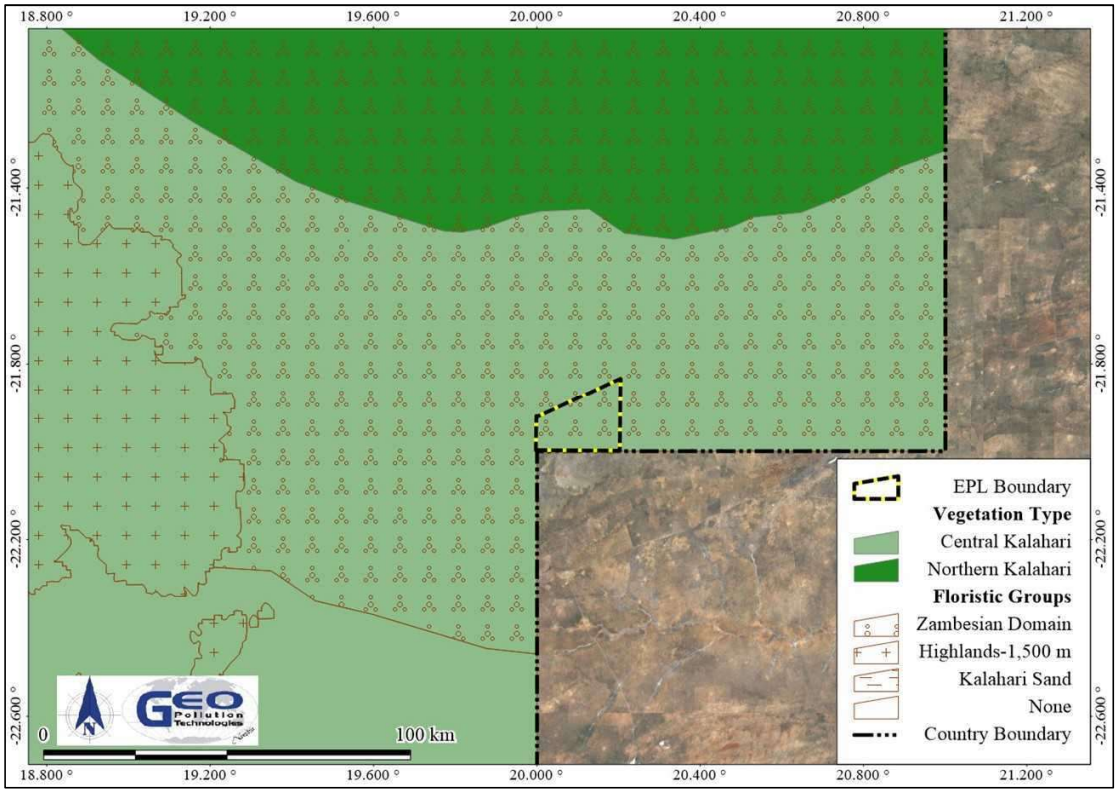

Figure 7-12 Vegetation type and floristic group (Atlas of Namibia Team, 2022)

The 2002 Atlas of Namibia (Atlas of Namibia Team, 2002) indicate total plant species richness for the EPL area as between 100 and 150 species. Lower species richness corresponds with Namibia's trend of lower richness at lower latitudes. No endemic plant species are known to occur in the EPL area. This also corresponds with the overall trend of reduced endemicity towards the east and northeast.

Of note is the occurrence of *Harpagophytum procumbens* (devil's claw) and *Tylosema esculentum* (morama beans). Both are beneficial plants that are harvested by locals. Devil's claw however is more abundant further north of the EPL area and harvesting of devil's claw does not constitute a viable industry in the EPL area. Devil's claw is harvested and sold to be manufactured into a herbal supplement with medicinal properties. Marama beans are more prevalent from the EPL area westwards and is a protein rich food source harvested in the Kalahari and can be consumed in a variety of forms including whole roasted, boiled and ground to a flour. Another edible plant encountered during the site visit was *Mamordica balsamica* (Photo 7-9) which is also used as traditional medicine.

Within the EPL area the alien species *Melia azedarach* (Syringa) were observed, typically at homesteads. Although not observed in the EPL, a few *Eucalyptus* spp. and many stands of a cactus species (Photo 7-8), possibly *Echinopisis pachanoi* (San Pedro cactus) or *Lophocereus marginatus* (the fence post cactus) were frequently encountered throughout the area.

Photo 7-4 ***Terminalia sericea***

Photo 7-5 ***Terminalia sericea***

Photo 7-6 ***Acacia erioloba*** **with seedpods**

Photo 7-7 ***Acacia hebeclada*** **subsp** ***hebeclada***

Photo 7-8 **Unidentified cactus species**

Photo 7-9 **Edible fruit of** ***Mamordica balsamica***

7.7.3 Wildlife

The 2022 Atlas of Namibia indicates the potential presence of approximately 192 to 247 vertebrate species in the EPL area (Table 7-5) (Atlas of Namibia Team, 2022). With the EPL overlapping a communal conservancy and community forest, as well farmland with only a few homesteads, one would expect to see various animals, including large game, in the EPL. However, during the site visit conducted in March 2025, no large game were observed. Birds were the most abundant with for example yellow-billed kites (*Milvus migrans parasitus*), fork-tailed drongos (*Dicrurus adsimilis*), rollers (*Coracias sp.*), bea-eaters (*Merops sp.*), crowned plovers (*Vanellus coronatus*) and great-spotted cuckoos (*Clamator glandarius*) being observed. The only mammal observed in the EPL were ground squirrels (*Xerus sp.*) (Photo 7-10), while chacma baboons (*Papio ursinus*) and warthogs (*Phacochoerus africanus*) were observed outside of the EPL.

The lack of wildlife is also reflected in the 2023 Annual Conservancy Performance Ratings and Audit Report for the two conservancies (NACSO Working Groups 2023). It lists the black-

backed jackal (*Canis* mesomelas) as the only common animal among a selection of animals. All others are listed as uncommon (duiker (*Sylvicapra grimmia*)), rare (oryx (*Oryx gazelle*), kudu (*Tragelaphus strepsiceros*) and springbok (*Antidorcas marsupialis*)) and very rare (elephant (*Loxodonta africana*), giraffe (*Giraffa camelopardalis*) and ostrich (*Struthio camelus*). In terms of predators, spotted hyenas (*Crocuta crocuta*), cheetahs (*Acinonyx jubatus*), leopards (*Panthera pardus*) and African wild dogs (*Lycaon pictus*) are encountered in the area. The animal responsible for most human-wildlife conflict incidents is the blacked-backed jackal, followed by leopard, cheetahs, hyenas and other predators like wild dogs and wild cats. These animals are mainly responsible for livestock loss. On the rare occasion when elephants enter the area, mainly from Botswana, damage to water infrastructure and crops sometimes occur.

Table 7-5 Potential species richness of vertebrate taxa in the EPL area (Atlas of Namibia Team, 2022)

Taxa	Number of Species
Mammals	61-75
Reptiles	41-50
Birds	81-110
Amphibians	9-12

Photo 7-10 Ground squirrels near the EPL

Photo 7-11 Southern yellow-billed hornbill observed in the area

Implications and Impacts

Some 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 already small populations of wildlife is a concern. Encounters with venomous or dangerous animals (e.g. snakes, leopard, etc.) may pose a danger to the Proponent's staff.

