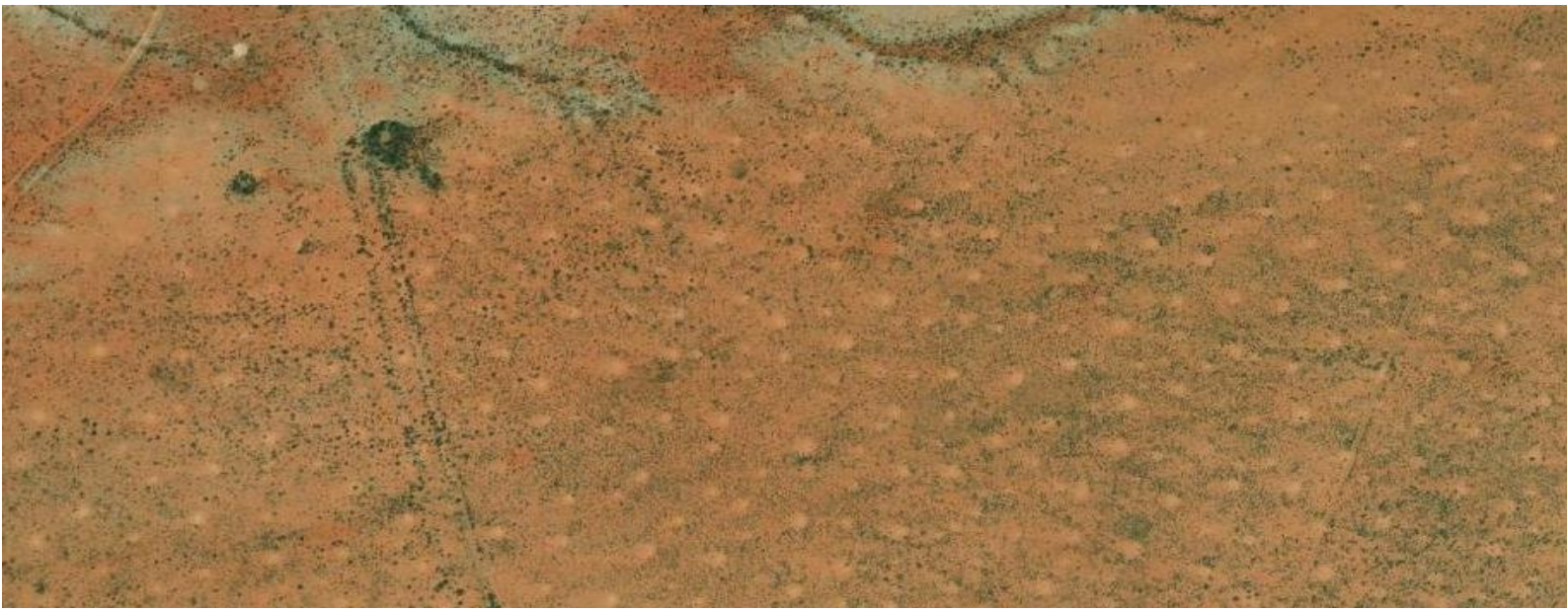
Johannes Christiaan Kake
(The Proponent)

Final Environmental Impact Assessment (EIA) to support the Application for Environmental Clearance Certificate (ECC) for the Proposed Exploration Activities in the Exclusive Prospecting License (EPL 8300),
Sesfontein District, Kunene Region



September 2022

Johannes Christiaan Kake
P.O Box 504
Outjo, Namibia

PROPONENT, LISTED ACTIVITIES AND RELATED INFORMATION SUMMARY

TYPE OF AUTHORISATIONS REQUIRING ECC

Exclusive Prospecting License (EPL) No. 8300

NAME OF THE PROPONENT

Johannes Christiaan Kake

COMPETENT AUTHORITY

Ministry of Mines and Energy (MME)

PROPOENT ADDRESS AND CONTACT PERSON

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PROPOSED PROJECT

Proposed Minerals Exploration / Prospecting activities
in the Exclusive Prospecting License (EPL)
No. 8300, Sesfontein District, Kunene Region

PROJECT LOCATION

Sesfontein District, Kunene Region
(-19.588611, 14.249444)

ENVIRONMENTAL CONSULTANTS

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ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

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(MSc Env. Mag, BSc (Hons) Envi Bio)

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NON-TECHNICAL SUMMARY

Johannes Christiaan Kake (the "Proponent") has applied for mineral rights under the Exclusive Prospecting License (EPL) 8300 Base and Rare Metals, Dimension Stones, Industrial Minerals and Precious Metals (http://portals.flexicadastre. com/Namibia). The physical license of the EPL 8300 will only be granted by the Mining Commissioner in the Ministry of Mines and Energy (MME) once the Proponent has obtained an Environmental Clearance Certificate (ECC) from the Environmental Commissioner in the Ministry of Environment, Forestry and Tourism (MEFT).

Under an EPL 8300 regime, the Proponent is only authorised by the Ministry of Mines and Energy to conduct prospecting, not mining. Mining is undertaken under a separate authorisation called a Mining License (ML) which is only granted if an applicant has discovered and proved that the discovered minerals deposit is viable and can be developed into a profitable mine.

The Proponent intends to conduct prospecting activities and looking specifically at greenfield areas, historically not known to have minerals potential or no detailed exploration has taken place in some these areas.

The Proponent intends undertake minerals exploration activities covering desktop studies, followed by site-specific activities on targets that may be delineated and using field-based exploration techniques/ methods such as geophysical surveys, geological mapping, trenching, drilling, bulk sampling, and test mining. The implementation of the site-specific field-based activities will be subject to the discovery of potential economic minerals deposits targets.

The proposed exploration activities are listed in the Environmental Impact Assessment (EIA) Regulations, 2012 and the Environmental Management Act, 2007, (Act No. 7 of 2007) and cannot be undertaken without an Environmental Clearance Certificate (ECC). This Environmental Impact Assessment (EIA) report has been prepared by Risk – Based Solutions CC to support the application for the ECC for the proposed exploration activities in the EPL 8300.

The area of the EPL falls within the largely semi-desert and sparse savannah. The landscape is a mixture of hills, plains, and wooded river valleys. Compared to the rest of Namibia, the region has a typically low diversity of mammals and reptiles, but it also has several significant species that should be protected.

Mopane savannah dominates the EPL area, interspersed with stands of acacias. The rugged mountains also support a diversity of interesting plants, including *Commiphora* and *Euphorbia species*, as well as the distinctive kobas. The Hoanib River is lined by extensive salvadora thickets and huge camel thorn and ana trees. It has been estimated that well over 4,000 ana trees grow along the river.

The impacts that the proposed exploration activities and associated infrastructure such as access and exploration supporting facilities will have on the receiving environment (physical, biological and socioeconomic) will depend on the extent of the proposed activities over the development area/s, management of the affected area/s and how the mitigations as detailed in the EMP Report are eventually implemented and monitored by the Proponent.

Based on the findings of this EIA Report, it is hereby recommended that the proposed exploration activities be issued with an Environmental Clearance Certificate (ECC). The Proponent shall take into consideration the following key requirements in implementing the proposed exploration programme:

(i) The Proponent shall negotiate Access Agreements with the landowner/s as may be applicable.

(ii) The Proponent shall obtain all other applicable permits such as freshwater abstraction, wastewater discharge as may be required.

(iii) The Proponent shall adhere to all the provisions of the EMP and conditions of the Access Agreement to be entered between the Proponent and the land owner/s in line with all applicable national regulations.

(iv) The Proponent shall adopt the precautionary approach / principles in instances where baseline information, national or international guidelines or mitigation measures have not been provided or do not sufficiently address the site-specific project impact.

(v) Before entering any private or protected property/ area such as a private farm, the Proponent must give advance notices and obtain consent to access the EPL area at all times, and.

(vi) Where possible, and if water is found during the detailed exploration boreholes drilling operations, the Proponent shall promote access to freshwater supply for both human consumption, wildlife and agricultural support as may be requested by the local community / land owners/s or as may be needed for environmental protection including wildlife management. The abstraction of the groundwater resources shall include water levels monitoring, sampling and quality testing on a bi-annual basis, and that the affected landowner/s must have access to the results of the water monitoring analyses as part of the ongoing stakeholder disclosure requirements on shared water resources as may be applicable.

Once and if economic minerals resources are discovered, a separate field-based and site-specific Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) reports shall be prepared as part of the feasibility study for possible mining operations. The site-specific EIA and EMP reports shall cover the area identified to have potential economic minerals resources including the pit / shaft area/s, waste rock, tailings dump, access, office blocks, water and external infrastructure support areas such as water pipeline, powerline and main road/s.

In addition to the Terms of Reference (ToR) to be developed during the Environmental Scoping study phase for any possible mining operations, the following field-based and site-specific specialist studies shall be considered in the TOR for the EIA and EMP studies in an event of a discovery of economic minerals resources and possible development of a mining project within the EPL No. 8300:

(i) Groundwater studies including modelling as maybe applicable.

(ii) Field-based flora and fauna diversity.

(iii) Dust, noise and sound modelling linked to engineering studies.

(iv) Archaeological assessment.

(v) Socioeconomic assessment, and.

(vi) Others as may be identified / recommended by the stakeholders/ land owners/ Environmental Commissioner or specialists.

1 BACKGROUND

1.1 Introduction

Johannes Christiaan Kake, the Proponent, holds mineral rights under Exclusive Prospecting License (EPL) No. 8300, and intend to undertake exploration activities covering desktop studies, followed by field-based regional and detailed site-specific explorations activities using techniques such as desktop studies, geophysical surveys, geological mapping, trenching, drilling and bulk sampling. The summary of the EPL is as follows:

- **Type of License:** Exclusive Prospecting License (EPL) No.8300
- **EPL Holder and Proponent:** Johannes Christiaan Kake
- **Application Date:** 05/08/2020
- **Commodities:** Base and Rare Metals, Dimension Stone, Industrial Minerals, and Precious Stones.
- **Size of the EPL:** 16831.815 Ha

1.2 Proposed Scope of Work

The following is the summary of the proposed minerals exploration activities:

(i) Initial desktop exploration activities covering the review of existing information and all previous prospecting activities undertaken in the general area in order identify any potential target/s. Thisinitial stage will also include the purchase and interpretation of the existing Government high resolution airborne geophysical data sets. No field-based visit or activities undertaken at this stage.

(ii) Regional reconnaissance assessment covering field-based activities such as reginal mapping and sampling to identify and verify potential targeted areas as delineated during the desktop stage (i) above. This stage is only undertaken if stage (i) has found some potential targets needing further investigation / verification. Alternatively, the licence is abandoned if no potentialtarget is found.

(iii) Initial local field-based activities such as widely spaced geological mapping, sampling, surveyingand possible widely spaced trenching and drilling to test the viability of any delineated local target based on the regional data collected under (ii) above. The level or depth of investigationundertaken at this stage is subject to finding a viable / potential minerals deposit that need to be defined. Alternatively, the licence is abandoned if the identified target/s proves not variable,and.

(iv) Detailed local field-based activities such as localised site-specific detailed geological mapping,trenching, bulk sampling, surveying, and detailed drilling to determine the feasibility of the delineated local targets. If the detailed exploration activities lead to positive results, the exploration data collected will then be put together into a prefeasibility report and if the prefeasibility results prove positive, a detailed feasibility study supported by detailed site-specificdrilling, bulk sampling and laboratory testing / test mining will be undertaken on the identified site-specific area. A positive feasibility study will be required to support the application for a Mining License (ML) together with a new site-specific Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) with specialist site-specific studies such as flora, fauna, socioeconomic, water, traffic, dust, and noise modelling and

archaeology being undertaken to support the application for the new ECC for mining and minerals process operations (opening a mine).

Currently, there no minerals deposits or target known to exist within the EPL 8300 area, and the Proponent intend to conduct prospecting activities as part of the search for economic minerals depositsbased on the testing of the developed theoretical geological and minerals depositional models. There is no guarantee whatsoever that the proposed prospecting activities will find economic minerals resources that could led to the development of a mine. To find the targets, the company will buy airborne geophysical data (magnetics and radiometric) held by the Ministry of Mines and Energy, and the data will be processed and using this information, the Proponent will look for possible targets. The targets will then be visited to see how the surface looks like if possible collect surface samples (Geochemical sampling) followed by further field-based assessments such as geological mapping to validating the airborne-based data delineated targets.

Before any site visit, permission will be requested from the landowner/s and an access agreement could be negotiated with the landowner/s if the Proponent want to continue with further field-based activities such as detailed mapping, trenching, or drilling activities as may be required. It is the responsibility of the Proponent to negotiate access agreements with the landowners and to make surethat all security measures to protect the farmland and interests of the landowner/s are always observed and as may be agreed with the individual landowners.

Even if the mapping or drilling finds some indications of mineralisation, it takes many years (5 - 10 yearsor even more) to move an exploration / prospecting project to a mining stage and so many technical inputs including technology, markets, costs environmental liabilities and cost of services such water, roads and energy will need to form part of the project developmental stages, starting with the scoping,prefeasibility and then feasibility phases.

If a project is feasible, then the company will need to apply for a separate Mining License (ML) from theGovernment and a landowner agreement is required and mandatory before a Mining License is grantedby Mining Commissioner. A Mining License application requires separate detailed site-specific studiesof the local area of interest to have been conducted as part of the feasibility study. Environmental Impact Assessment (EIA), Environmental Management Plan (EMP) and specialist studies such as water, fauna, flora, dust, noise for mining operations as well as linear structures such as water, roads, and powerline form part of the feasibility study to be conducted before such a project can even be considered for review by the Government.

1.3 Location, Site Description, Land Use, and Infrastructure

1.3.1 Location and Land Use

The EPL 8300 is located in the Sesfontein district, Kunene Region, approximately 150 kilometres from the regional capital Opuwo and approximately 52km from Kamanjab (Fig 1.1 - 1.2). The EPL has a total area of 1683.815 Ha. The land use of the EPL area is surrounded by villages/settlements Palmfontein Pos, Palmfontein, and Keiserfontein which are small-scale agricultural areas on communal land. On the eastern side of the EPL are Community Forests and the *Khoadi-//Hōas Conservancy on eastern border of the EPL (Figs. 1.1 - 1.2).

1.3.2 Supporting Infrastructure and Services

The EPL area is accessible via the M26 road and D2650 (Figs. 1.1 - 1.2). Private minor roads may require high clearance 4 x 4 vehicles and may only be used with permission from the landowners (Fig. 1.1-1.2).

The following supporting infrastructures and services will be required if detailed field-based studies suchas geological mapping, trenching, or drilling need to be conducted following the delineation of potentialtargets requiring field verifications and / or investigations:

(i) External and internal roads network: The Proponent will use the already existing external and internal road networks during the exploration phase (Fig 1.2).

(ii) Water supply: Raw water will be sourced from local groundwater resources. The Proponent will utilise the existing boreholes with permission from the landowners. The exploration activities such as drilling operations will require limited water resources which could also be supplied by a tanker truck.

(iii) Energy: The proposed exploration operations will use diesels and solar energy as may be required for exploration equipment and lighting, respectively, and.

(iv) and other supporting facilities and services: The exploration team will utilise the exiting accommodation facilities and services in the area. In absence of such facilities and services, the Proponent will provide onsite camping accommodation and supporting portable infrastructures such as chemical toilets as well as other requirements as may be applicable. The establishment of an exploration camp will only be done with thepermission of the landowner.

If, required, field-based exploration activities will only be conducted once an Access Agreement has been concluded with the affected landowner/s.