7.8 DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS

The project is located in the southwest of the Otjombinde Constituency of the Omaheke Region (Figure 7-1). Based on the preliminary results of the 2023 census, the Region has a population of 102,881 and the constituency 9,041 of which 5,119 are male and 3,922 are female. The constituency has a density of 0.477 people/km² (National Planning Commission, 2023). The unemployment rate of the Otjombinde Constituency is 43.5% for persons 15 years and older, which is much higher than the regional rate of 30.3% and the national rate of 36.9%. In the Omaheke Region, agriculture is by far the sector providing the most jobs. In the Otjombinde Constituency, cattle, sheep and goat farming constitutes the main economic activity, with limited cultivation of crops, mainly for personal use.

Talismanus is the main settlement in the Constituency and is located in the north-western corner of the EPL. It offers basic amenities, shops with limited groceries and goods, fuel, tyre repair

services etc. It has a primary and secondary school, clinic, post office, police station and one accommodation establishment.

Cellular reception in the EPL area is poor. No formal infrastructure such as well-maintained roads, electricity supply, sewers, etc. exist, save for the M119 road intersecting the EPL from west to east (Photo 7-14). The EPL area is only accessible by four wheel drive vehicle and very few tracks where bush have been cleared are present in the EPL (Photo 7-15). Upgrading to low volume seal of the D1776 and M119 roads, from the B6 to Talismanus, are underway. This will contribute significantly to easing accessing of the area, especially during the wet season.

Photo 7-12 Homestead in the EPL

Photo 7-13 Helena Primary School just east of the EPL

Photo 7-14 M0119 main road intersecting the EPL

Photo 7-15 Tracks leading to homesteads

Implications and Impacts

Unemployment and poverty in the Omaheke Region moderately compared to some of the other regions. Prospecting in the area may provide some economic benefits to the landowners. Especially if someone can provide housing and accommodation to the proponents work force. Conversely, 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. These not necessarily instigated by the team members, but by persons approaching the exploration team for illicit activities or posing as members of the exploration team.

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, between 2,000 and 10,000 years ago, and 10,000 to 1.8 million years ago.

Based on these maps, there are no known archaeological sites or objects, nor any declared national heritage monuments or sites present within or near the EPL. Similarly, no known rock art is present within the EPL. No such or other important sites were identified during the public consultation process. Some buildings or structures may be older than 50 years, which, under the National Heritage Act, may hold archaeological, architectural, cultural, historical, scientific or social significance and may be considered for inclusion in the National Heritage Register. No buildings or structures observed during the site visit had any unique, historic characteristics with obvious, inherent heritage value.

During the site visit no graves and graveyards were observed in the EPL. This does however not mean that graves or other important artefacts are not present. Some families do bury the deceased near their homesteads, often in unmarked graves. Usually they are however buried at the villages they originate from. The historic presence of San in the Kalahari, increase the possibility that some artefacts of archaeological significance may be present in the EPL area.

In terms culture, the Herero are traditionally cattle-herding pastoralists. Cattle is their most valuable possession. Herero women wears colourful dresses with iconic fabric headwear resembling the horns of cows. In Herero culture the leadwood tree, *Combretum imberbe,* (omborombongo in Herero) is considered a holy tree.

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 parcels of land with different land owners and/or inhabitants, can be challenging. Mainly because it is not easy to identify all land owners and get the contact details of those who are successfully identified. For EPL 9975, another challenge is the fact that it is in communal land, in a relatively remote area, where there are no maps indicating different tracks leading to different homesteads. Furthermore, many of the farmers do not stay on their respective portions, but visit the areas sporadically.

To reach the target community for EPL 9975, various methods and processes were followed. It was also a combined public participation process between EPLs 9972, 9973, 9974 and 9975, as all four are located within the Otjombinde Constituency. The main avenue used to reach target communities was the Otjombinde Constituency Council. An introductory meeting was conducted with members of the council, officials of the Ministry of Environment, Forestry and Tourism (Gobabis office), and representatives of the Hoveka Royal House and Ovambanderu Traditional Authority. See Appendix B for proof of public consultation and the minutes of meetings.

Public participation notices were then advertised for two weeks in two national newspapers, namely the New Era and The Namibian, on the 3rd and 10th of March 2025. Site notices were placed on the side of the M0119 road in the EPL area, at the Helena Primary School, at the clinic and service station in Talismanus, and on the side of the D3810 road between Helena and Epukiro. Two public meetings were conducted, one in Talismanus on the 12th of March and one on the 13th of March in Helena.

See Appendix B for proof of the public participation processes and minutes of the meetings. No major concerns regarding the project were raised during the public consultation phase. The main concern was that the exploration team will access the area unannounced and without the people knowing about them. Members of the community expressed the need for the dissemination of information and asked if job opportunities will be available and what benefits will there be for the local community.

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.

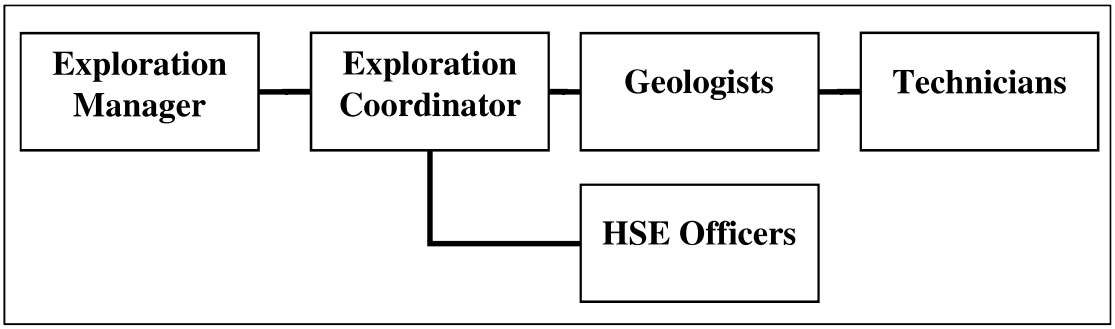

Figure 9-1 VMN organogram

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.
- 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 Talismanus 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, pubic 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. Exploration may also result in a negative impact on the ideals and aspirations of the land owners where they feel 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 Talismanus only has a basic clinic. The nearest proper medical facilities are located in Gobabis.

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 sand tampans and 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 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 Ministry of Mines and Energy.
- 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 EPL 9975, the chance of discovering of archaeologically or culturally important artefacts are very 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 recognized 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 9975 in the Omaheke 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 Omaheke 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 the provision of information regarding subsurface geology which in turn may enable land owners to find potential groundwater resources, through compensation for services, etc.

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 and theft are a concern, especially where 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 MME 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 2120CC (Curtis & Mannheimer, 2005)

Scientific Name	Common Name	Conservation Concerns
Acacia ataxacantha	Flame-thorn	
Acacia erioloba	Camel-thorn	Protected by forestry legislation
Acacia fleckii	Sand-veld Acacia	
Acacia hebeclada subsp *hebeclada*	Candle-pod Acacia	
Acacia luederitzii var *luederitzii*	Kalahari Acacia	
Acacia mellifera subsp *detinens*	Blue-thorn Acacia	Aggressive invader
Bauhinia petersiana subsp *macrantha*	White Bauhinia	
Boscia albitrunca	Shepherd's Tree	Protected by forestry legislation
Burkea africana	Burkea	Protected by forestry legislation
Catophractes alexandri	Trumpet-thorn; Rattlepod	Invasive in some areas
Combretum collinum subsp *gazense*	Bi-coloured Variable Combretum	
Dichrostachys cinerea subsp *africana*	Kalahari Christmas Tree; Sickle-bush	Invasive in some areas
Ehretia alba	White-puzzle Bush	
Elephantorrhiza elephantina	Elands-bean	
Grewia avellana	Mezunzunvani	
Grewia flava	Velvet Raisin	
Grewia flavescens	Sandpaper Raisin	
Grewia retinervis	Kalahari Raisin	
Ochna pulchra	Peeling-bark Ochna	
Ozoroa paniculosa	Common Resin-bush	
Philenoptera nelsii subsp *nelsii*	Kalahari Omupanda; Kalahari Apple-leaf	
Searsia tenuinervis var *tenuinervis*	Kalahari Currant	
Tarchonanthus camphoratus	Camphor Bush	
Terminalia sericea	Silver Cluster-leave	
Ziziphus mucronata	Buffalo-thorn	Protected by forestry legislation

Appendix B: Proof of Public Consultation

Notification Letter to Omaheke Regional Council

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

To: **Interested and / or Affected Party / Neighbour** **05 March 2025**

Re: **ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN FOR EXCLUSIVE PROSPECTING LICENCE 9975, OMAHEKE REGION**

Dear Sir/Madam

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) 9975. 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 9975, Omaheke 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 Mines and Energy in respect of their application for EPL 9975. 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.

Interested and affected parties or neighbours are 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:** epl9975@thenamib.com.

Registration and preliminary comments should reach our offices by latest 21 March 2025.

Should you require any additional information please contact Geo Pollution Technologies at telephone 061-257411.

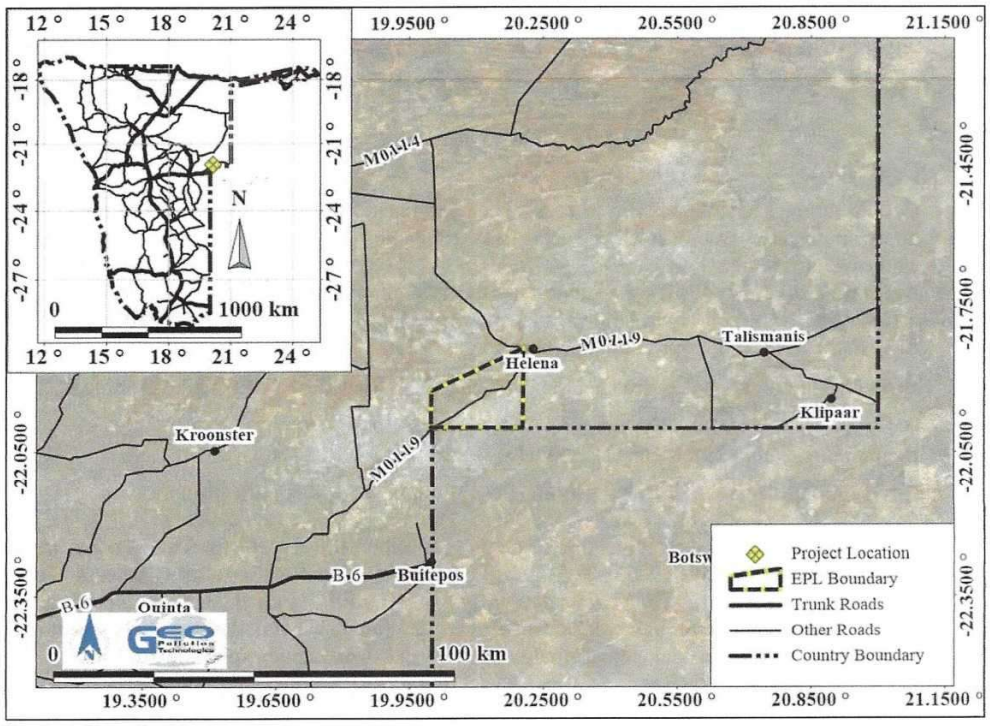
Sincerely,
Geo Pollution Technologies

André Faul
Environmental Practitioner

OMAHEKE REGIONAL COUNCIL
2025 -03- 10
CHIEF REGIONAL OFFICER

GPT

COPY



Project Location

Proof of Ministerial Notifications

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

MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM
ENVIRONMENTAL COMMISSIONER
05 MAR 2025
RECEIVED

To: **The Executive Director**
Ministry of Environment, Forestry and Tourism
Private Bag 13306
Windhoek

05 March 2025

Dear Mr Nghitila

Re: **ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN FOR EXCLUSIVE PROSPECTING LICENCE 9975, OMAHEKE REGION**

Geo Pollution Technologies (Pty) Ltd was 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) 9975 in the Otjombinde Constituency of the Omaheke Region. 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 9975, Omaheke 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 Mines and Energy in respect of their application for EPL 9975 in the Omaheke Region. The EPL will be granted to the Proponent upon successful acquisition of an environmental clearance certificate (ECC) for the EPL area, as indicated on Page 2. The EPL is for 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 EPL overlaps with communal land and resettlement farms. Public participation for the project is ongoing and the constituency councillor, Otjombinde Communal Conservancy and Community Forest Committee, Traditional Authorities and Ministry of Environment, Forestry and Tourism officials for the particular area have been engaged. Should your office have any interest in the EIA process, you are herewith invited to register with the environmental consultant to receive further documentation and communication regarding the project.

Two public meetings are scheduled for the project, of which the details are as follows:

- 12 March 2025, Talismanis Community Hall, 10:00 am
- 13 March 2025, Helena Primary School, 10:00 am

Please register at:

Fax: 088-62-6368 or **E-Mail:** epl9975@thenamib.com.

Note that the environmental assessment for EPL 9975 coincides with EPLs 9972, 9973 and 9974, all in the same constituency and for the same Proponent. The details of which are also communicated to your office in separate notifications.

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

MINISTRY OF MINES AND ENERGY
OFFICE OF THE EXECUTIVE DIRECTOR
2025 -03- 05
RECEIVED

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

05 March 2025

Dear Mr Ithindi

Re: **ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN FOR EXCLUSIVE PROSPECTING LICENCE 9975, OMAHEKE REGION**

Geo Pollution Technologies (Pty) Ltd was 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) 9975 in the Otjombinde Constituency of the Omaheke Region. 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 9975, Omaheke 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 Mines and Energy in respect of their application for EPL 9975 in the Omaheke Region. The EPL will be granted to the Proponent upon successful acquisition of an environmental clearance certificate (ECC) for the EPL area, as indicated on Page 2. The EPL is for 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 EPL overlaps with communal land and resettlement farms. Public participation for the project is ongoing and the constituency councillor, Otjombinde Communal Conservancy and Community Forest Committee, Traditional Authorities and Ministry of Environment, Forestry and Tourism officials for the particular area have been engaged. Should your office have any interest in the EIA process, you are herewith invited to register with the environmental consultant to receive further documentation and communication regarding the project.

Two public meetings are scheduled for the project, of which the details are as follows:

- 12 March 2025, Talismanis Community Hall, 10:00 am
- 13 March 2025, Helena Primary School, 10:00 am

Please register at:

Fax: 088-62-6368 or **E-Mail:** epl9975@thenamib.com.

Note that the environmental assessment for EPL 9975 coincides with EPLs 9972, 9973 and 9974, all in the same constituency and for the same Proponent. The details of which are also communicated to your office in separate notifications.