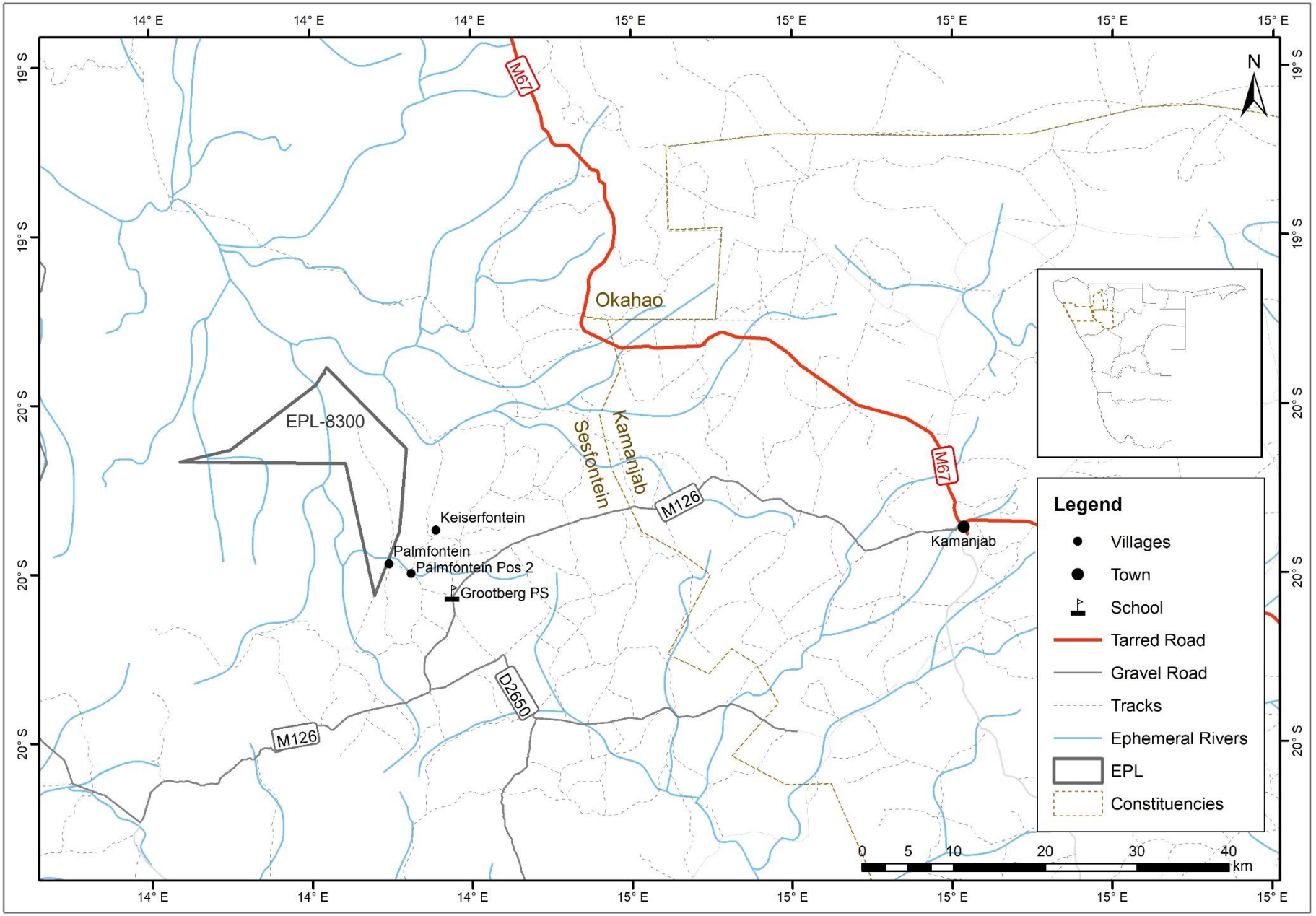


Figure 1.1: Detailed regional location of the EPL No. 8300 and related infrastructure

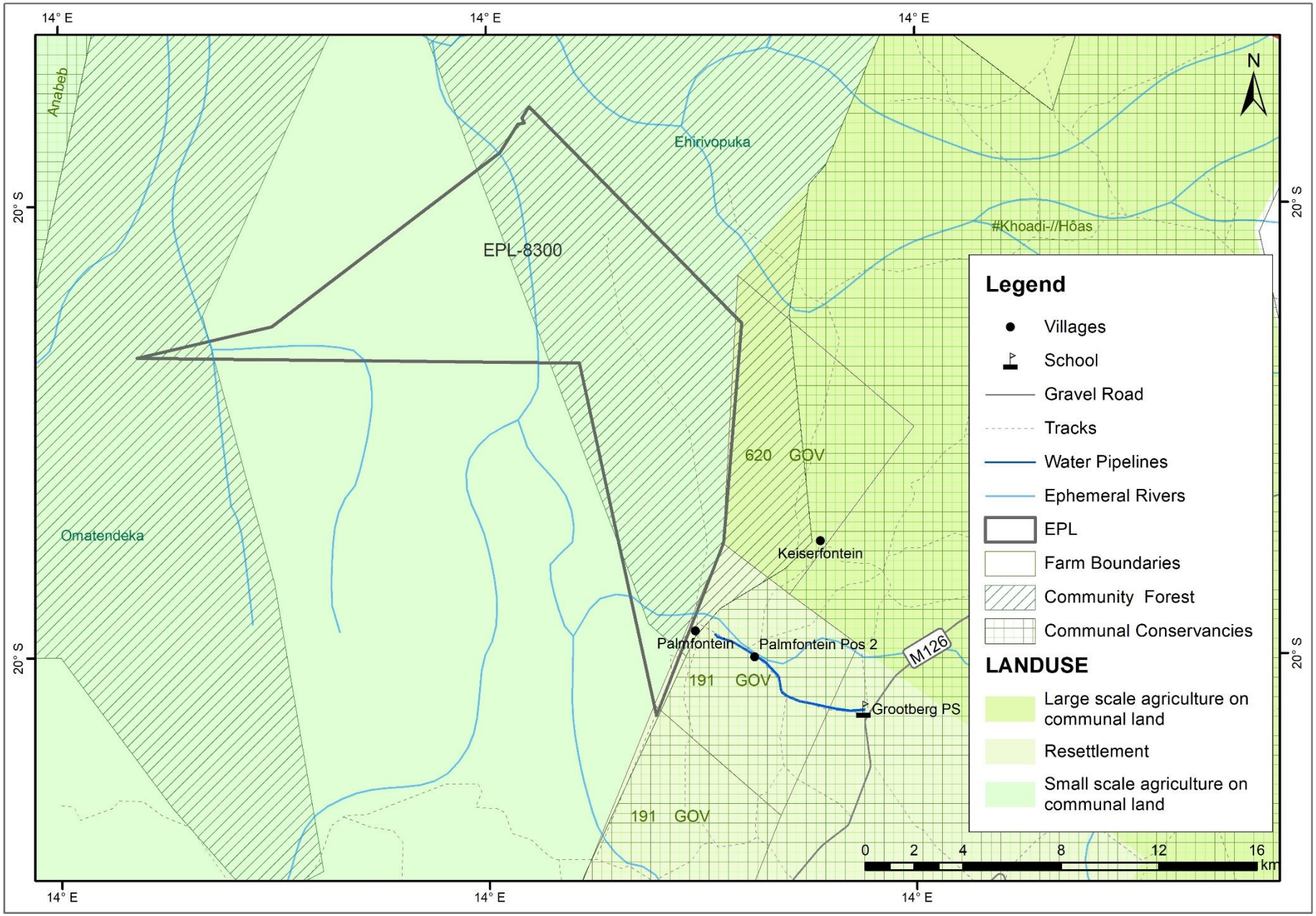


Figure 1.2: Detailed regional location overlaying commercial farms and various land use surrounding EPL No. 8300

1.4 Project Motivation and Benefits

The proposed exploration activities have limited to no local socioeconomic benefits for the local communities. The only tangible benefits of the proposed exploration activities are mainly centred around the payment of the annual license rental fees to the central Government through the Ministry of Mines and Energy (MME), payment for exploration support services and land access agreements as well as other related field-based disbursements such as meals, accommodation, and fuel.

The following is the summary of other likely but limited potential project benefits:

- Provisional contractual employment opportunities for specialist services companies involved in minerals explorations during the minerals prospecting process that could take many years if potential minerals targets are discovered within the EPL area.

- Expansion of the subsurface knowledge-base: The exploration data to be generated will be highly useful in the search for other subsurface resources such as other minerals, water, geothermal and general geoscience research, and development interests.

- Contribution to the subsurface knowledge-base that will promote the coexistence of subsurface operations such as minerals exploration and possible mining with surface activities such as agriculture, tourism, and conservation where the is potential / opportunity for compatible coexistence, and.

- Contribution to the development of local infrastructures as may be applicable especially if potential minerals targets requiring field-based studies to be conducted are identified and there is the potential for the development of a mine.

1.5 Terms of Reference, Approach and Methodology

1.5.1 Terms of Reference (ToR) and Approach

Risk – Based Solutions cc was appointed by the Proponent to prepare the EIA and EMP Reports in order to support the application for an Environmental Clearance Certificate (ECC) for the EPL No. 8300 with respect to the proposed exploration activities. The EIA process reviewed the receiving environmental settings (physical, biological, socioeconomic and ecosystem services, function, use values and non-use) and proposed exploration activities, identified the impacts and then assessed the likely impacts (positive and negative) on the receiving environment (Table 1.1).

The key deliverable comprised this EIA Report and a separate Environmental Management Plan (EMP) report detailing appropriate mitigation measures that will enhance the positive impacts and reduce the likely negative impacts identified. The EIA and EMP report and the completed Application for Environmental Clearance Certificate (ECC) shall be submitted to the client (Proponent) and the Office of the Environmental Commissioner, Department of Environmental Affairs (DEA), Ministry of Environment, Forestry and Tourism (MEFT) through the Ministry of Mines and Energy (the Competent Authority) for review and issue of the Records of Decisions (RDs).

The EIA and EMP processes have been performed with reasonable skill, care, and diligence in accordance with professional standards and practices existing at the date of performance of the assessment and that the guidelines, methods and techniques that have been applied are all in conformity to the national regulatory requirements, process and specifications in Namibia as required by MME, MEFT and Ministry of Agriculture, Water and Land Reform (MAWLR). Both the EIA and EMP Reports have been prepared in line with the January 2015 MET Environmental Assessment Reporting Guideline.

Table 1.1: Summary of the proposed activities, alternatives and key issues considered during the Environmental Assessment (EA) process covering Scoping and Environmental Management Plan (EMP).

<table>
<tr><th>PROPOSED PROJECT ACTIVITIES</th><th>ALTERNATIVES CONSIDERED</th><th colspan="2">KEY ISSUES EVALUATED AND ASSESSED WITH ENVIRONMENTAL MANAGEMENT PLAN (EMP) / MITIGATION MEASURES DEVELOPED</th></tr>
<tr><td rowspan="8">(i) Initial desktop exploration activities (review of existing information and all previous activities in order identify any potential target/s)

(ii) Regional reconnaissance field-based activities such mapping and sampling to identify areas with potential targets based on the recommendations of the desktop work

(iii) Initial local field-based activities such as widely spaced mapping, sampling, surveying and possible drilling in order to determine the viability of any delineated local target

(iv) Detailed local field-based activities such very detailed mapping, sampling, surveying and possible drilling in order to determine the feasibility of any delineated local target

(v) Prefeasibility and feasibility studies to be implemented on a site-specific area if the local field-based studies prove positive</td><td rowspan="8">(i) Location for Minerals Occurrence: Several economic deposits are known to exist in different parts of Namibia and some have been explored by different companies over the years. The Proponent intends to explore / prospect for possible economic minerals occurrence in the EPL area.

(ii) Other Alternative Land Uses: Game Farming, Tourism and Agriculture

(iii) Ecosystem Function (What the Ecosystem Does.

(iv) Ecosystem Services.

(v) Use Values.

(vi) Non-Use, or Passive Use.

(vii) The No-Action Alternative</td><td colspan="2">Potential land use conflicts / opportunities for coexistence between proposed exploration and other existing land uses such as conservation, tourism, and agriculture</td></tr>
<tr><td rowspan="3">Impacts on the Physical Environment</td><td>Natural Environment such as air, noise, water, dust etc.</td></tr>
<tr><td>Built Environment such as existing houses, roads, transport systems, Buildings, energy and water and other supporting infrastructure</td></tr>
<tr><td>Socioeconomic, Archaeological and Cultural impacts on the local societies and communities</td></tr>
<tr><td rowspan="4">Impacts on the Biological Environment</td><td>Flora</td></tr>
<tr><td>Fauna</td></tr>
<tr><td>Habitat</td></tr>
<tr><td>Ecosystem functions, services, use values and non-Use or passive use</td></tr>
<tr><td colspan="2">Others to be identified during the exploration phase and various project implementation stages</td></tr>
</table>

1.5.2 Environmental Assessment Process and Steps

The EIA/ Scoping and EMP process used for this project took into considerations the provisions of the Environmental Impact Assessment (EIA) Regulations, 2012 and the Environmental Management Act (EMA), 2007, (Act No. 7 of 2007) as outlined in Fig.1.3.

The environmental assessment steps undertaken or still to be taken are summarised as follows:

(i) Project screening process (**Undertaken in July 2022**).

(ii) Preparation of the Background Information Document (BID) (**Undertaken in July 2022**).

(iii) Preparation of the Public Notice to be published in the local newspapers as part of required public consultation process (**Undertaken in July 2022**).

(iv) Opened the Stakeholder register (**Undertaken on the July 2022 – August 2022**).

i. Published the first public notice in the inviting Interested and Affected Parties (I&APs) to participate in the environmental assessment. Public Notice to be published in two (2) newspaper for two (2) weeks (21 days) public consultation period running from **July – August 2022**.

(v) Project registration / notification through the completion of the online formal registration / notification form on the MEFT online Portal (www.eia.met.gov.na) (**Undertaken in August 2022**).

(vi) Preparation of the Draft EIA/ Scoping and EMP Reports for client review, public and stakeholder inputs (**Undertaken in July - August 2022**).

(vii) Comments and inputs from the client and I&APs consultations used to finalise the EIA / Scoping and EMP Reports (**Undertaken in July 2022 – August 2022**).

(viii) The final EIA/ Scoping and EMP reports to be submitted to the Environmental Commissioner in MEFT through the MME (Competent Authority) in fulfilment of all the requirements of the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 and the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007) for application of the Environmental Clearance Certificate (ECC) for the proposed project (**September 2022**).

(ix) Following the submission of the application for ECC to the Environmental Commissioner, the public and stakeholders who are interested or affected by the proposed project will have additional **fourteen (14) days** to submit comments / inputs about the proposed project activities direct to the Environmental Commissioner when the application will be made available for additional comments / inputs by the Environmental Commissioner on the MEFT digital Portal www.eia.met.gov.na, and.

(x) Wait for the Records or Decisions (RDs) from the Environmental Commissioner (**From September 2022**).

1.5.3 Assumptions and Limitations

The following assumptions and limitations underpin the approach adopted, overall outcomes and recommendations for this updated Scoping and EMP study:

- The proposed exploration activities as well as all the plans, maps, EPL Boundary / coordinates and appropriate data sets received from the Proponent, project partners, regulators, Competent Authorities, and specialist assessments are assumed to be current and valid at the time of conducting the studies and compilation of this environmental report.

- The impact assessment outcomes, mitigation measures and recommendations provided in this report are valid for the entire duration of the proposed exploration / prospecting activities.

- A precautionary approach has been adopted in instances where baseline information was insufficient or unavailable or site-specific locations of the proposed project activities is not yet available, and.

- Mandatory timeframes as provided for in the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 and the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007) have been observed and will apply to the review and decision of this report by the Environmental Commissioner.

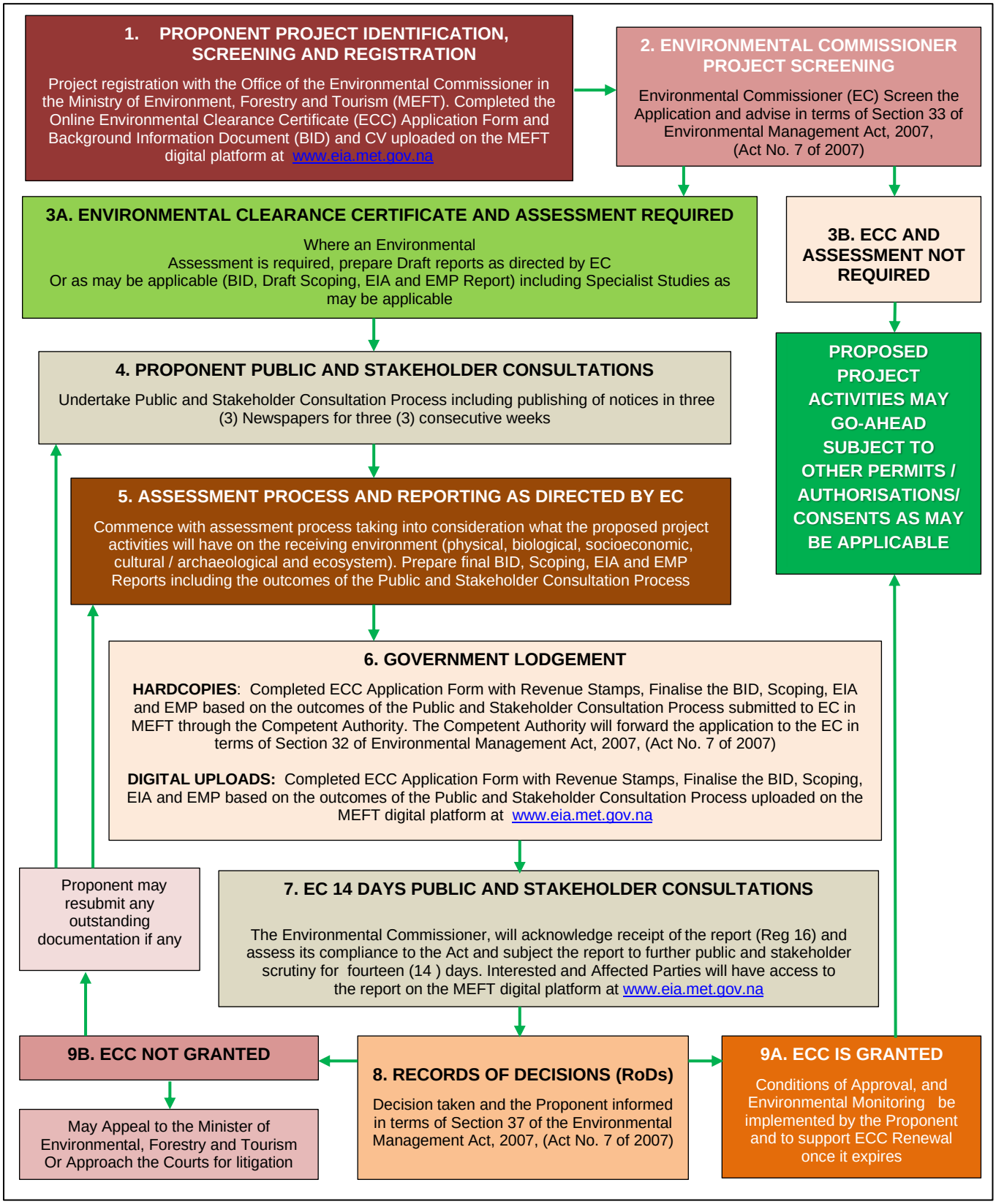


Figure 1.3: RBS Schematic presentation of Namibia's Environmental Assessment Procedure

1.6 Structure of the Report

The following is the summary structure outline of this EIA report.

1. **Section 1:** **Background** covering the proposed project location with available infrastructure and services.

2. **Section 2:** **Project Description** covering the summary of the proposed project exploration activities.

3. **Section 3:** **Regulatory Framework** covering the proposed exploration with respect to relevant legislation, regulations and permitting requirements.

4. **Section 4:** **Receiving Environment** covering physical, biological and socioeconomic environments of the proposed project area.

5. **Section 5:** **Impact Assessment** covering the likely positive and negative impacts the proposed project activities are likely to have on the receiving environment.

6. **Section 6:** **Conclusions and Recommendations**- Summary of the findings and way forward.

7. **Section 7:** **Annexes**

2 DESCRIPTION OF THE PROPOSED PROSPECTING ACTIVITIES

2.1 General Overview

The overall aim of the proposed project activities (exploration / prospecting programme) is to search for potential economic minerals resources (base and rare metals, dimension stone, industrial minerals, and precious metals) within the EPL area. The scope of the required field-based support and logistical activities will depend on the scale of proposed exploration activities to be undertaken.

The proposed exploration activities will be supported by existing tracks and campsites / farmstead as well as existing accommodation in in the area. In the absences of existing tracks, the field team will create such new tracks with the permission of the landowner/s and depending on the scale of exploration. In the absences of existing suitable campsite / farmstead, temporary camp will be setup at suitable locations within the EPL area in line with the EMP provisions. The size of the exploration camp will be of very limited footprints during the exploration phase but may be expanded for the test mining and mine development phases in an event of a discovery of economic minerals resources.

2.2 Logistical Arrangements

Before any site visit, permission will be requested from the land owner/s and an access agreement could be negotiated with the land owner/s if the Proponent want to continue with further field-based activities such as detailed mapping, trenching or drilling activities as may be required. It is the responsibility of the Proponent to negotiate access agreements with the land owners and to make sure that all security measures to protect the farmland and interests of the land owner/s are always observed and as may be agreed with the individual land owners.

Even if the mapping or drilling finds some indications of mineralisation, it takes many years (5 - 10 years or even more) to move an exploration / prospecting project to a mining stage and so many technical inputs including technology, markets, costs environmental liabilities and cost of services such water, roads and energy will need to form part of the project developmental stages, starting with the scoping, prefeasibility and then feasibility phases.

If a project is feasible, then the company will need to apply for a separate Mining License (ML) from the Government and a land owner agreement is required and mandatory before a Mining License is granted by Mining Commissioner. A Mining License application requires separate detailed site-specific studies of the local area of interest to have been conducted as part of the feasibility study. Environmental Impact Assessment (EIA), Environmental Management Plan (EMP) and specialist studies such as water, fauna, flora, dust, noise for mining operations as well as linear structures such as water, roads and powerline form part of the feasibility study to be conducted before such a project can even be considered for review by the Government.

2.3 Initial Exploration (Desktop Work)

Initial desktop exploration activities (without field-work being conducted) lasting for up to six (6) months or more will include the following:

(i) General evaluation of satellite, topographic, land tenure, accessibility, supporting infrastructures and socioeconomic environment data.

(ii) Purchase and analysis of existing Government high resolution magnetics and radiometric geophysical data.

(iii) Purchase and analysis of existing Government aerial hyperspectral, and.

(iv) Data interpretation and delineating of potential targets for future reconnaissance regional field-based activities for delineated targets.

2.4 Regional Reconnaissance Field-Based Exploration Activities

Regional reconnaissance field-based exploration activities lasting between six (6) months to year will involve the following:

(i) Regional geological, geochemical, topographical and remote sensing mapping and data analysis.

(ii) Regional geochemical sampling aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken.

(iii) Regional geological mapping aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken.

(iv) Limited field-based support and logistical activities lasting between one (1) to two (2) days, and.

(v) Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets for future detailed site-specific exploration if the results are positive and supports further exploration of the delineated targets.

2.5 Initial Local Field-Based Exploration Activities

Initial local field-based exploration activities lasting between 1 – 2 years will include the following:

(i) Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during regional reconnaissance field activities.

(ii) Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken.

(iii) Ground geophysical survey (Subject to the positive outcomes of i and ii above).

(iv) Possible Trenching (Subject to the outcomes of i - iii above).

(v) Field-based support and logistical activities will be very limited focus on a site-specific area for a very short time (maximum five (5) days), and.

(vi) Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets.

2.6 Detailed Local Field-Based Exploration Activities

Detailed local field-based exploration activities that can take many years will include the following:

(i) Access preparation and related logistics to support activities.

(ii) Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during the initial field-based activities.

(iii) Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken.

(iv) Ground geophysical survey, trenching, drilling, and sampling (Subject to the positive outcomes of i and ii above).

2.7 Prefeasibility and Feasibility Studies

The preparation of the prefeasibility and feasibility studies forms the final stages of the minerals exploration process and can take many years to complete and prove that a specific mineral deposit is viable for developing a mine. A positive feasibility study outcome is required to support an application for a Mining License (ML). The following is summary of the activities that will form part of a prefeasibility and or feasibility study:

(i) Detailed site-specific field-based support and logistical activities, surveys, detailed geological mapping.

(ii) Detailed drilling and bulk sampling and testing for ore reserve calculations.

(iii) Geotechnical studies for mine design.

(iv) Mine planning and designs including all supporting infrastructures (water, energy, and access) and test mining activities.

(v) EIA and EMP to support the ECC for mining operations, and.

(vi) Preparation of feasibility report and application for Mining License if the feasibility study proves positive and supportive to develop a mining project.

3 REGULATORY FRAMEWORK

3.1 Minerals Exploration Legislation and Regulations

The Ministry of Mines and Energy (MME) is the competent authority with respect to minerals prospecting and mining activities in Namibia. The Minerals (Prospecting and Mining) Act (No 33 of 1992) is the most important legal instrument governing minerals prospecting / exploration and mining activities. Several explicit references to the environment and its protection are contained in the Minerals Act, which provides for environmental impact assessments, rehabilitation of prospecting and mining areas and minimising or preventing pollution.

3.2 Environmental Regulations

3.2.1 Environmental Assessment Requirements and Procedures

Environmental Assessment (EA) process in Namibia is governed by the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 gazetted under the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007). The proposed field–based exploration activities fall within the categories of listed activities that cannot be undertaken without an Environmental Clearance.

3.2.2 Regulatory Authorities

The environmental regulatory authorities responsible for environmental protection and management in relation to the proposed project including their role in regulating environmental protection are listed in Table 3.1.

Table 3.1: Government agencies regulating environmental protection in Namibia.

AGENCY	RESPONSIBILITY
Ministry of Environment, Forestry and Tourism (MEFT)	Issue of Environmental Clearance Certificate (ECC) based on the review and approval of the Environmental Assessments (EA) reports comprising Environmental Scoping, Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) prepared in accordance with the Environmental Management Act (2007) and the Environmental Impact Assessment Regulations, 2012. The National Botanical Research Institute's (NBRI) mandate is to study the flora and vegetation of Namibia, to promote the understanding, conservation, and sustainable use of Namibia's plants for

AGENCY	RESPONSIBILITY
	the benefit of all. The Directorate of Forestry (DOF) is responsible for issuing of forestry permits with respect to harvest, transport, and export or market forest resources.
Ministry of Mines and Energy (MME)	The competent authority for minerals prospecting and mining activities in Namibia. Issues Exclusive prospecting License (EPL), Mining Licenses (ML) and Mining Claims (license) as well as all other minerals related permits for processing, trading and export of minerals resources
Ministry of Agriculture, Water and Land Reform (MAWLR)	The Mission of the Ministry of Agriculture, Water and Land Reform (MAWLR) is to realize the potential of the Agricultural, Water and Forestry sectors towards the promotion of an efficient and sustainable socio-economic development for a prosperous Namibia. It has a mandate to promote, develop, manage, and utilise Agriculture, Water and Land resources. The Directorate of Resource Management within the Department of Water Affairs (DWA) at the MAWLR is currently the lead agency responsible for management of surface and groundwater utilisation through the issuing of abstraction permits and waste water disposal permits. DWA is also the Government agency responsible for water quality monitoring and reporting.

3.2.3 Important National Legal Instruments

Table 3.2 summarises key selected legislations relevant applicable to the proposed exploration in the EPL 8300.

Table 3.2: Legislation relevant to the proposed exploration operations in the EPL No. 8300.

LAW	SUMMARY DESCRIPTION
Constitution of the Republic of Namibia, 1990	The Constitution is the supreme law in Namibia, providing for the establishment of the main organs of state (the Executive, the Legislature, and the Judiciary) as well as guaranteeing various fundamental rights and freedoms. Provisions relating to the environment are contained in Chapter 11, article 95, which is entitled "promotion of the Welfare of the People". This article states that the Republic of Namibia shall – "actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at … maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for all Namibians, both present and future. The Government shall provide measures against the dumping or recycling of foreign nuclear waste on Namibian territory."
Minerals (Prospecting and Mining) Act, 1992 ***Ministry of Mines and Energy (MME)***	The Minerals Act governs minerals prospecting and mining. The Act *provides for the reconnaissance, prospecting, and mining for, and disposal of, and the exercise of control over minerals in Namibia. and to provide for matters incidental thereto. A new Minerals Bills is currently under preparation.*
Environmental Management Act (2007) - ***Ministry of Environment, Forestry and Tourism*** **(MEFT)**	The purpose of the Act is *to give effect to Article 95(l) and 91(c) of the Namibian Constitution by establishing general principles for the management of the environment and natural resources. to promote the co-ordinated and integrated management of the environment. to give statutory effect to Namibia's Environmental Assessment Policy. to enable the Minister of Environment and Tourism to give effect to Namibia's obligations under international conventions*. In terms of the legislation it will be possible to exercise control over certain listed development activities and activities within defined sensitive areas. The listed activities in sensitive areas require an Environmental Assessment to be completed before a decision to permit development can be taken. The legislation describes the circumstances requiring Environmental Assessments. Activities listed as per the provisions of the Act will require Environmental Assessment unless the Ministry of Environment, Forestry and Tourism, in consultation with the relevant Competent Authority, determines otherwise and approves the exception.
Water Act 54 of 1956 **Minister of Agriculture, Water**	This Act provides for the control, conservation and use of water for domestic, agricultural, urban, and industrial purposes. In terms of Section 6, there is no right of ownership in public water and its control and use is regulated and provided for in the Act. In accordance with the Act, the proposed project must ensure that mechanisms are implemented to prevent water pollution. Certain permits will also be required to abstract groundwater (already obtained) as well as for "water works". The broad definition of water works will include the reservoir on Site (as this is greater than 20,000m^3), water treatment facilities and pipelines. Due to the water scarcity of the area, all water will be recycled (including

LAW	SUMMARY DESCRIPTION
and Land reform (MAWLR)	domestic wastewater) and the Mine will be operated on a zero-discharge philosophy. It will, therefore, not be necessary to obtain permits for discharge of effluent. Section 23 of the Act requires environment rehabilitation after closure of the Mine, particularly, in this instance to obviate groundwater pollution and potential pollution resulting from run-off. This Act is due to be replaced by the Water Resources Management Act 24 of 2004.
Forest Act 12 of 2001 - **Minister of Environment, Forestry and Tourism (MEFT)**	The Act provide for the establishment of a Forestry Council and the appointment of certain officials. to consolidate the laws relating to the management and use of forests and forest produce. to provide for the protection of the environment and the control and management of forest fires. Under Part IV Protection of the environment, Section 22(1) of the Act, it is unlawful for any person to: cut, destroy, or remove: (a) any vegetation which is on a sand dune or drifting sand or in a gully unless the cutting, destruction or removal is done for the purpose of stabilising the sand or gully or (b) any living tree, bush or shrub growing within 100m of a river, stream, or watercourse. Should either of the above be unavoidable, it will be necessary to obtain a permit from the Ministry. Protected tree species as listed in the Regulations shall not be cut, destroyed, or removed.
Hazardous Substance Ordinance 14 of 1974 ***Ministry of Health and Social Services***	Provisions for hazardous waste are amended in this act as it provides "*for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances. to provide for the prohibition and control of the importation, sale, use, operation, application, modification, disposal or dumping of such substance. and to provide for matters connected therewith"*
Agricultural (Commercial) Land Reform Act, 1995, Act No.6 of 1995 ***Ministry of Agriculture, Water and Land Reform*** **(MAWLR)**	This Act provide for the acquisition of agricultural land by the State for the purposes of land reform and for the allocation of such land to Namibian citizens who do not own or otherwise have the use of any or of adequate agricultural land, and foremost to those Namibian citizens who have been socially, economically or educationally disadvantaged by past discriminatory laws or practices. to vest in the State a preferent right to purchase agricultural land for the purposes of the Act. to provide for the compulsory acquisition of certain agricultural land by the State for the purposes of the Act. to regulate the acquisition of agricultural land by foreign nationals. to establish a Lands Tribunal and determine its jurisdiction. and to provide for matters connected therewith.
Explosives Act 26 of 1956 (as amended in SA to April 1978) - ***Ministry Home Affairs, Immigration, Safety and Security (MHAISS)***	All explosive magazines are to be registered with the Ministry of Mines and Energy as accessory works. In addition, the magazines must be licensed as required by Section 22. The quantity of explosives and the way it is stored must be approved by an inspector. The inspector has powers to enter the premises at any time to conduct inspections regarding the nature of explosive, quantity and the way it is stored. At closure, all explosives are to be disposed of accordingly.
Atmospheric Pollution Prevention Ordinance 11 of 1976. ***Ministry of Health and Social Services (MHSS)***	This regulation sets out principles for *the prevention of the pollution of the atmosphere and for matters incidental thereto.* Part III of the Act sets out regulations pertaining to atmospheric pollution by smoke. While preventative measures for dust atmospheric pollution are outlined in Part IV and Part V outlines provisions for Atmospheric pollution by gases emitted by vehicles.
The Nature Conservation Ordinance, Ordinance 4 of 1975, ***Ministry of Environment, Forestry and Tourism*** **(MEFT)**	During the Mine's activities, care must be taken to ensure that protected plant species and the eggs of protected and game bird species are not disturbed or destroyed. If such destruction or disturbance is inevitable, a permit must be obtained in this regard from the Minister of Environment and Tourism. Should the Proponent operate a nursery to propagate indigenous plant species for rehabilitation purposes, a permit will be required. At this stage, however, it is envisaged that this type of activity will be contracted out to encourage small business development.
Labour Act, 1992, Act No. 6 of 1992 as amended in the Labour Act, 2007 (Act No. 11 of 2007 **Ministry of Labour, Industrial Relations and**	The labour Act gives effect to the constitutional commitment of Article 95 (11), to promote and maintain the welfare of the people. This Act is aimed at establishing *a comprehensive labour law for all employees. to entrench fundamental labour rights and protections. to regulate basic terms and conditions of employment. to ensure the health, safety and welfare of employees* under which provisions are made in chapter 4. *Chapter* 5 of the act improvises on the *protection of employees from unfair labour practice.*