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

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

05 March 2025

Dear Ms Nghituwamata

Re: **ENVIRONMENTAL ASSESSMENT AND MANAGEMENT PLAN FOR EXCLUSIVE PROSPECTING LICENCE 9975, OMAHEKE REGION**

Geo Pollution Technologies (Pty) Ltd was 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) 9975 in the Otjombinde Constituency of the Omaheke Region. 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 9975, Omaheke 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 Mines and Energy in respect of their application for EPL 9975 in the Omaheke Region. The EPL will be granted to the Proponent upon successful acquisition of an environmental clearance certificate (ECC) for the EPL area, as indicated on Page 2. The EPL is for 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.

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Please register at:

Fax: 088-62-6368 or **E-Mail:** epl9975@thenamib.com.

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Press Notice: New Era - 3 and 10 March 2025

Keetmans water taps run dry

■ Steven Klukowski

KEETMANSHOOP–Theresidents of Keetmanshoop must find alternative sources of water for the next two days as supply interruptions and complete cut-offs will be experienced in some areas of the town.

The national water utility, NamWater said this was due to unforseen maintenance and repair works which had caused interruptions.

NamWater's //Kharas regional head Andries Kock said in a communique to the Keetmanshoop municipality, the town was experiencing low reservoir levels due to technical issues with their pumps along the main pipeline, which have been detected since Saturday.

"Due to additional technical challenges, the supply will not be sufficient to meet the town's demand, leading to ongoing water shortages until the issues are fully resolved, " the statement read.

NamWater estimated that full supply capacity will only be restored by Wednesday, 05 March 2025.

"In the meantime, residents, particularly those in high lying areas such as Westdene may experience low water pressure and intermittent supply disruptions, " said Kock, adding that residents should use water sparingly until the situation stabilises.

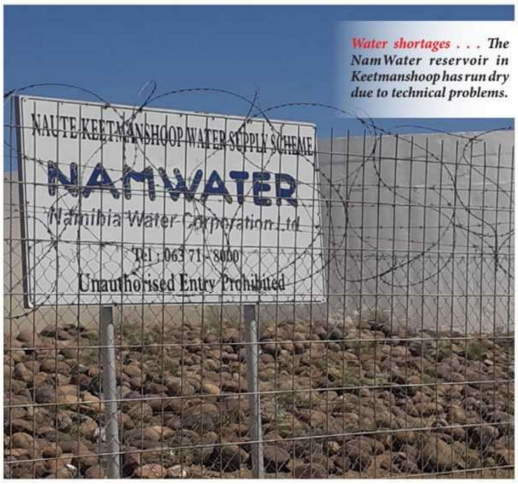
The document added that NamWater, in consultation with the Keetmanshoop municipality, will asses the situation and may need to implement temporary water rationing in certain areas to mange the available supply effectively.

Kock said the situation had worsened in the meantime as another mine supply water pipe leakage was reported yesterday morning.

He said even if all repairs and maintenance were carried out, the reservoir levels will remain low in the early stages, leading to interruptions in some residential areas and cut-offs in others.

Residents at the town expressed mixed feelings about the sudden, unforeseen water crisis. They bemoaned that the municipality had not warned them about the supply disruptions in advance.

In a social media post yesterday the Keetmanshoop municipality acknowledged the crisis, promising to provide regular updates to the community on progress.



Water shortages . . . The NamWater reservoir in Keetmanshoop has run dry due to technical problems.

Shikongo lauds public for respecting law

Inspector General of the Namibian Police, Lieutenant General Joseph Shikongo has thanked Namibians for the manner in which they conducted themselves during the mourning of Founding President Sam Nujoma.

Shikongo particularly thanked Namibians for ensuring a smooth and dignified send-off for Nujoma, who died on 08 February 2025.

According to Shikongo, police officers were deployed across the regions to ensure safety and security. Nujoma's body was taken to seven regions of Omusati, Ohangwena, Kavango East, Zambezi, Otjozondjupa, Erongo and ||Kharas, before it was flown to Windhoek in the Khomas region for burial at the Heroes Acre.

In all the regions, Nujoma's body was transported in a military procession and lay in state in all regions under the guard of the Namibian Defence Force to allow Namibians to pay their last respects.

"I should thus thank Namibians, from the bottom of my heart, for the manner in which they conducted themselves in ensuring we give our founding father a dignified send-off. We had no issues. Thank you, Namibians, let us continue doing this in events of this nature or any other event. Let us make sure our international dignitaries confirm Namibia as a country of order and peace," Shikongo said.

He spoke to Nampa on Saturday, shortly before the commencement of Nujoma's the funeral service at Heroes' Acre in Windhoek.

Shikongo said the police also did not encounter any issues related to crime, during the procession of Nujoma's body from Windhoek to other regions.

"The process started on 20 February 2025 from the Hosea Kutako International Airport. I attended the arrival at Ondangwa and we proceeded to Okahao. The events went very well," he noted.

The low crime rate during the mourning period, he stressed, is attributed to Namibians' patriotism in ensuring that Nujoma's mourning period was respected.

-Nampa

Lieutenant General Joseph Shikongo

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

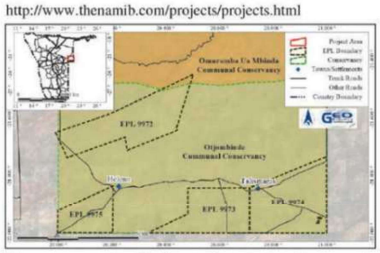
Press Notice: The Namibian - 3 and 10 March 2025

PUBLIC PARTICIPATION NOTICE

ENVIRONMENTAL ASSESSMENT: EXCLUSIVE PROSPECTING LICENCES 9972, 9973, 9974 AND 9975, OTJOMBINDE CONSTITUENCY, OMAHEKE REGION

Geo Pollution Technologies (Pty) Ltd (GPT) was appointed by Votorantim Metals Namibia (Pty) Ltd (the Proponent), to undertake environmental assessments for proposed exploration activities in exclusive prospecting licence (EPL) areas 9972, 9973, 9974 and 9975, Otjombinde Constituency, Omaheke Region. Upon the successful acquisition of environmental clearance certificates (ECC), the EPLs will be granted to the Proponent. The EPLs are for base, rare and precious metals and industrial minerals. Additional information for each EPL can be obtained at:

http://www.thenamib.com/projects/projects.html



The assessments will be conducted according to the regulations of the Environmental Management Act of 2007. We hereby inform the public of two meetings scheduled to be conducted for the projects:

12 March 2025, Talismanis Community Hall, 10:00 am

13 March 2025, Helena Primary School, 10:00 am

Interested and affected parties are invited to register with GPT by 20 March 2025. The deadline for comments, issues or concerns related to the EPLs, for consideration in the assessments, will be communicated to registered parties.

André Faul
Geo Pollution Technologies
Tel: +264-61-257411
Fax: +264-88626368
E-Mail: vmn@thenamib.com

GEO Pollution Technologies

Ofamili otai pula ouyelele kombinga yefyo laEiseb

OFAMILI yomunambelewa weameno Francis Eiseb, oo a xulifila momunyeka wahomata oo wa kanififa ehangano lokulandifa okawe ledina Namib Desert Diamonds (Namdia) okawe kongushu yeemiliyona N$350, oya hala omanyamuko kombinga yoikumungu oyo ya kundukida efyo laye.

Ova hala okushiiva kutya omolwashike ehangno la dopa okunghonopeka eameno lalo odula ya dja ko, nande okwa li la londodwa kopolifi kutya ehangano okwa li la tanwa notashi dulika li ka ningilwe omunyeka. Mumwainamati waEiseb, Godfried Eiseb, Etine okwa lombwela oThe Namibian kutya ofamili oi na omapulo kombinga yelongopauyelele olo lihe po nosho yo ekwatafano koNamdia nopolifi kombinga yefyo laEiseb.