LAW	SUMMARY DESCRIPTION
Employment Creation (MLIREC)	
Petroleum Products and Energy Act 13 of 1990 ***Ministry of Mines and Energy (MME)***	Any consumer installation as envisaged in this Act must be licensed. Appropriate consumer installation certificate will need to be obtained from the Ministry for each fuel installation. The construction of the installation must be designed in such a manner as to prevent environmental contamination. Any certificate holder or other person in control of activities related to any petroleum product is obliged to report any major petroleum product spill (defined as a spill of more than 200ℓ per spill) to the Minister. Such person is also obliged to take all steps as may be necessary in accordance with good petroleum industry practices to clean up the spill. Should this obligation not be met, the Minister is empowered to take steps to clean up the spill and to recover the costs thereof from the person. General conditions apply to all certificates issued. These include conditions relating to petroleum spills and the abandonment of the Site. The regulation further provides that the Minister may impose special conditions relating to the preparation and assessment of environmental assessments and the safe disposal of petroleum products.
National Heritage Act 27 of 2004 ***Ministry of Education, Arts and Culture (MEAC)***	This Act provides provisions for the protection and conservation of places and objects of heritage significance and the registration of such places and objects. The proposed activities will ensure that if any archaeological or paleontological objects, as described in the Act, are found during the implementation of the activities, such a find shall be reported to the Ministry immediately. If necessary, the relevant permits must be obtained before disturbing or destroying any heritage

3.3 Standards and Guidelines

The only key missing components to the regulatory frameworks in Namibia are the standards, and guidelines with respect to gaseous, liquid, and solid emissions. However, in the absence of national gaseous, liquid, and solid emission limits for Namibia, the proposed project shall target the Multilateral Investment Guarantee Agency (MIGA) gaseous effluent emission level and liquid effluent emission levels (Table 3.3). Noise abatement measures must target to achieve either the levels shown in Table 3.4 or a maximum increase in background levels of 3 dB (A) at the nearest receptor location off-site (MIGA guidelines). Industrial effluent likely to be generated by the proposed activities must comply with provisions of the Government Gazette No 217 dated 5 April 1962 (Table 3.5) while the drinking water quality comparative guideline values are shown in Table 3.6.

Table 3.3: Liquid effluent emission levels (MIGA /IFC).

Pollutant	**Max. Value**
pH	6-9
Total suspended solids	50 mg/l
Total metals	10 mg/l
Phosphorous (P)	5 mg/l
Fluoride (F)	20 mg/l
Cadmium (Cd)	0.1 mg/l

Table 3.4: Noise emission levels (MIGA /IFC).

	Maximum Allowable Leq	**(hourly), in dB(A)**
Receptor	Day time (07:00 – 22:00)	Night time (22:00 – 07:00)
Residential, institutional, educational	55	45
Industrial, commercial	70	70

Table 3.5: R553 Regional Standards for Industrial Effluent, in Government Gazette No 217 dated 5 April 1962.

Colour, odour and taste	The effluent shall contain no substance in concentrations capable of producing colour, odour or taste	
pH	Between 5.5 and 9.5	
Dissolved oxygen	At least 75% saturation	
Typical faecal coli	No typical faecal coli per 100 ml	
Temperature	Not to exceed 35 °C	
Chemical demand oxygen	Not to exceed 75 mg/l after applying a correction for chloride in the method	
Oxygen absorbed	Not to exceed 10 mg/l	
Total dissolved solids (TDS)	The TDS shall not have been increased by more than 500 mg/l above that of the intake water	
Suspended solids	Not to exceed 25 mg/l	
Sodium (Na)	The Na level shall not have been increased by more than 50 mg/l above that of the intake water	
Soap, oil and grease	Not to exceed 2.5 mg/l	
Other constituents	Residual chlorine	0,1 mg/l as Cl
	Free & saline ammonia	10 mg/l as N
	Arsenic	0,5 mg/l as As
	Boron	1,0 mg/l as B
	Hexavalent Cr	0,05 mg/l as Cr
	Total chromium	0,5 mg/l as Cr
	Copper	1,0 mg/l as Cu
	Phenolic compounds	0,1 mg/l as phenol
	Lead	1,0 mg/l as Pb
	Cyanide and related compounds	0,5 mg/l as CN
	Sulphides	1,0 mg/l as S
	Fluorine	1,0 mg/l as F
	Zinc	5,0 mg/l as Zn

Table 3.6: Comparison of selected guideline values for drinking water quality (after Department of Water Affairs, 2001).

Parameter and Expression of the results			**WHO** Guidelines for Drinking-Water Quality 2nd edition 1993		**Proposed Council Directive** of 28 April 1995 (95/C/13-1/03) EEC	**Council Directive of 15 July 1980** relating to the quality intended for human consumption 80/778/EEC		**U.S. EPA** Drinking water Standards and Health Advisories Table December 1995		**Namibia, Department of Water Affairs** Guidelines for the evaluation of drinking-water for human consumption with reference to chemical, physical and bacteriological quality July 1991			
			Guideline Value (GV)		**Proposed Parameter Value**	**Guide Level (GL)**	**Maximum Admissible Concentration (MAC)**	**Maximum Contaminant Level (MCL)**		**Group A Excellent Quality**	**Group B Good Quality**	**Group C Low Health Risk**	**Group D Unsuitable**
Temperature	t	°C		-	-	12	25		-	-	-	-	-
Hydrogen ion concentration	pH, 25° C	-	R	<8.0	6.5 to 9.5	6.5 to 8.5	10		-	6.0 to 9.0	5.5 to 9.5	4.0 to 11.0	<4.0 to >11.0
Electronic conductivity	EC, 25° C	mS/m		-	280	45	-		-	150	300	400	>400
Total dissolved solids	TDS	mg/l	R	1000	-	-	1500		-	-	-	-	-
Total Hardness	$CaCO_3$	mg/l		-	-	-	-		-	300	650	1300	>1300
Aluminium	Al	µ g/l	R	200	200	50	200	S	50-200	150	500	1000	>1000
Ammonia	NH_4^+	mg/l	R	1.5	0.5	0.05	0.5		-	1.5	2.5	5.0	>5.0
	N	mg/l		1.0		0.04	0.4		-	1.0	2.0	4.0	>4.0
Antimony	Sb	µ g/l	P	5	3	-	10	C	6	50	100	200	>200
Arsenic	As	µ g/l		10	10	-	50	C	50	100	300	600	>600
Barium	Ba	µ g/l	P	700	-	100	-	C	2000	500	1000	2000	>2000
Berylium	Be	µ g/l		-	-	-	-	C	4	2	5	10	>10
Bismuth	Bi	µ g/l		-	-	-	-		-	250	500	1000	>1000
Boron	B	µ g/l		300	300	1000	-		-	500	2000	4000	>4000
Bromate	BrO_3^-	µ g/l		-	10	-	-	P	10	-	-	-	-
Bromine	Br	µ g/l		-	-	-	-		-	1000	3000	6000	>6000
Cadmium	Cd	µ g/l		3	5	-	5	C	5	10	20	40	>40
Calcium	Ca	mg/l		-	-	100	-		-	150	200	400	>400
	$CaCO_3$	mg/l		-	-	250	-		-	375	500	1000	>1000
Cerium	Ce	µ g/l		-	-	-	-		-	1000	2000	4000	>4000
Chloride	Cl^-	mg/l	R	250	-	25	-	S	250	250	600	1200	>1200
Chromium	Cr	µ g/l	P	50	50	-	50	C	100	100	200	400	>400
Cobalt		µ g/l		-	-	-	-		-	250	500	1000	>1000
Copper after 12 hours in pipe	Cu	µ g/l	P	2000	2	100	-	C	TT##	500	1000	2000	>2000
		µ g/l		-	-	3000[1]	-	S	1000	-	-	-	-
Cyanide	CN^-	µ g/l		70	50	-	50	C	200	200	300	600	>600
Fluoride	F^-	mg/l		1.5	1.5	-	at 8 to 12 ºC: 1.5	C	4	1.5	2.0	3.0	>3.0

Parameter and Expression of the results			WHO Guidelines for Drinking-Water Quality 2nd edition 1993		Proposed Council Directive of 28 April 1995 (95/C/13-1/03) EEC	Council Directive of 15 July 1980 relating to the quality intended for human consumption 80/778/EEC		U.S. EPA Drinking water Standards and Health Advisories Table December 1995		Namibia, Department of Water Affairs Guidelines for the evaluation of drinking-water for human consumption with reference to chemical, physical and bacteriological quality July 1991			
			Guideline Value (GV)		Proposed Parameter Value	Guide Level (GL)	Maximum Admissible Concentration (MAC)	Maximum Contaminant Level (MCL)		Group A Excellent Quality	Group B Good Quality	Group C Low Health Risk	Group D Unsuitable
		mg/l		-	-	-	at 25 to 30 °C: 0.7	P,S	2	-	-	-	-
Gold	Au	µ g/l		-	-	-	-		-	2	5	10	>10
Hydrogen sulphide	H_2S	µ g/l	R	50	-	-	undetectable		-	100	300	600	>600
Iodine	I	µ g/l		-	-	-	-		-	500	1000	2000	>2000
Iron	Fe	µ g/l	R	300	200	50	200	S	300	100	1000	2000	>2000
Lead	Pb	µ g/l		10	10	-	50	C	TT#	50	100	200	>200
Lithium	Li	µ g/l		-	-	-	-		-	2500	5000	10000	>10000
Magnesium	Mg	mg/l		-	-	30	50		-	70	100	200	>200
	$CaCO_3$	mg/l		-	-	7	12		-	290	420	840	>840
Manganese	Mn	µ g/l	P	500	50	20	50	S	50	50	1000	2000	>2000
Mercury	Hg	µ g/l		1	1	-	1	C	2	5	10	20	>20
Molybdenum	Mo	µ g/l		70	-	-	-		-	50	100	200	>200
Nickel	Ni	µ g/l		20	20	-	50		-	250	500	1000	>1000
Nitrate*	NO_3^-	mg/l	P	50	50	25	50		45	45	90	180	>180
	N	mg/l		-	-	5	11	C	10	10	20	40	>40
Nitrite*	NO_2^-	mg/l		3	0.1	-	0.1		3	-	-	-	-
	N	mg/l		-	-	-		C	1	-	-	-	-
Oxygen, dissolved	O_2	% sat.		-	50	-	-		-	-	-	-	-
Phosphorus	P_2O_5	µ g/l		-	-	400	5000		-	-	-	-	-
	PO_4^{3-}	µ g/l		-	-	300	3350		-	-	-	-	-
Potassium	K	mg/l		-	-	10	12		-	200	400	800	>800
Selenium	Se	µ g/l		10	10	-	10	C	50	20	50	100	>100
Silver	Ag	µ g/l		-	-	-	10	S	100	20	50	100	>100
Sodium	Na	mg/l	R	200	-	20	175		-	100	400	800	>800
Sulphate	SO_4^{2-}	mg/l	R	250	250	25	250	S	250	200	600	1200	>1200
Tellurium	Te	µ g/l		-	-	-	-		-	2	5	10	>10
Thallium	Tl	µ g/l		-	-	-	-	C	2	5	10	20	>20
Tin	Sn	µ g/l		-	-	-	-		-	100	200	400	>400
Titanum	Ti	µ g/l		-	-	-	-		-	100	500	1000	>1000
Tungsten	W	µ g/l		-	-	-	-		-	100	500	1000	>1000
Uranium	U	µ g/l		-	-	-	-	P	20	1000	4000	8000	>8000
Vanadium	V	µ g/l		-	-	-	-		-	250	500	1000	>1000
Zinc after 12 hours in pipe	Zn	µ g/l	R	3000	-	100	-	S	5000	1000	5000	10000	>10000
		µ g/l		-	-	5000	-		-	-	-	-	-
			P: Provisional R: May give reason to complaints from consumers					C: Current. P: Proposed. S: Secondary. T#: Treatment technique in lieu of numeric MCL. TT##: treatment technique triggered at action level of 1300 µ g/l					

3.4 International and Regional Treaties and Protocols

Article 144 of the Namibian Constitution provides for the enabling mechanism to ensure that all international treaties and protocols are ratified. All ratified treaties and protocols are enforceable within Namibia by the Namibian courts, and these include the following:

- The Paris Agreement, 2016.
- Convention on Biological Diversity, 1992.
- Vienna Convention for the Protection of the Ozone Layer, 1985.
- Montreal Protocol on Substances that Deplete the Ozone Layer, 1987.
- United Nations Framework Convention on Climate Change, 1992.
- Kyoto Protocol on the Framework Convention on Climate Change, 1998.
- Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal, 1989.
- World Heritage Convention, 1972.

- Convention to Combat Desertification, 1994. and
- Stockholm Convention of Persistent Organic Pollutants, 2001.
- Southern Africa Development Community (SADC) Protocol on Mining, and.
- Southern Africa Development Community (SADC) Protocol on Energy.

3.5 Recommendations on Permitting Requirements

It is hereby recommended that the Proponent shall follow the provisions of all relevant national regulatory during the implementation of the proposed prospecting activities and shall obtain the following permits/ authorisations as may be applicable / required:

(i) Valid Exclusive Prospecting Licenses (EPLs) as may be applicable from Department of Mines in the Ministry of Mines and Energy (MME).

(ii) Valid Environmental Clearance Certificate (ECC) from the Department of Environmental Affairs in the Ministry of Environment, Forestry and Tourism (MEFT).

(iii) Abstraction and wastewater discharge permits from the Department of Water Affairs (DWA) in the Ministry of Agriculture, Water and Land Reform (MAWLR) for drilling of freshwater supply borehole and waste disposal requirements respectively, and.

(iv) All other permits and consents as may be applicable during the proposed exploration operations.

4 SUMMARY OF NATURAL ENVIRONMENT

4.1 Climate

Kunene Region lies in the arid and semi-arid northern Namib Desert. The district's yearly temperature is approximately 27.79ºC. Sesfontein typically receives 150 mm average annual rainfall. Temperatures are high and precipitation falls between the months of December to March (Fig 4.1). The month with the most daily hours of sunshine is November with an average of 11.49 hours of sunshine.

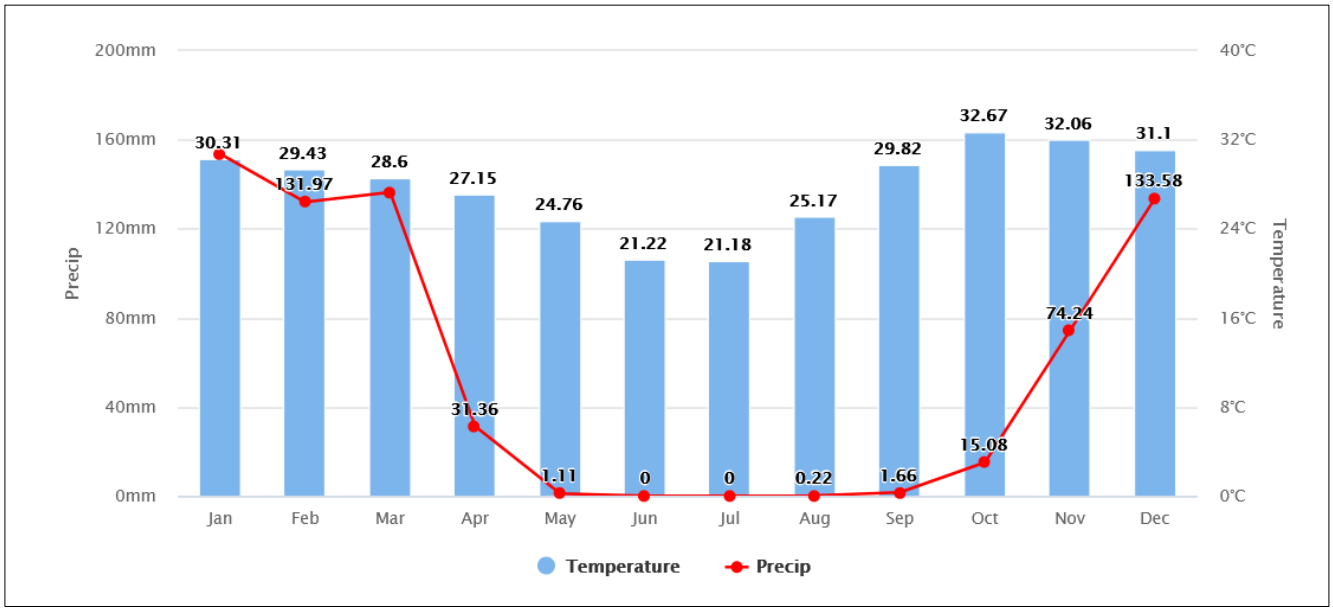


Figure 4.1: Temperature and precipitation map for Sesfontein area and surrounding areas.