Otava ti otashi dulika pu na sha tashi holekwa.

"Omolwashike Namdia ta yandje ashike ouyelele paife konima mumwamemati wetu kwa li a dipawa? Omolwashike kwa li inave u yandja eshi kwa li va londwelwa kutya otashi dulika ku ka ningwe omunyeka odula ya dja ko?" Godfried osho a pula ngaho.

Eiseb (57) okwa li a dipawetwa pehangano opo pefimbo lomunyeka momafiku 18 Januali.

Godfried okwa popya kombinga yoshibofa shefyo lapuka, nokwa hala okushiiva kutya omolwashike mumwainamati kwa li a dengelwa a ye konhele oko kwa ningilwa omunyeka omanga kwa li ehe li moilonga.

Okwa pula yo vali kombinga yeelopota dopolifi odo da yooloka. Godfried okwa hala yoo vali okushiiva kutya omunangeshefa wokawe akula Doron Cohen, oo e li yoo ombangi yepangelo, kutya moshiningwanima omu oku na mo shike.

Cohen vati okwa li e na oukaume wakola naEndjala. "Otwa hala okushiiva kutya olyelye a dipaya mumwameme.

Inatu hala okuya ouyuki moshipala, ashike ova mwena unene, omanga twa kanifa mumwameme," Godfried osho a ti ngaho. Omupedu inspkta wopolifi Elias Mutota muFebuluali okwa li a lombwela o*The Namibian* kutya opolifi okwa li ya kufila ko Namdia kutya opwa fa pu na omalongekido omunyeka odula ya dja ko."Okwa li twa ninga oshoongalele navo ndee hatu va londoda kutya otu na ouyelele kombinga yomunyeka wa longekidwa.

Otwe va lombwela va kale va tonata nokuyambula po eameno lavo," Osho a ti ngaho. Rui Tyitende, omundjadjukununi womilandu dopashiwana, naye okwa pula kutya oshike ewiliko laNamdia lihe na eameno lakola li amene emanya olo li na ongushu.

"Ohatu fatulula ngahelipi kutya eedjo dopaushitwe odo di na ongushu yeebiliyona oda kala tadi amenwa da fa oihakautu oyo ngeno ya tuvikilwa metungo omo ile omatangara?" Osho a pula ngaho.

Kakele kuAngula Namdia okwa kufa mo ovanailonga aveshe mongudu yovafeekelwa moshiningwanima omu.

Ehangano Etine okwa li la pitifa omukanda womapandja atatu tau yandje ouyelele kombinga yomunyeka.

"Pandodo ei, kapu na nande etomeno lokwiitavela kutya opu na omunailonga umwe, kakele komunambelewa weameno oo a mangwa po, kwa li a kwatelwa momunyeka omu," Omupopiliko waNamdia Beverley Coussement osho a ti ngaho.

Francis Eiseb

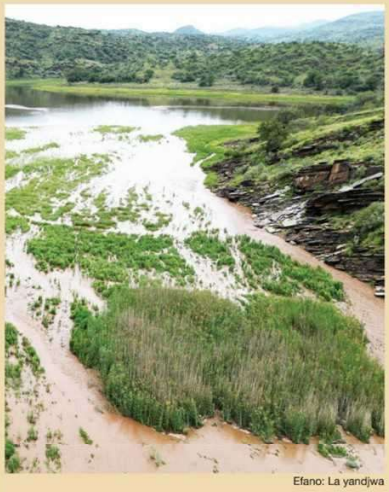
Angula (45) oye umwe womovafeekelwa vavali ovo va mangwa po.

Omutivali oShololo (45).

Ewilikongudu laNamdia ola tula pedu omukulunhuwiliki, Alisa Amupolo, nosho yoomukulunhu woilonga Uaharoka Kauta nomuwiliki weameno Paulinus Sheyapo opo li kwashilipaleke "omakonakono omeni a manguluka". Omukanda waNamdia owe ya konima omuleli wongudu yomilameno yopambelewa McHenry Venaani Etitatu kwa li a ponokela omuprima minista Saara Kuugongelwa-Amadhila nomapulo momutumba wopashiwana kutya oshike epangelo la mwena ashike kombinga yomunyeka.

Omuleli woPopular Democratic Movement Etine okwa lombwela oDesert FM kutya ngeno okwa li ina pula, Namdia ngeno ina tya sha.

"Ngeno okwa li haame, ngeno ouyelele ou ou li ashike ponhele yonhumba ndee ngeno kapu nande omunhu umwe a pewa ouyelele," Osho a ti ngaho.



Efano: La yandjwa

OMULOKA ... Ondama yaAvis Etitatu okwali ya mona omeva awana. Noimeno otai monika ya ndjidja nawa.

"Epangelo nali manguluke kombinga yoshinima eshi ndee tali tu lombwele kutya oshike naana sha ningwa po lela.

"Natu lombwelwe keshe efimbo. Ouwe ava okwa li va monika. Va monika ngahelipi? Nava dule okuyandja ouyelele uhapu kashona," Osho a ti ngaho.

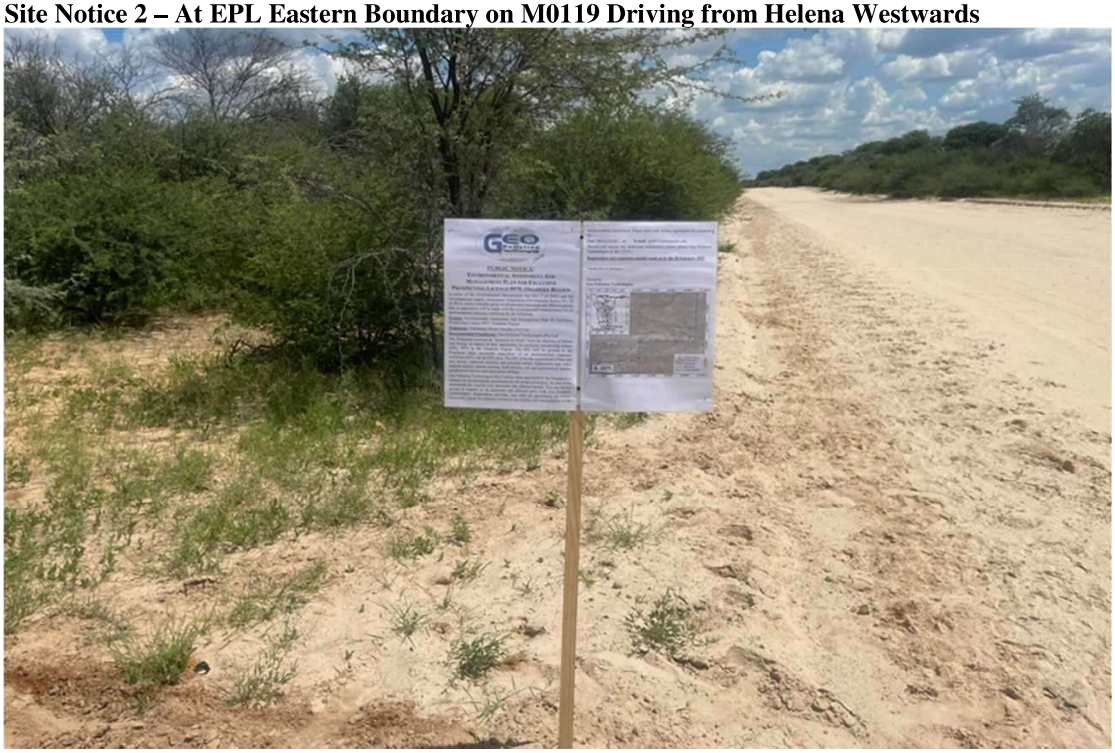
Omupopiliko wopashiwana wopolifi omupedu komufala Kauna Shikwambi Etine okwa lombwela o*The Namibian* kutya opolifi oya lombwela oshiwana kutya ouyelele kombinga yovafeekelwa owa lunduluka eshi omakonakono taa twikile.