4.2 Flora and Fauna Diversity

4.2.1 Overview

The area of the EPL falls within the largely semi-desert and sparse savannah. The landscape is a mixture of hills, plains, and wooded river valleys. Compared to the rest of Namibia, the region has a typically low diversity of mammals and reptiles, but it also has several significant species that should be protected. Most of the farming activities in the region is practiced with cattle and small stock. Sesfontein valley has one of the largest densities of cattle and small animals, which leads to overgrazing and associated erosion.

4.2.1.1 Reptile Diversity

Approximately 261 species of reptiles are known or expected to occur in Namibia thus supporting approximately 30% of the continent's species diversity (Griffin 1998a). At least 22% or 55 species of Namibian lizards are classified as endemic. The occurrence of reptiles of "conservation concern" includes about 67% of Namibian reptiles (Griffin 1998a). The reptile diversity of the area is estimated to be 71 - 80 species.

4.2.1.2 Amphibian Diversity

Amphibians are declining throughout the world due to various factors of which much has been ascribed to habitat destruction. Basic species lists for various habitats are not always available with Namibia being no exception in this regard while the basic ecology of most species is also unknown. Approximately 4,000 species of amphibians are known worldwide with just over 200 species known from southern Africa and at least 57 species expected to occur in Namibia. 6 Griffin (1998b) puts this

figure at 50 recorded species and a final species richness of approximately 65 species, 6 of which are endemic to Namibia. This “low” number of amphibians from Namibia is not only as a result of the generally marginal desert habitat, but also due to Namibia being under studied and under collected. Most amphibians require water to breed and are therefore associated with the permanent water bodies, mainly in northeast Namibia. There is no permanent surface water in the study area. Any frog species present would be adapted to opportunistic breeding in ephemeral pools after rains. Approximately 8-11 species are likely to be found in the area.

4.2.1.3 Mammal Diversity

Namibia is well endowed with mammal diversity with at least 250 species occurring in the country. These include the well-known big and hairy as well as a legion of smaller and lesser-known species. Currently 14 mammal species are considered endemic to Namibia of which 11 species are rodents and small carnivores of which very little is known. Most endemic mammals are associated with the Namib and escarpment with 60% of these rock dwelling (Griffin 1998c). About 76-90 species of mammals likely occurs in the study area. Sesfontein itself is home to a diversity of large game, including elephant, giraffe, black rhino, Hartmann’s Mountain zebra, kudu, gemsbok, springbok, duiker, steenbok, klipspringer, and ostrich. Large carnivores include lion, leopard, cheetah, and caracal, spotted and brown hyaena and jackal (NACSO, 2022).

4.2.1.4 Bird Diversity

Although Namibia’s avifauna is comparatively sparse compared to the high rainfall equatorial areas elsewhere in Africa, approximately 658 species have already been recorded with a diverse and unique group of arid endemics (Brown et al. 1998, Maclean 1985). Fourteen species of birds are endemic or near endemic to Namibia with the majority of Namibian endemics occurring in the savannas (30%) of which ten species occur in a north-south belt of dry savannah in central Namibia (Brown et al. 1998). The area has relatively low bird diversity with only about 81-110 species of likely occurrence.

4.2.2 Summary of Flora Diversity

4.2.2.1 Trees /shrub species

Mopane savannah dominates the EPL area, interspersed with stands of acacias. The rugged mountains also support a diversity of interesting plants, including *Commiphora* and *Euphorbia species*, as well as the distinctive kobas. The Hoanib River is lined by extensive salvadora thickets and huge camel thorn and ana trees. It has been estimated that well over 4,000 ana trees grow along the river. The seed pods are an important source of food for livestock and wildlife, with elephants being particularly fond of them.

The vegetation in the area has adapted to both the intense heat of the sun and the lack of water. *Sterculia quinqueloba*, more commonly called “talcum tree,” grows in the slightest crack in the rocks. The land is often covered with golden herbs and dotted with large bushes such as the *Euphorbia Damarana*, a plant endemic to the region. It is sometimes the only hint of green in the landscape. The plant consists of slender and greys stems growing up to 8 feet tall. The shrub’s thin silvery stems contain milky, toxic latex capable of killing animals and humans except for rhinos, kudu, and Oryx, which eat them with impunity. The Bushmen apply the potent poison of the *Euphorbia Damarana* at the tip of their arrows for hunting. It is, therefore, wise to stay away from these plants.

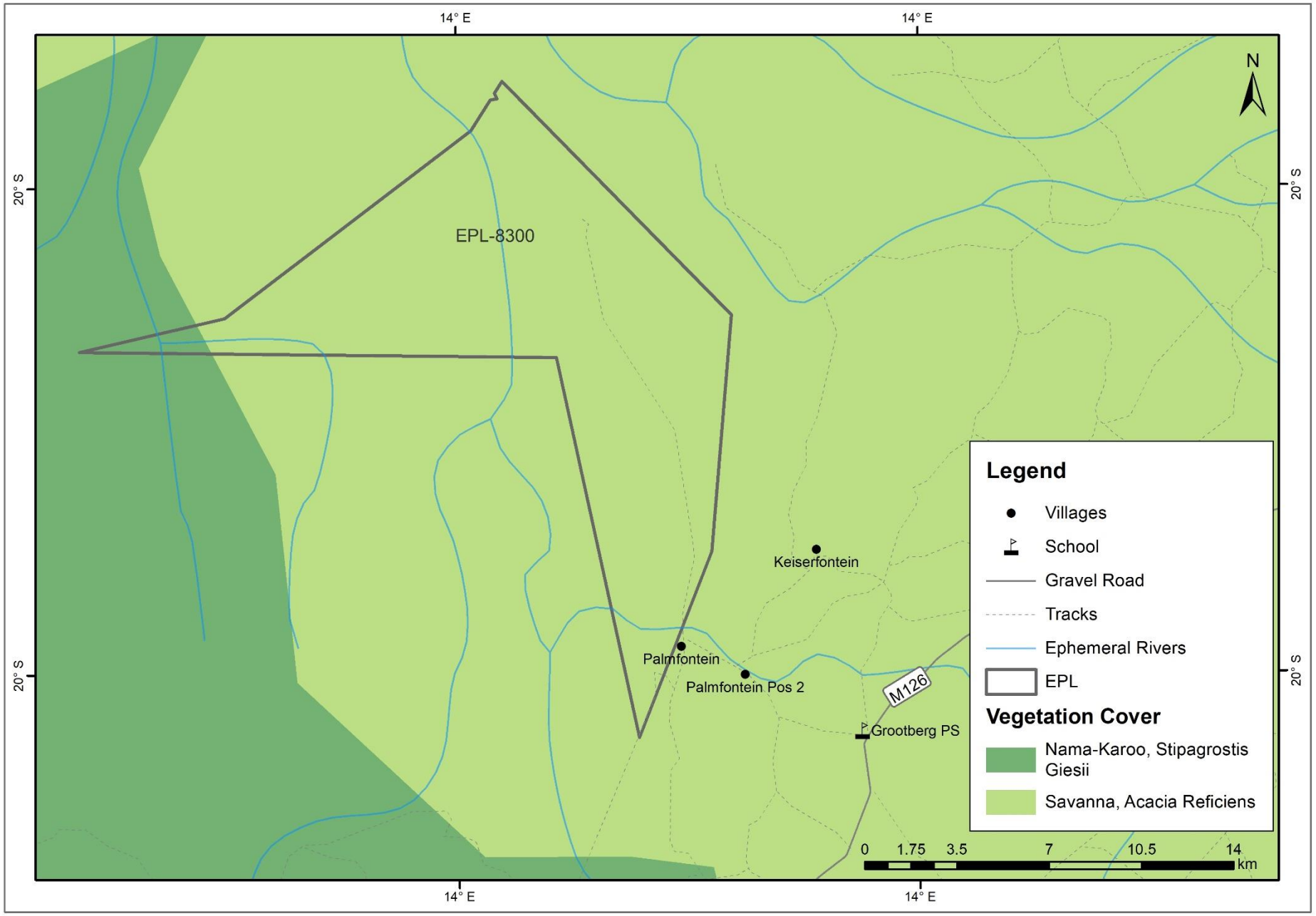


Figure 4.2: Vegetation diversity found within and around the EPL No. 8300 area

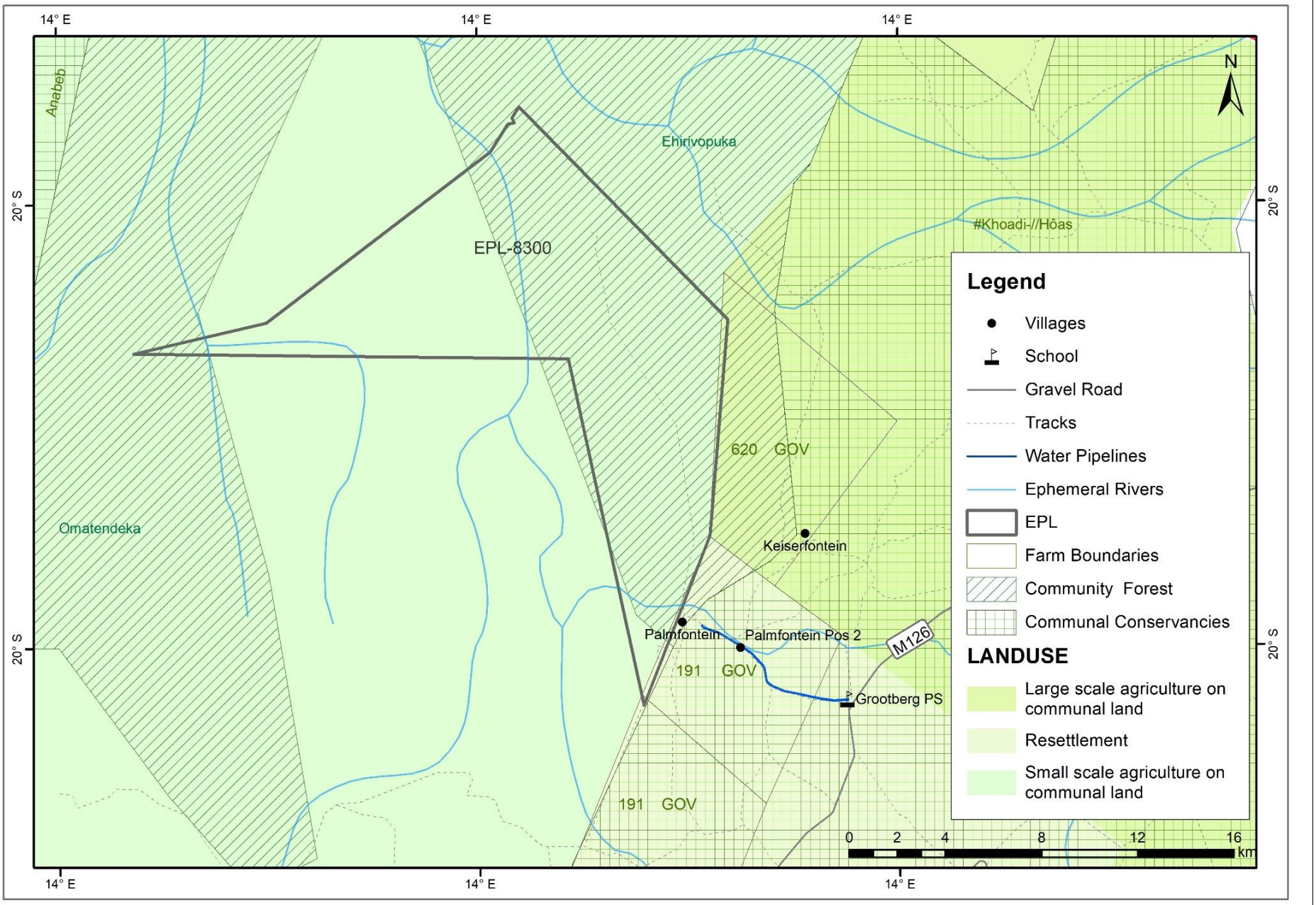


Figure 4.3: Various land use including community forests and conservancies within and around the EPL No. 8300 area

4.3 Ground Components

4.3.1 Geology and Soils

The local geology of EPL 8300 generally comprises units of the Otavi Group, the EPL is part of Damara super group and gariep complex consisting of limestone and dolomite. The main rock types of this area are Schists, Dolomites, phyllite, quartzite, conglomerate, and limestone. The different geological group formations associated with the EPL are illustrated in Figure 4.4. The surficial geology is dominated by lithosols, a group of shallow azonal soils consisting of imperfectly weathered rock fragments as shown in Fig. 4.5.

4.3.2 Water Sources

The EPL 8300 falls within an area with moderately productive aquifer (Mendelsohn, Jarvis, Roberts & Roberston, 2002). The EPL 8300 falls within the Kunene North groundwater Basin, with several boreholes. The area is underlain by dolomites, which show a high potential of groundwater with an increased potential where fractures and faults occur on a local scale. The aquifer is also reliable, as it is frequently recharged and water quality is generally of a high standard (Mendelsohn *et al*., 2002). Figure 4.6 shows groundwater and water supply schemes found within and around the EPL 8300 area. The water supply scheme of Sesfontein owes its origin and name to the six fountains along the contact zone between dolomites of the Tsumeb Subgroup dolomite aquifers and the underlying less permeable phyllites of the Mulden Group (both Damara Sequence).

The source of water supply for the proposed exploration and in particular the proposed drilling of exploration boreholes if need arises to drill, will be from existing groundwater resources. The proponent must obtain permission from the landowner before using water from any existing local boreholes and infrastructures. If there is a need to drilling a water borehole to support the proposed / exploration programme, the proponent must obtain permission from the landowner and Department of Water Affairs in the Ministry of Agriculture, Water and Forestry (MAWF).

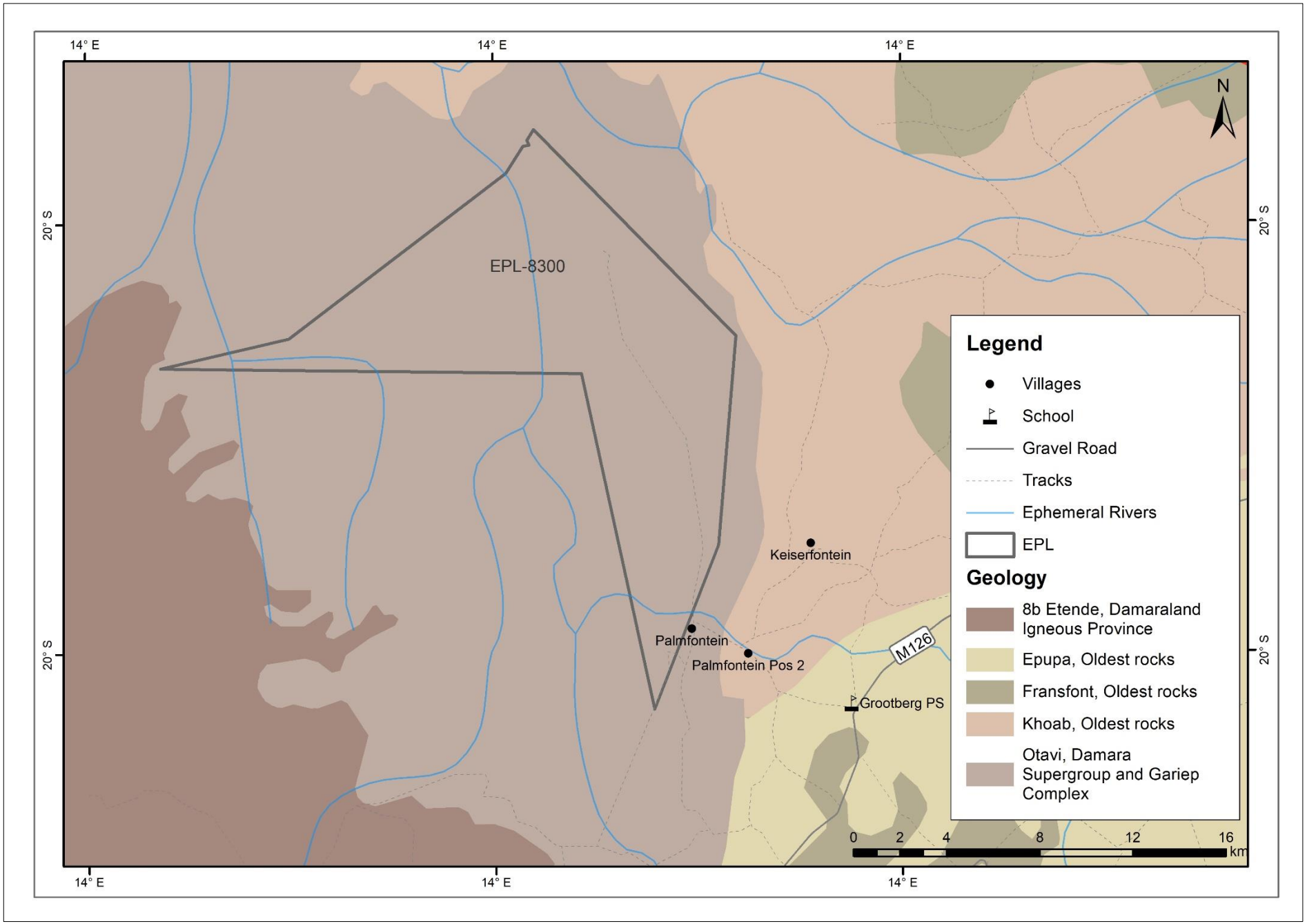


Figure 4.4: Rock types / solid geology found within and around the EPL No. 8300 area

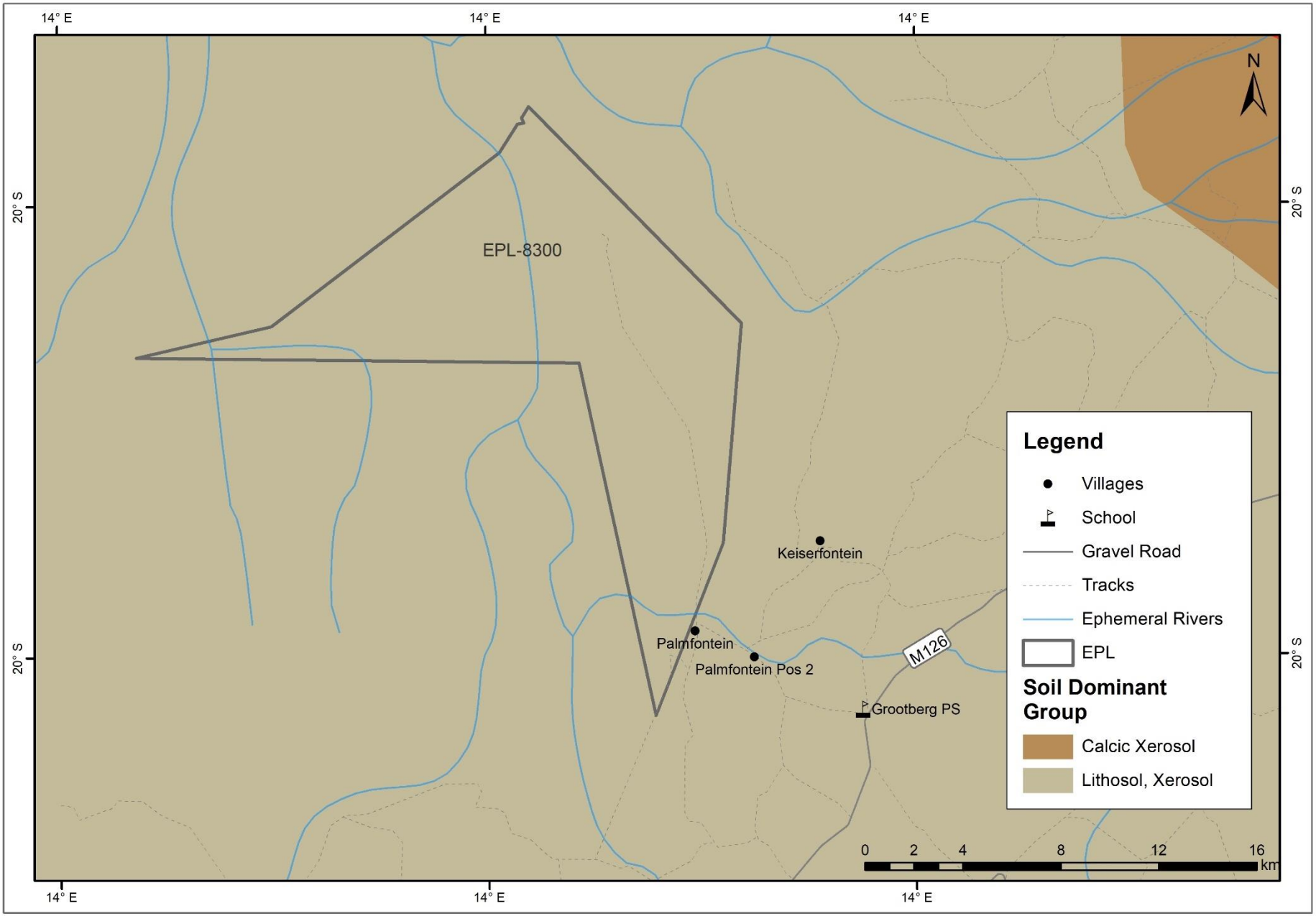


Figure 4.5: Soil types / surficial geology found within and around the EPL No. 8300 area

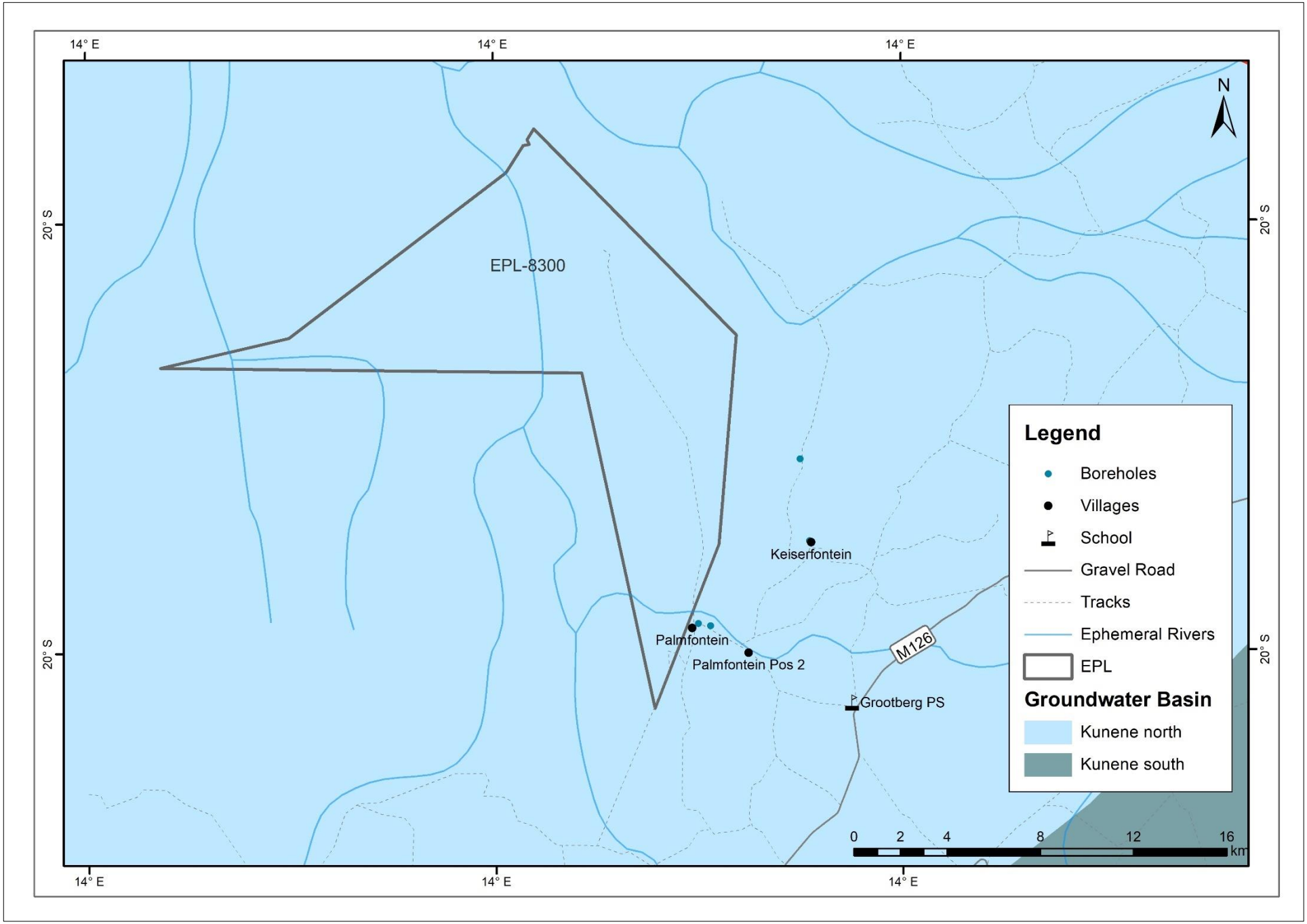


Figure 4.6: Groundwater and water supply schemes found within and around the EPL No. 8300 area.

4.4 Socioeconomic Setting

4.4.1 Overview

Kunene Region is geographically located in the Northwestern part of Namibia and covers a range of biomass or landscapes; this region is very mountainous. The name Kunene is derived from the Kunene River that boarders Namibia and Angola. The region's administrative capital is Opuwo. The region covers an approximate area of 115,293km^2 of the total Namibian land. After //Kharas region, Kunene is the second largest region which is home to roughly 86,856 residents (43 234 females and 43 603 males (Census 2011) which signifies 4% of the Namibian population.

4.4.1.1 Regional Socioeconomic Setting

- The region has constituencies which are Kamanjab, Outjo, Khorixas, Epupa, Opuwo and Sesfontein (NSA, 2011).
- According to Census (2011), the most spoken languages at home in Kunene region are Otjiherero (42% of households) and Nama/Damara (36%).
- Literacy rate is 65% for those who are 15 years and older, literacy rate is low in rural Opuwo due to a high number of indigenous residents who are not exposed to any education. However, in the urban part of the town, literacy rate increases to 75% (females 72,5%, males 76,4%).
- People living with disability is 4%. Main sources of income in households are farming 32%, wages and salaries 41%, cash remittance 5%, business (non-farming) 8% and pension.
- Many households in this region also highly rely on drought relief assistance (15%) (NSA, 2017). A few communities also rely on incomes from conservancies they formed, through good wildlife management that attracts tourists and other activities such as trophy hunting.
- About 67% of households have safe drinking water, 63% have no toilet facilities and 32% use wood/charcoal for cooking (Census, 2011).

4.4.1.2 Locally Socioeconomic Setting

- Sesfontein lies in the Kunene Region, were Otjiherero and Khoekhoegowab are spoken by around 42 and 36 percent of the population, respectively. The two language groups together make up about 20 percent of the national population.
- Sesfontein is one of the areas which is frequently visited by tourists, and it owes its name to six springs that surface at the base of the hills, creating an oasis in the barren wastes of the Kunene Region. Prominent areas include the Fort Sesfontein lodge, which was once a military outpost, back in 1901.
- There is also the Sesfontein conservancy which was registered in 2003 and covers 30 2465km2. The landscape is a mix of hills, plains, and wooded river valleys with the scenic Hoanib Valley and fountains.
- Sesfontein is the largest settlement in the conservancy yet provides a limited range of facilities and services. A few small shops offer a basic selection of goods, and a combined school provides some access to education.
- Sesfontein has a police station, as well as the northernmost petrol station in the north-west.
- A clinic offers basic health services, while the nearest hospital is in the regional capital of Opuwo, around 135 kilometres to the north.

- ❖ People in Sesfontein have reasonable access to water, but beyond the settlement water availability is a limiting factor. Boreholes supply groundwater to most residents, but often yield only limited supplies and are costly to drill and maintain.

4.5 Archaeology

4.5.1 Regional Archaeological Setting

Modern humans and their ancestors have lived in Namibia for more than one million years, and there are fossil remains of lineal hominin ancestors as early as the Miocene Epoch (Kinahan, 2017). Namibia has a relatively complete sequence covering the mid-Pleistocene to Recent Holocene period, represented by thousands of archaeological sites mainly concentrated in the central highlands, escarpment, and Namib Desert. According to Kinahan, (2017), the Recent Holocene archaeological sequence in Namibia, i.e., the last 5 000 years, is of particular importance because it provides the background evidence for the development and recent history of the indigenous peoples of Namibia before the advent of written historical records during the colonial era. Many archaeological sites from this period are of great significance to the understanding of Namibian history, and some are of global importance.

4.5.2 Local Archaeological Setting and Recommendation

In the absence of field-based assessment being undertaken, it is likely that the general area around the EPL area may have archaeological resources that are protected by the National Heritage Act, 2004 (Act No. 27 of 2004) under the National Heritage Council of Namibia. The EPL area is likely to have evidence from the early colonial period related to a combination of mining, trade, missionary, and indigenous tribes' activities. The expectation is therefore:

(i) A high likelihood of Holocene age archaeological sites, including rock art, associated with outcropping granite in the EPL area, and.

(ii) A high likelihood of late precolonial and colonial settlement sites.

The following are the key recommended actions related to archaeology in the EPL Area:

(i) The exploration team should be made aware that under the National Heritage Act, 2004 (Act No. 27 of 2004) any items protected under the definition of heritage found during the prospecting process should be reported to the National Heritage Council.

(ii) The chance finds procedure as outlined in the EMP must be always implemented, and.

(iii) Detailed field survey should be carried out if suspected archaeological resources or major natural cavities / shelters have been unearthed during the prospecting process.