Shikwambi okwa ti opolifi ohai longo ashike nouyelele woshili noumbangi oo tau dulu okulongifwa momhangu.

Okwa ti opolifi inai mwena nande kombinga yoshikumungu eshi, ashike otai mono manga omaumbangihokololo okudja keembangi.

Site Notice 1 – At Western EPL Boundary on M0119 at Entrance into Otjombinde Conservancy and Community Forest

Site Notice 2 – At EPL Eastern Boundary on M0119 Driving from Helena Westwards



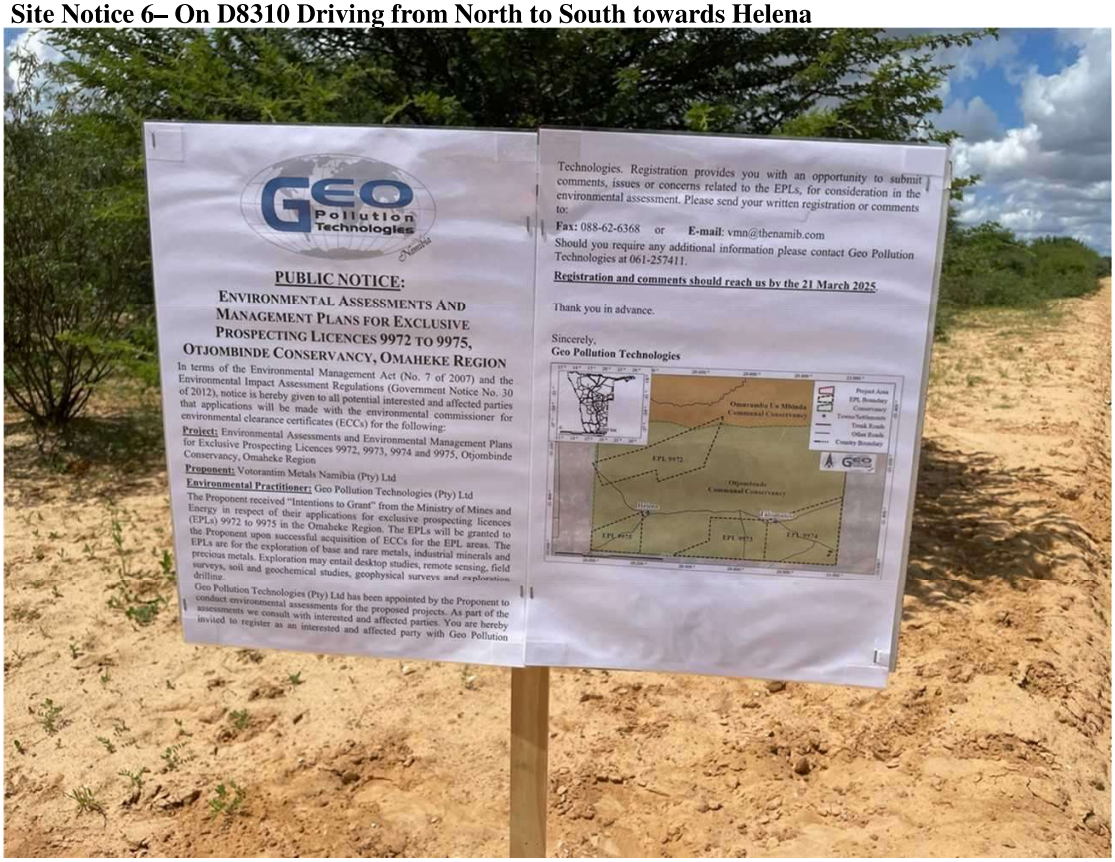
Site Notice 3 – At Talismanus Clinic

Site Notice 3 -Member of the GPT Team Explaining the Project to Interested Parties who saw the Notice at the Clinic

Site Notice 4 – At Fuel Retail Facility

Site Notice 5 – Helena Primary School

Site Notice 6– On D8310 Driving from North to South towards Helena



Minutes of Meeting

Re: Meeting: Environmental Impact Assessments for EPLs 9971, 9972, 9974 and 9975 in the Omaheke Region

Date: Monday, 17 February 2025

Time: 14:00

Venue: Otjombinde Constituency Office

In attendance:

Name	Position	Organisation
Wenzel Kavaka	Regional Councillor	Otjombinde Regional Council
Jacqualine Hoëses	Ranger	Ministry of Environment, Forestry and Tourism (Gobabis)
Georgina Swartz	Warden	Ministry of Environment, Forestry and Tourism (Gobabis)
T. Mukuahima		NamPol
Silbanus Hoveka	Traditional Councillor	Hoveka Traditional Authority
Abedi Kaiko	Conservancy Management Committee, Chairperson	Otjombinde Conservancy and Community Forest
Percy Tjijenda	Conservancy Management Committee, Vice Treasurer	Otjombinde Conservancy and Community Forest
Benitha Kamboua	Conservancy Management Committee, Secretary	Otjombinde Conservancy and Community Forest
David K. Tjozongoro	Senior Traditional Councillor	Ovambanderu Traditional Council
Paulina Geelbooi	Senior Traditional Councillor	Ovambanderu Traditional Council
Christian Brunette	Geologist	Votorantim Metals Namibia
André Faul	Environmental Scientist	Geo Pollution Technologies

Abedi Kaiko welcomed everyone at the meeting and allowed the different parties to introduce themselves.

André Faul explained that the purpose of the meeting is to establish communication channels and information sharing between the different parties involved, and to allow for cooperation during, and after, the environmental assessment process. He further briefly explained the environmental assessment process and gave a short overview of what exploration typically entails. He stressed that the first stages of exploration are not invasive and only if a specific area is suspected of having a resource, more intrusive methods are used which may include exploration drilling.

Christian Brunette provided background information on Votorantim Metals Namibia, stating that it is a Namibian company focussed entirely on exploration, with a parent company in Brazil. Votorantim Metals Namibia has exclusive prospecting licences (EPLs) all over Namibia.

André Faul noted that Votorantim Metals Namibia has not officially been issued with the EPLs yet, but only with an "intention to grant" by the Ministry of Mines and Energy, on condition that the environmental assessment is conducted and that an environmental clearance certificate be issued. Once the EPL is then granted, and Votorantim Metals Namibia wish to access the land, a surface access agreement has to be reached.

A question was raised on whether locals will get opportunities for employment once Votorantim Metals Namibia start exploration in the area. It was affirmed that some unskilled labourers may be sourced from the area for manual labour like clearing vegetation to provide access for the exploration teams to conduct geophysical investigations or drilling.

Mr Tjorongoro stated that they do not have any objection to the proposed activities as long as all communication, notifications and requests are made through the office of the Regional Councillor. André Faul said that when the environmental assessment is submitted to the Ministry of Environment, Forestry and Tourism, it must be accompanied by letter(s) of support from relevant authorities. The

same will be required once Votorantim Metals Namibia wants to access the area. These will then all be made via the office of Mr. Kavaka.

With no further matters to discuss, the meeting was adjourned.

Minutes of Meeting

Re: Meeting: Environmental Impact Assessments for EPLs 9971, 9972, 9974 and 9975 in the Omaheke Region

Date: Thursday, 20 February 2025

Time: 09:00

Venue: NACSO Boardroom, Windhoek

In attendance:

Name	Organisation
Maxi Louis	Namibian Association for CBNRM Support Organisations (NACSO)
Uaanao Katjinjaa	Namibian Association for CBNRM Support Organisations (NACSO)
John Hazam	Namibia Nature Foundation (NNF)
Tunnomukwathi Angula	Namibian Association for CBNRM Support Organisations (NACSO)
Usiel Ndjavera	World Wide Fund for Nature (Namibia)
Michelle Dillmann	Votorantim Metals Namibia
Rafael Freitas	Nexa Resources
Sem Cambiete	Votorantim Metals Namibia
André Faul	Geo Pollution Technologies

Maxi Louis welcomed everyone at the meeting and allowed the different parties to introduce themselves. André Faul then explained that the purpose of the meeting is to establish communication channels and information sharing between the different parties involved, and to allow for cooperation during, and after, the environmental assessment process. A general discussion ensued between all parties present at the meeting and the following is a summary of the key insights gained from the discussion:

- There are no resident non-governmental organisations (NGOs) in the Otjombinde Conservancy, but the NNF does periodically get involved with projects in the conservancy.
- Among others, NACSO works towards ensuring that business developments/activities in conservancies take notice of the local communities and inform and involve them in various processes of setting up such businesses. Secondly, NACSO also ensures that environmental impact assessments (EIAs) follow the correct procedures and processes for activities in conservancies requiring assessment and that all support organisations associated with NACSO are involved.
- It is important to also inform the Omuramba Ua Mbinda Communal Conservancy about the EIA, even if only a small portion of the EPL [9972] overlaps with the conservancy.
- It should be established whether the communal conservancies and the community forests share the same management committees or not. If not, both should be informed and considered.
- The overarching Regional Conservancy Association must also be involved in the EIA process. NACSO will share the contact details with Geo Pollution Technologies.
- The conservancy Game Management and Utilization Plan (GMUP) must be considered in the EIA process. NACSO will share this with Geo Pollution Technologies.
- The latest conservancy profile and annual report must be considered in the EIA process. NACSO will share these with Geo Pollution Technologies.
- Public meetings should be conducted in Otjombinde (Talismanus) and Helena. Notifications should be aired on the Herero radio station of the Namibian Broadcasting Corporation (NBC).
- The NNF can assist with disseminating information regarding the EIA and the public consultation process to the conservancies.

With no further matters to discuss, the meeting was adjourned at 09:40.

Minutes of Meeting

Public meeting: Environmental Assessment for Exploration Activities on EPL 9972, 9973, 9974 and 9975, Omaheke Region

Venue: Town Hall Talismanus.
Date: 12 March 2025.

(1)

Public Meeting Attendance: Environmental Assessment

Exploration Activities on EPL 9972, 9973, 9974 and 9975, Omaheke Region

Name & Surname	Organisation/Address	Signature
ABEDI KAIKO	ORC - SETTLEMENT OFFICE	
Amalia HAMSEPO	Cleaner Settlement Office	
Collen Tjituka	Community member	
Alex Noux Kamutuezu	Conservancy	
SILBANUS HOVEKA.	HOVEKA T. A.	
Kaputuaza Marenga	COMMUNITY MEMBER	
BRIAN TJIRAMBA	PRIVATE	
Tjona Tjiramba	FARMER	
GIDEON UIPEPA	TRADITIONAL COUNCILOR	
GIDEON NDJAVERA	FARMER	
Insp Mukuahima	NAMPOL	
Reinhold Hengari	DWSSC	

Geo Pollution Technologies — March 2025
Exploration Activities of Votorantim Metals Namibia

(2)

Name & Surname	Organisation/Address	Signature
Clifford Kotjinjo	Otjombinde Conservancy & Community Forest	
Vebanus Kajipaka	O'Comukaru	
Antonius Malihe	- ministry of water Sply	
ORPA Kaukune	MOHSS	
Ellis K. Ndjavera	otjombinde Farm	
NGAUNAJE MARENGA	OTJINA TRADING ENTERPRISE CC	
Josef [illegible]	[illegible]	
Gerhardt Huambi	O T.A.	
Melania Kandjou	Klip-aar Resident	
ERICK Kaposambo	Okouttjove TA	0812840627.
Ramana Mujoro	Okarutjoze 02.	

Geo Pollution Technologies — March 2025
Exploration Activities of Votorantim Metals Namibia

Date:	12 March 2025
Time:	10:00 AM
Venue:	Talismanus Town Hall, Otjombinde Constituency, Omaheke Region

List of Abbreviations

EIA	Environmental Impact Assessment
EPL	Exclusive Prospecting License
GPT	Geo Pollution Technologies (Pty) Ltd
MAWLR	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism

The meeting was chaired by André Faul and translation from English to Otjiherero and vice versa was performed by Abedi Kaiko.

André Faul made introductions and continued to give a short presentation on the proposed exclusive prospecting licence areas in the Constituency and explained the purpose and procedures of the environmental assessment process. He stressed that the first stages of exploration are not invasive and only if a specific area is suspected of having a resource, more intrusive methods are used which may include exploration drilling. After the presentation the audience was provided with an opportunity to ask questions regarding the project.

An audience member asked what the benefits for the community will be and if they come across an area where only one person resides, how will they ensure their protection and safety. André Faul responded that during the exploration phase, benefits to the community may be limited, primarily in terms of employment. Benefits do include the economic injection into the local community when exploration teams require services such as lodging, food and fuel. Unskilled workers may be employed to assist with clearing areas for geophysical investigations and clearing of drilling areas. If drilling takes place, it will provide valuable information regarding groundwater sources. He further stated that all land owners must be contacted prior to the exploration team accessing the land. He acknowledged the difficulty of contacting all land owners due to the remoteness of the area and the lack of formal communication channels. He mentioned the importance of involvement of authorities, including the MAWLR and the regional council. Additionally, he reassured attendees of GPT and the client's cooperation with the Otjombinde conservancy committee and the constituency office. The objective is to identify residents, obtain their contact details, and make prior arrangements to determine accessible and restricted areas.

An audience member stated that he encountered an individual who have received permission from one of the traditional authorities and the Ministry of Mines and Energy to conduct exploration in their area. This individual did not consult the community beforehand. While pointing at a map, the attendee requested confirmation from André Faul, asking whether multiple parties can conduct exploration in the same area. André Faul stated that there should not be two or more EPLs overlapping. He asked the attendee to approximately identify the area on the map. He explained that within the EPL, the specific area in question has mining claims and is entirely excluded from the EPL. He added that although there are established procedures and regulations, not everyone follows them. He informed attendees to the MEFT website, where complaints regarding such matters can be submitted. A discussion in Otjiherero ensued between members of the audience. The details of the conversation pertained to the mining claim issue.

A member of the audience asked how long the environmental assessment will take and how long it will take before the company starts exploration. André Faul stated that the environmental assessment needs to be submitted by latest May 2025 to meet the Ministry of Mines deadline which is towards the end of 2025. The timing of exploration depends on Votorantim's schedule, but it can only start after the environmental clearance is issued, thus soonest 2026.

It was asked if the exploration team will just come onto their land once environmental assessment is finished. André Faul stated that they will have to first engage with the various authorities such as the chairman of the constituency office, the conservancy committee, etc. in order to establish communication channels between themselves and the land owners. Surface access agreements must also then be negotiated before they can access the areas.