4.6 Public Consultations and Engagement

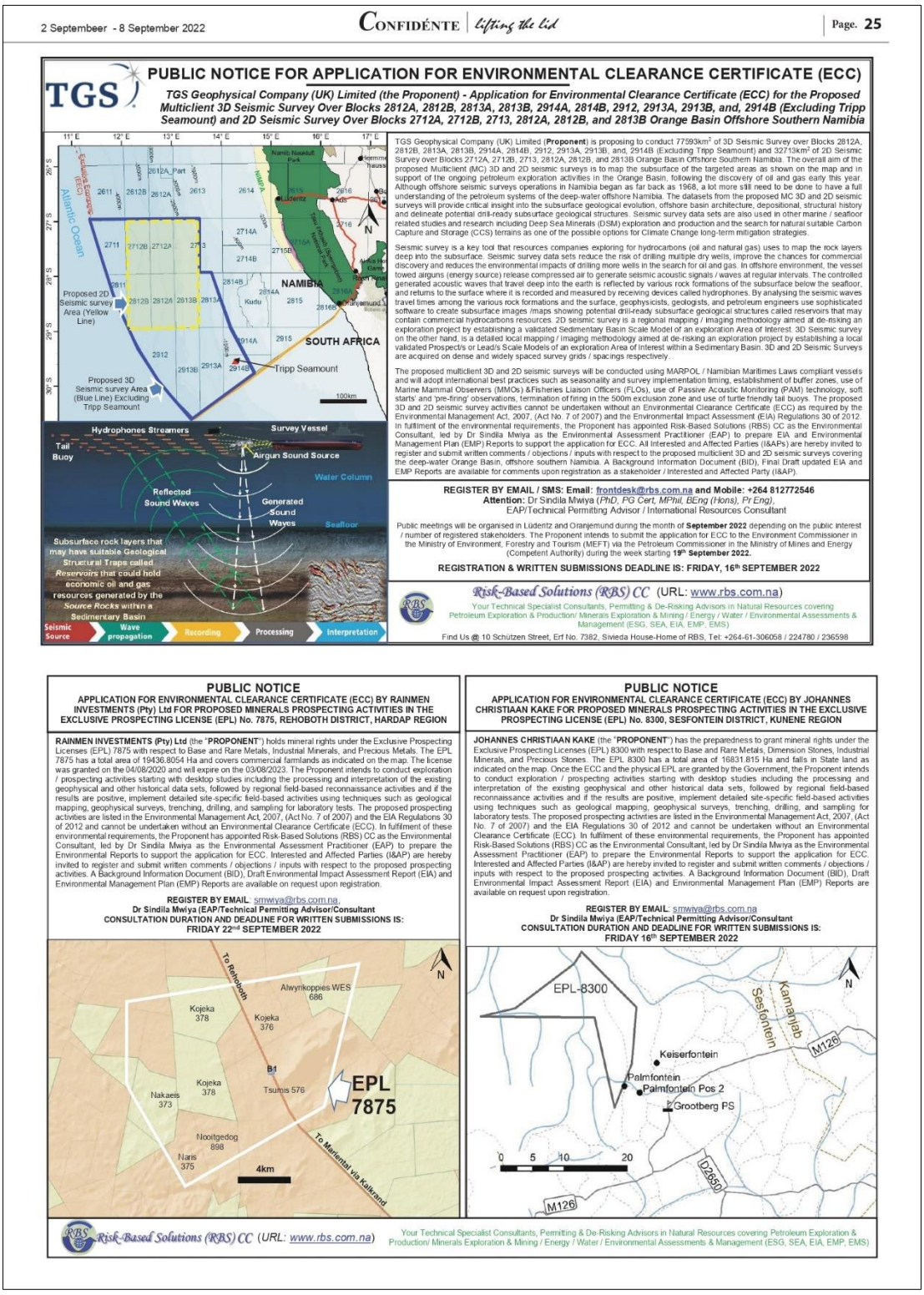
4.6.1 Overview

Public consultation and engagement have been part of the environmental assessment process for the EPL 8300. According to the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 and the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007), a person conducting a public consultation process must give notice to all Interested and Affected Patties (I&AP) of the application which is subjected to public consultation.

4.6.2 Public Consultation process

The EIA Regulations clearly state that interested and affected parties must be provided with a reasonable opportunity (21 days) to comment on the application under Section 21(6) of the EIA Regulations. During the consultation process, the public and I&APs are invited to register and submit written comments / inputs / objections with respect to the proposed the proposed minerals exploration activities in the EPL No. 8300.

Public consultation process will be undertaken through the newspaper advertisements as indicated in Fig. 4.7 - 4.8.



2 Septembeer - 8 September 2022 CONFIDÉNTE | *lifting the lid* | Page. 25

PUBLIC NOTICE FOR APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC)

TGS Geophysical Company (UK) Limited (the Proponent) - Application for Environmental Clearance Certificate (ECC) for the Proposed Multiclient 3D Seismic Survey Over Blocks 2812A, 2812B, 2813A, 2813B, 2914A, 2814B, 2912, 2913A, 2913B, and, 2914B (Excluding Tripp Seamount) and 2D Seismic Survey Over Blocks 2712A, 2712B, 2713, 2812A, 2812B, and 2813B Orange Basin Offshore Southern Namibia

TGS Geophysical Company (UK) Limited (**Proponent**) is proposing to conduct 77593km² of 3D Seismic Survey over Blocks 2812A, 2812B, 2813A, 2813B, 2914A, 2814B, 2912, 2913A, 2913B, and, 2914B (Excluding Tripp Seamount) and 32713km² of 2D Seismic Survey over Blocks 2712A, 2712B, 2713, 2812A, 2812B, and 2813B Orange Basin Offshore Southern Namibia. The overall aim of the proposed Multiclient (MC) 3D and 2D seismic surveys is to map the subsurface of the targeted areas as shown on the map and in support of the ongoing petroleum exploration activities in the Orange Basin, following the discovery of oil and gas early this year. Although offshore seismic surveys operations in Namibia began as far back as 1968, a lot more still need to be done to have a full understanding of the petroleum systems of the deep-water offshore Namibia. The datasets from the proposed MC 3D and 2D seismic surveys will provide critical insight into the subsurface geological evolution, offshore basin architecture, depositional, structural history and delineate potential drill-ready subsurface geological structures. Seismic survey data sets are also used in other marine / seafloor related studies and research including Deep Sea Minerals (DSM) exploration and production and the search for natural suitable Carbon Capture and Storage (CCS) terrains as one of the possible options for Climate Change long-term mitigation strategies.

Seismic survey is a key tool that resources companies exploring for hydrocarbons (oil and natural gas) uses to map the rock layers deep into the subsurface. Seismic survey data sets reduce the risk of drilling multiple dry wells, improve the chances for commercial discovery and reduces the environmental impacts of drilling more wells in the search for oil and gas. In offshore environment, the vessel towed airguns (energy source) release compressed air to generate seismic acoustic signals / waves at regular intervals. The controlled generated acoustic waves that travel deep into the earth is reflected by various rock formations of the subsurface below the seafloor, and returns to the surface where it is recorded and measured by receiving devices called hydrophones. By analysing the seismic waves travel times among the various rock formations and the surface, geophysicists, geologists, and petroleum engineers use sophisticated software to create subsurface images /maps showing potential drill-ready subsurface geological structures called reservoirs that may contain commercial hydrocarbons resources. 2D seismic survey is a regional mapping / imaging methodology aimed at de-risking an exploration project by establishing a validated Sedimentary Basin Scale Model of an exploration Area of Interest. 3D Seismic survey on the other hand, is a detailed local mapping / imaging methodology aimed at de-risking an exploration project by establishing a local validated Prospect/s or Lead/s Scale Models of an exploration Area of Interest within a Sedimentary Basin. 3D and 2D Seismic Surveys are acquired on dense and widely spaced survey grids / spacings respectively.

The proposed multiclient 3D and 2D seismic surveys will be conducted using MARPOL / Namibian Maritimes Laws compliant vessels and will adopt international best practices such as seasonality and survey implementation timing, establishment of buffer zones, use of Marine Mammal Observers (MMOs) &Fisheries Liaison Officers (FLOs), use of Passive Acoustic Monitoring (PAM) technology, soft starts' and 'pre-firing' observations, termination of firing in the 500m exclusion zone and use of turtle friendly tail buoys. The proposed 3D and 2D seismic survey activities cannot be undertaken without an Environmental Clearance Certificate (ECC) as required by the Environmental Management Act, 2007, (Act No. 7 of 2007) and the Environmental Impact Assessment (EIA) Regulations 30 of 2012. In fulfilment of the environmental requirements, the Proponent has appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant, led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare EIA and Environmental Management Plan (EMP) Reports to support the application for ECC. All Interested and Affected Parties (I&APs) are hereby invited to register and submit written comments / objections / inputs with respect to the proposed multiclient 3D and 2D seismic surveys covering the deep-water Orange Basin, offshore southern Namibia. A Background Information Document (BID), Final Draft updated EIA and EMP Reports are available for comments upon registration as a stakeholder / Interested and Affected Party (I&AP).

REGISTER BY EMAIL / SMS: Email: frontdesk@rbs.com.na and Mobile: +264 812772546
Attention: Dr Sindila Mwiya (*PhD, PG Cert, MPhil, BEng (Hons), Pr Eng*),
EAP/Technical Permitting Advisor / International Resources Consultant

Public meetings will be organised in Lüderitz and Oranjemund during the month of **September 2022** depending on the public interest / number of registered stakeholders. The Proponent intends to submit the application for ECC to the Environment Commissioner in the Ministry of Environment, Forestry and Tourism (MEFT) via the Petroleum Commissioner in the Ministry of Mines and Energy (Competent Authority) during the week starting **19th September 2022.**

REGISTRATION & WRITTEN SUBMISSIONS DEADLINE IS: FRIDAY, 16th SEPTEMBER 2022

Risk-Based Solutions (RBS) CC (URL: www.rbs.com.na)
Your Technical Specialist Consultants, Permitting & De-Risking Advisors in Natural Resources covering Petroleum Exploration & Production/ Minerals Exploration & Mining / Energy / Water / Environmental Assessments & Management (ESG, SEA, EIA, EMP, EMS)
Find Us @ 10 Schützen Street, Erf No. 7382, Swieda House-Home of RBS, Tel: +264-61-306058 / 224780 / 236598

PUBLIC NOTICE
APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) BY RAINMEN INVESTMENTS (Pty) Ltd FOR PROPOSED MINERALS PROSPECTING ACTIVITIES IN THE EXCLUSIVE PROSPECTING LICENSE (EPL) No. 7875, REHOBOTH DISTRICT, HARDAP REGION

RAINMEN INVESTMENTS (Pty) Ltd (the "**PROPONENT**") holds mineral rights under the Exclusive Prospecting Licenses (EPL) 7875 with respect to Base and Rare Metals, Industrial Minerals, and Precious Metals. The EPL 7875 has a total area of 19436.8054 Ha and covers commercial farmlands as indicated on the map. The license was granted on the 04/08/2020 and will expire on the 03/08/2023. The Proponent intends to conduct exploration / prospecting activities starting with desktop studies including the processing and interpretation of the existing geophysical and other historical data sets, followed by regional field-based reconnaissance activities and if the results are positive, implement detailed site-specific field-based activities using techniques such as geological mapping, geophysical surveys, trenching, drilling, and sampling for laboratory tests. The proposed prospecting activities are listed in the Environmental Management Act, 2007, (Act No. 7 of 2007) and the EIA Regulations 30 of 2012 and cannot be undertaken without an Environmental Clearance Certificate (ECC). In fulfilment of these environmental requirements, the Proponent has appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant, led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the Environmental Reports to support the application for ECC. Interested and Affected Parties (I&AP) are hereby invited to register and submit written comments / objections / inputs with respect to the proposed prospecting activities. A Background Information Document (BID), Draft Environmental Impact Assessment Report (EIA) and Environmental Management Plan (EMP) Reports are available on request upon registration.

REGISTER BY EMAIL: smwiya@rbs.com.na,
Dr Sindila Mwiya (EAP/Technical Permitting Advisor/Consultant
CONSULTATION DURATION AND DEADLINE FOR WRITTEN SUBMISSIONS IS:
FRIDAY 22nd SEPTEMBER 2022

PUBLIC NOTICE
APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) BY JOHANNES CHRISTIAAN KAKE FOR PROPOSED MINERALS PROSPECTING ACTIVITIES IN THE EXCLUSIVE PROSPECTING LICENSE (EPL) No. 8300, SESFONTEIN DISTRICT, KUNENE REGION

JOHANNES CHRISTIAAN KAKE (the "**PROPONENT**") has the preparedness to grant mineral rights under the Exclusive Prospecting Licenses (EPL) 8300 with respect to Base and Rare Metals, Dimension Stones, Industrial Minerals, and Precious Stones. The EPL 8300 has a total area of 16831.815 Ha and falls in State land as indicated on the map. Once the ECC and the physical EPL are granted by the Government, the Proponent intends to conduct exploration / prospecting activities starting with desktop studies including the processing and interpretation of the existing geophysical and other historical data sets, followed by regional field-based reconnaissance activities and if the results are positive, implement detailed site-specific field-based activities using techniques such as geological mapping, geophysical surveys, trenching, drilling, and sampling for laboratory tests. The proposed prospecting activities are listed in the Environmental Management Act, 2007, (Act No. 7 of 2007) and the EIA Regulations 30 of 2012 and cannot be undertaken without an Environmental Clearance Certificate (ECC). In fulfilment of these environmental requirements, the Proponent has appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant, led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the Environmental Reports to support the application for ECC. Interested and Affected Parties (I&AP) are hereby invited to register and submit written comments / objections / inputs with respect to the proposed prospecting activities. A Background Information Document (BID), Draft Environmental Impact Assessment Report (EIA) and Environmental Management Plan (EMP) Reports are available on request upon registration.

REGISTER BY EMAIL: smwiya@rbs.com.na
Dr Sindila Mwiya (EAP/Technical Permitting Advisor/Consultant
CONSULTATION DURATION AND DEADLINE FOR WRITTEN SUBMISSIONS IS:
FRIDAY 16th SEPTEMBER 2022

Risk-Based Solutions (RBS) CC (URL: www.rbs.com.na)
Your Technical Specialist Consultants, Permitting & De-Risking Advisors in Natural Resources covering Petroleum Exploration & Production/ Minerals Exploration & Mining / Energy / Water / Environmental Assessments & Management (ESG, SEA, EIA, EMP, EMS)

Figure 4.7: Public notice of EPL 8300, advertised in the Confidante Newspaper, dated 2-8th September 2022

Republic of Namibia

Know Your Civil Servant

PETER DU TOIT

Chief Development Planner: Ministry of Agriculture, Water and Land Reform

Building a legacy

"WHEN I retire, I want to look back and be proud of myself and what I have accomplished. I want to have a lot of stories to share, I want to leave a customer service legacy."

This is what Peter Du Toit, a chief development planner at the Ministry of Agriculture, Water and Land Reform had to say– and from the looks of it, that is the principle that he lives by.

Born and bred in Khomasdal, Du Toit is a long-serving government employee at the ministry of agriculture, with a record of 24 years.

He joined the public service in 1998, as a clerk at the then Ministry of Land, Resettlement and Rehabilitation and was later promoted to the position of a chief clerk. He worked his way up the ladder and was promoted to development planner and eventually to chief development planner in the Directorate of Land Reform, in the Division of Land Use Planning and Allocation (LUPA), the position he currently holds.

LUPA is a division responsible for acquiring agricultural (commercial) land that is used to resettle landless Namibians under the National Land Reform Programme.

Du Toit described LUPA as a crucial instrument for the government in its plight to redress the past imbalances and skewed land ownership caused by the colonial regimes.

Getting started

Raised by a single domestic worker mother, Du Toit said it was his dream to work for the government.

"Initially my dream was to be a lawyer, but unfortunately, my mother couldn't afford to pay for the tertiary institution, hence I decided to find a secure job in government so that I can be able to raise funds for me to be able to pay for my studies as well as to take care of the family," he said.

Du Toit holds a National Diploma in land Management and Registration and a Bachelors Degree in Land Administration from the Namibia University of Science and Technology (NUST).

Expressing his gratitude for the government support, Du Toit said, "government played an important role and supported me financially to get the two qualifications and with the knowledge that I gained; I am currently ploughing it back into the ministry," he said.

As a chief development planner, Du Toit is responsible for the acquisition of agricultural land from commercial farmers for government resettlement programme.

"My office is responsible for the evaluation and assessments of all applications submitted by the farm owners/agents who wish to sell their farms to the government as per the willing-buyer, willing-seller policy. This policy makes provision that all the farm owners intended to sell their farms first to offer it to the government who has the preferent right."

Emphasising the role of his division, he said, "our work is to assess all farms offered. If the ministry finds that a farm is suitable for resettlement purposes, the offer is accepted or a counter offer is issued in respect of that property. If the owner is not happy with the counter offer, a price negotiation is conducted. If negotiations are not successful, the owner can approach the land tribunal for intervention. After a farm is acquired, it is forwarded to the Directorate of Resettlement to advertise the farm to invite all interested Namibians to apply for resettlement on the specific farm. Should a farm not be suitable for resettlement purposes, a certificate of waiver is issued to the farm owner that allows him/her to sell the property in the open market.

Challenges

Every job does not go without its fair share of challenges. When asked to pinpoint some of the challenges his office is faced with, Du Toit was quick to point out the work overload, lack of human capacity as well as the bureaucracy around the acquisition process.

"Handling applications needs concentration, especially with too many fraud cases happening nowadays, one needs to make sure that the farm being sold exists, that it is sold by the rightful owner and that the application is accompanied by the required documents," he said.

He further noted the bureaucracy of the whole process and the timeline which is about 90 days for the applicants to get the government response, stating that there are farmers that feel that the process takes too long and that the officials are too slow.

"Some farmers come to this office to express their dissatisfaction with the whole process. However, one needs to understand the application process has to be assessed by different committees and those committees meet only once a month," he said.