A concern was raised that there is a big information gap between the Otjombinde community and the Ministry of Mines and Energy. This gap needs to be closed and the Ministry should engage with the community. The Otjombinde community is remote and does not gain access to information from the Ministry. That is why people can show up with mining licenses without the locals knowing about it. André Faul mentioned that he will include this request in the EIA. He stressed that reaching each and every person residing in the area is extremely difficult and even with the steps taken by GP, there will still be people who have not heard about Votorantim on the day the start exploration.

A request was made that Votorantim makes themselves know to the local residents so that they are aware of them. Also as they move through the area into different locations, they should notify the communities.

With no further matters the meeting was adjourned.

Minutes of Meeting

Public meeting: Exploration Activities for Votorantim Metals Namibia on EPL 9972, 9973, 9974 and 9975, Omaheke Region

Venue: Helena Primary School
Date: 13 March 2025

Public Meeting Attendance: Environmental Assessment

Exploration Activities on EPL 9972, 9973, 9974 and 9975, Omaheke Region

Name & Surname	Organisation/Address	Signature
B.T. KATJIUANJO	BOSENS	08161113 48
S.J. Kafiuyo	HELENA	0818741318
V. Kambato	Helena	0813328051
C Ruhumba	Helena	081 28 92253
S. Selina Mbuende	Helena	0814144729 SM
S.H. Kaseinina	Helena	0812690520
Welwischha Ndura	Helena	0812770274
A.U. Hiamjo	Helena	0813913946
PRECIOUS C. TAWANA	Helena	0816840987
Naomy Tjikuko	Helena	0814423812
Rudolf Kaputuaza	Helena	0816183332
Tjizoo	Tjizoo	08185 71882

Geo Pollution Technologies
Exploration Activities of Votorantim Metals Namibia
March 2025

Name & Surname	Organisation/Address	Signature
Felix Katjiuanjo	Otjshemo Sales	0813080322

Geo Pollution Technologies
Exploration Activities of Votorantim Metals Namibia
March 2025

Date:	13 March 2025
Time:	10:00 AM
Venue:	Helena Primary School, Otjombinde Constituency, Omaheke Region

List of Abbreviations

EIA	Environmental Impact Assessment
EPL	Exclusive Prospecting License
GPT	Geo Pollution Technologies
RAP	Resettlement Action Plan

The meeting was chaired by André Faul and translation from English to Otjiherero and vice versa was performed by Abedi Kaiko.

André Faul made introductions and continued to give a short presentation on the proposed exclusive prospecting licence areas in the Constituency and explained the purpose and procedures of the environmental assessment process. He stressed that the first stages of exploration are not invasive and only if a specific area is suspected of having a resource, more intrusive methods are used which may include exploration drilling. After the presentation the audience was provided with an opportunity to ask questions regarding the project.

A meeting attendee asked whether Votorantim Metals will bring their own employees for the work or if members from the local community would be included. André Faul responded by explaining that during the exploration phase, only a small team is required. He further stated that Votorantim already has qualified candidates who are experienced in the work, specifically in the geological aspect. However, he acknowledged that for line-cutting, especially given the area's dense vegetation, local assistance would be needed. He added that if the project progresses to the mining phase, and valuable minerals are found, more workers would be required, creating employment opportunities. He assured that where possible, the local community would be prioritized for support roles.

A question was raised if residents would be compensated if minerals were found on their land and whether they would need to relocate. André Faul explained that if a minable resource is find, a detailed EIA will be required that focus on specifically that area. This will also require a resettlement action plan. He reassured attendees that compensation will be provided if relocation is necessary, with formal negotiations involving Votorantim, the EPL consultants, and the government, as it is government land.

It was asked why the broader community was not invited to the meeting. André Faul explained the challenges in arranging meetings and reaching everyone in a communal area. It is thus best to work through the constituency and conservancy offices to disseminate information as widely as possible.

With no further matters the meeting was adjourned.

Notified and Registered Interested and Affected Parties

Name	Position	Organisation
Andrew Kgosiemang	Chief	Batswana Ba Namibia Traditional Authority
Clifford Katjinjo	Manager	Otjombinde Communal Conservancy and Community Forest
Silbanus Hoveka		Hoveka Traditional Authority
Ronnie Kandapaera	Forestry Official	Ministry of Environment, Forestry and Tourism
Georgina Swartz	Warden	Ministry of Environment, Forestry and Tourism (Gobabis)
Jacqualine Hoëses	Ranger	Ministry of Environment, Forestry and Tourism (Gobabis)
Vetundja Kazapua		Ministry of Environment, Forestry and Tourism - Directorate of Forestry
John Hazam	Senior Technical Advisor	Namibia Nature Foundation
Priscilla Mundilo	Senior Technical Advisor ESMS	Namibia Nature Foundation
Tessa Iiyambula	CBNRM Contact	Namibia Nature Foundation
T Mukuahima		Nampol
Calvin Sisamu		NamPower
Andries Kok	Chief Operations Officer	NamWater
Jolanda Kamburona	Environmental Scientist Water Quality & ES	NamWater
Fillemon Aupokolo		NamWater
Detlivine Katamelo	Chief Community Liaison Officer	Omaheke Regional Council
Pecka Semba	Office of the Chief Regional Officer	Omaheke Regional Council
Erika Ndjavera	Chairlady	Omuramba Uambinda Communal Conservancy and Community Forest
Abednego Abedi Kaiko	Chairperson (Outgoing)	Otjombinde Communal Conservancy and Community Forest
Benitha Kamboua	Secretary	Otjombinde Communal Conservancy and Community Forest
Percy Tjijenda	Treasurer	Otjombinde Communal Conservancy and Community Forest
Mitchel Ngaujake	Chairperson (New)	Otjombinde Communal Conservancy and Community Forest
Jacobus Wasserfall	Hunting Operator	Otjombinde Conservancy
Wenzel Kavaka	Regional Councillor	Otjombinde Constituency
David K. Tjozongoro	Senior Traditional Councillor	Ovambanderu Traditional Council
Paulina Geelbooi	Senior Traditional Councillor	Ovambanderu Traditional Council
Eben Nowaseb	Chief Warden for Omaheke Region	Ministry of Environment, Forestry and Tourism (Gobabis)

Name	Position	Organisation
Maxi Louis	Director	The Namibian Association of Community Based Natural Resource Management (CBNRM) Support Organisations (NACSO)
Tunomukwathi Angula		The Namibian Association of Community Based Natural Resource Management (CBNRM) Support Organisations (NACSO)
Uaanao Katjinjaa		The Namibian Association of Community Based Natural Resource Management (CBNRM) Support Organisations (NACSO)
Matthew Walters	Manager	World Wildlife Fund
Usiel Ndjavera		World Wildlife Fund

Comments Received	Response
E-Mail Received From: John Hazam Date: 4 March 2025 A couple of questions: 1. What are you looking for? What are you hoping to find? 2. What technologies are you going to use – are you drilling? – are you using remote satellite technologies?	Thank you for your mail. They are particularly interested in copper deposits, but of course, should they find any other minable resource which falls within the category base and rare metals, industrial minerals and precious metals, they would probably be interested in that too. I attach an EIA for a similar EPL, although in a different area, that we conducted for them. Refer to section 5 for details on the exploration processes. It will be exactly the same for the ones in Omaheke Region.

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 240 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	+240
Research Reports & Manuals:	5
Conference Presentations:	1