Achievements

Among his work-related accomplishments was his involvement in the decentralisation of the ministry in other parts of the country such as Otjiwarongo, Gobabis, and Swakopmund.

When asked to give his take on a misconception that civil servants are unproductive and inefficient, he said, "it is true that in all employment sectors of life you will find those people who are a little lazy, and those who strive to do their best in the positions that they were appointed to.

Besides, with the introduction of mechanisms like the performance management system, it is near impossible to get away with being unproductive and ineffective. With the right leadership and mindset, such misconception will be a blow in the wind. As public servants and just like any other employee, we must know that we are all gainfully employed."

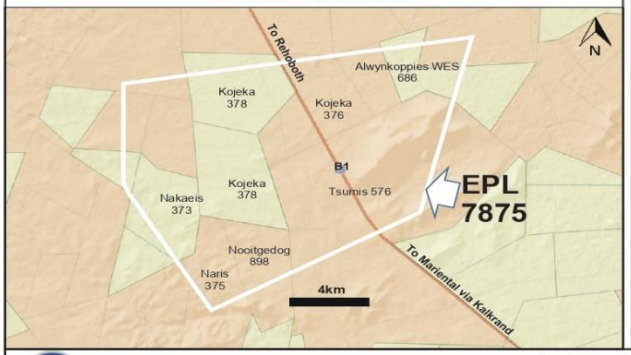
When asked how long he will serve the government, Du Toit said, "it has been 24 years and I am still counting. God placed me in the ministry for a purpose which I have to fulfill. I am enjoying my career in government. I am comfortable and feel confident in what I do. I know that one must never say never but I do not see myself leaving the public service in the foreseeable future. I would like to end my good journey in the public service on a high note by the Grace of the Almighty."

PUBLIC NOTICE

APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) BY RAINMEN INVESTMENTS (Pty) Ltd FOR PROPOSED MINERALS PROSPECTING ACTIVITIES IN THE EXCLUSIVE PROSPECTING LICENSE (EPL) No. 7875, REHOBOTH DISTRICT, HARDAP REGION

RAINMEN INVESTMENTS (Pty) Ltd (the "**PROPONENT**") holds mineral rights under the Exclusive Prospecting Licenses (EPL) No. 7875 with respect to Base and Rare Metals, Industrial Minerals, and Precious Metals. The EPL 7875 has a total area of 19436.8054 Ha and covers commercial farmlands as indicated on the map. The license was granted on the 04/08/2020 and will expire on the 03/08/2023. The Proponent intends to conduct exploration / prospecting activities starting with desktop studies including the processing and interpretation of the existing geophysical and other historical data sets, followed by regional field-based reconnaissance activities and if the results are positive, implement detailed site-specific field-based activities using techniques such as geological mapping, geophysical surveys, trenching, drilling, and sampling for laboratory tests. The proposed prospecting activities are listed in the Environmental Management Act, 2007, (Act No. 7 of 2007) and the EIA Regulations 30 of 2012 and cannot be undertaken without an Environmental Clearance Certificate (ECC). In fulfilment of these environmental requirements, the Proponent has appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant, led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the Environmental Reports to support the application for ECC. Interested and Affected Parties (I&AP) are hereby invited to register and submit written comments / objections / inputs with respect to the proposed prospecting activities. A Background Information Document (BID), Draft Environmental Impact Assessment Report (EIA) and Environmental Management Plan (EMP) Reports are available on request upon registration.

REGISTER BY EMAIL: smwiya@rbs.com.na,
Dr Sindila Mwiya (EAP/Technical Permitting Advisor/Consultant
CONSULTATION DURATION AND DEADLINE FOR WRITTEN SUBMISSIONS IS:
FRIDAY 22nd SEPTEMBER 2022

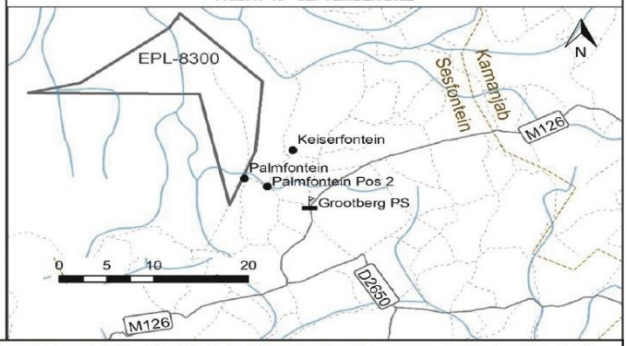


PUBLIC NOTICE

APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) BY JOHANNES CHRISTIAAN KAKE FOR PROPOSED MINERALS PROSPECTING ACTIVITIES IN THE EXCLUSIVE PROSPECTING LICENSE (EPL) No. 8300, SESFONTEIN DISTRICT, KUNENE REGION

JOHANNES CHRISTIAAN KAKE (the "**PROPONENT**") has the preparedness to grant mineral rights under the Exclusive Prospecting Licenses (EPL) 8300 with respect to Base and Rare Metals, Dimension Stones, Industrial Minerals, and Precious Stones. The EPL 8300 has a total area of 16831.815 Ha and falls in State land as indicated on the map. Once the ECC and the physical EPL are granted by the Government, the Proponent intends to conduct exploration / prospecting activities starting with desktop studies including the processing and interpretation of the existing geophysical and other historical data sets, followed by regional field-based reconnaissance activities and if the results are positive, implement detailed site-specific field-based activities using techniques such as geological mapping, geophysical surveys, trenching, drilling, and sampling for laboratory tests. The proposed prospecting activities are listed in the Environmental Management Act, 2007, (Act No. 7 of 2007) and the EIA Regulations 30 of 2012 and cannot be undertaken without an Environmental Clearance Certificate (ECC). In fulfilment of these environmental requirements, the Proponent has appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant, led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the Environmental Reports to support the application for ECC. Interested and Affected Parties (I&AP) are hereby invited to register and submit written comments / objections / inputs with respect to the proposed prospecting activities. A Background Information Document (BID), Draft Environmental Impact Assessment Report (EIA) and Environmental Management Plan (EMP) Reports are available on request upon registration.

REGISTER BY EMAIL: smwiya@rbs.com.na
Dr Sindila Mwiya (EAP/Technical Permitting Advisor/Consultant
CONSULTATION DURATION AND DEADLINE FOR WRITTEN SUBMISSIONS IS:
FRIDAY 16th SEPTEMBER 2022



Risk-Based Solutions (RBS) CC (URL: www.rbs.com.na) Your Technical Specialist Consultants, Permitting & De-Risking Advisors in Natural Resources covering Petroleum Exploration & Production/ Minerals Exploration & Mining / Energy / Water / Environmental Assessments & Management (ESG, SEA, EIA, EMP, EMS)

Find Us @ 10 Schützen Street, Erf No. 7382, Sivieda House-Home of RBS, Tel: +264-61-306058 / 224780 / 236598

Figure 4.8: Public notice of EPL 8300, advertised in The New Era Newspaper, dated 9th September 2022

4.6.3 Stakeholders and Public Consolations Recommendations

Overall, no comments have been received for the EPL area; however, there is a need for continuous public / stakeholder consultation process. This EIA has recommended that the Proponent shall notify the landowners on the implementation of the proposed project once the ECC has been granted and negotiate access agreements as may be applicable.

Such communications shall be maintained throughout the lifecycle of the proposed project. This recommendation may be included as condition on the ECC to be issued.

5 IMPACT ASSESSMENT AND RESULTS

5.1 Impact Assessment Procedure

The Environmental Assessment process that has been undertaken with respect to the proposed exploration programme for the EPL No. 8300 has been conducted in accordance with the provisions of the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 gazetted under the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007).

5.2 Assessment of Ecosystem Based Alternatives

The following alternatives have been considered:

(i) **EPL Location:** A number of potential economic minerals deposits are known to exist in the general area and linked to the regional geology of the EPL area. The Proponent intend to explore / prospect for all the licensed minerals groups likely to be associated with the regional and local geology. The minerals occurrences are site-specific and related to the regional and local geology of a specific area to which there are no alternative sites to consider with respect to the license location. The only other alternative is the no-action option (no exploration activities are implemented in a specific area).

(ii) **The No-Action Alternative** - A comparative assessment of the environmental impacts of the 'no-action' alternative (a future in which the proposed exploration activities do not take place) has been undertaken. An assessment of the environmental impacts of a future, in which the proposed exploration and possible discovery of economic minerals resources does not take place, may be good for the receiving environment because there will be no negative environmental impacts due to the proposed minerals exploration or possible mining operation that may take place in the EPL area.

The environmental benefits will include:

- ❖ No negative impacts as a result of no mineral exploration taking place, and.
- ❖ Potential future mining related negative environmental impact on the receiving environment.

However, it is important to understand that even if the proposed exploration activities do not take place, to which the likely negative environmental impacts are likely to be low and localised, the other current and future land uses such as agriculture and tourism will still have some negative impacts on the receiving environment. The likely negative environmental impacts of the other current and future land use that may still happen in the absence of the proposed minerals exploration activities includes:

- ❖ Land degradation due to drought.
- ❖ Overgrazing / over stocking beyond the land carrying capacity.
- ❖ Poor land management practices, and.
- ❖ Erosion and overgrazing.

Furthermore, it is important to understand what benefits might be lost if the proposed exploration activities do not take place. Key loses that may never be realised if the proposed project activities do not go-ahead include: Loss of potential added value to the unknown underground minerals resources that maybe found within the EPL No. 8300 socioeconomic benefits derived from current and future exploration, direct and indirect contracts and employment opportunities, export earnings, foreign direct investments, license rental fees, royalties, and various other taxes payable to the Government.

(iii) **Other Alternative Land Uses:** The EPL area fall within the well-known commercial agricultural land uses area dominated by cattle, game, and small stock farming activities. The growing game farming is also making tourism a vital socioeconomic opportunity in the general area. Minerals exploration and mining activities are well known land use options in Namibia and the surrounding EPL area. Due to the limited scope of the proposed exploration and the implementation of the EMP, it is likely that the proposed exploration can coexist with the current and potential future land uses within the general area.

(iv) **Potential Land Use Conflicts:** Considering the current land use practices (agriculture and tourism) as well as potential other land uses including minerals exploration, it is likely that potential economic derivatives from any positive exploration outcomes leading to the development of a mine in the general area can still co-exist with the existing and potential future land use options of the general area. However, much more detailed assessments of any likely visual and other socioeconomic impacts will need to be included in the EIA that must be undertaken as part of the prefeasibility and feasibility studies if economic minerals resources are discovered. The use of thematic mapping and delineation of various land use zones for specific uses such as agriculture, conservation, mining, or tourism etc, within the EPL area will greatly improve the multiple land use practices and promote coexistence for all the possible land use options.

(v) **Ecosystem Function** (**What the Ecosystem Does**)**:** Ecosystem functions such as wildlife habitats, carbon cycling or the trapping of nutrients and characterised by the physical, chemical, and biological processes or attributes that contribute to the self-maintenance of an ecosystem in this area are vital components of the receiving environment. However, the proposed exploration activities will not affect the ecosystem function due to the limited scope of the proposed activities because the ecosystem of this EPL area is part of the larger local and regional ecosystems which are all interlinked.

(vi) **Ecosystem Services:** Food chain, harvesting of animals or plants, and the provision of clean water or scenic views are some of the local ecosystem services associated with the EPL area. However, the proposed exploration activities will not affect the ecosystem services due to the limited scope and area of coverage of the proposed activities because the ecosystem of this EPL area is part of the larger local and regional ecosystems which are all interlinked.

(vii) **Use Values**: The EPL area has direct values for other land uses such as agriculture, conservation and tourism as well as indirect values which includes. Watching a television show about the general area and its wildlife, food chain linkages that sustains the complex life within this area and bequest value for future generations to enjoy. The proposed exploration activities will not destroy the current use values due to the limited scope of the proposed activities as well as the adherence to the provisions of the EMP as detailed in the EMP report, and.

(viii) **Non-Use or Passive Use**: The EPL area has an existence value that is not linked to the direct use / benefits to current or future generations. The proposed exploration activities will not affect the ecosystem current or future none or passive uses due to the limited scope of the proposed activities that will leave much of the EPL area untouched because the ecosystem of this EPL area is part of the larger local and regional ecosystems which are all interlinked.

5.3 Key Issues Considered in the Assessment Process

5.3.1 Sources of Impacts (Proposed Project Activities)

The proposed exploration activities covering initial desktop exploration activities (no field-work undertaken, regional reconnaissance, initial local field-based activities, detailed local field-based activities, prefeasibility and feasibility studies related activities are the key sources both negative and positive impacts on the receiving environment.

5.3.2 Summary of Receptors Likely to be Negative Impacted

Based on the findings of this EIA Report, the following is the summary of the key environmental receptors that are may be negatively impacted by the proposed activities:

- **Physical environment:** Water quality, physical infrastructure and resources, air quality, noise and dust, landscape and topography, soil quality and, Climate change influences.

- **Biological environment:** Habitat, protected areas and resources, flora, fauna, and ecosystem functions, services, use values and non-use or passive use, and.

- **Socioeconomic, cultural and archaeological environment:** Local, regional and national socioeconomic settings, commercial and subsistence agriculture, community protection areas tourism and recreation cultural, biological and archaeological resources.

5.4 Impact Assessment Methodology

5.4.1 Impact Definition

In this EIA Report, a natural and/or human environmental impact is defined as: “Change to the environment, whether adverse or beneficial, wholly or partially resulting from an organisation’s environmental aspects.” (ISO 14001).

All proposed project activities (routine and non-routine) were considered during the Scoping, EIA and EMP Phases in terms of their potential to:

- Interact with the existing environment (physical, biological, and social elements), and.

- Breach relevant national legislation, relevant international legislation, standards and guidelines, and corporate environmental policy and management systems.

Where a project activity and receptor were considered to have the potential to interact, the impact has been defined and ranked according to its significance. Table 5.1 provides the definition of different categories of impacts identified and used in this report.

This EIA Report has assessed the potential impacts resulting from routine Project activities, assuming that the Project activities that may cause an impact that will occur but the impact itself will be dependent on the likelihood (Probability) (Table 5.2).

Correct control measures through the implementation of the EMP and monitoring thereof, often reduce any negative significant impacts on the receiving environment as the results of the project activities. The assessment, therefore, has focussed on the measures aimed at preventing the occurrence of an impact as well as mitigation measures that may be employed.

Table 5.1: Definition of impact categories used in this report.

Nature of Impact	Adverse	Considered to represent an adverse change from the baseline, or to introduce a new undesirable factor.
	Beneficial	Considered to represent an improvement to the baseline or to introduce a new desirable factor.
Type of Impact	Direct	Results from a direct interaction between a planned or unplanned Project activity and the receiving environment.
	Indirect	Results from the Project but at a later time or at a removed distance or which may occur as a secondary effect of a direct impact.
	Cumulative	Results from (i) interactions between separate Project-related residual impacts. and (ii) interactions between Project-related residual impacts in combination with impacts from other projects and their associated activities. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Duration of Impact	Short-term	Predicted to last only for a limited period but will cease on completion of the activity, or as a result of mitigation/reinstatement measures and natural recovery typically within a year of the project completion.
	Medium-	Predicted to last only for a medium period after the Project finishing, typically one to five years.
	Long-term	Continues over an extended period, typically more than five years after the Project's completion.
	Permanent	Occurs during the development of the Project and causes a permanent change in the affected receptor or resource that endures substantially beyond the Project lifetime.
Scale of Impact	Local	Affects locally important environmental resources or is restricted to a single habitat/biotope, a single community.
	Regional	Affects nationally important environmental resources, or an area that is nationally important/protected or has macro-economic consequences.
	National	Affects nationally important environmental resources, or an area that is nationally important/protected or has macro-economic consequences.
	International	Affects internationally important resources such as areas protected by international Conventions
	Transboundary	Impacts experienced in one country as a result of activities in another.
Probability	Negligible	Possibility negligible
	Improbable	Possibility very low
	Probable	Distinct possibility
	Highly Probable	Most likely
	Definite	Impact will occur regardless of preventive measures

The overall impact severity has been categorised using a semi-quantitative subjective scale as shown in Table 5.2 for sensitivity of receptors, Table 5.3 for magnitude, Table 5.4 for duration, Table 5.5 for extent and Table 5.6 showing probability.

Table 5.2: Definitions used for determining the sensitivity of receptors.

SENSITIVITY RATING		CRITERIA
1	**Negligible**	The receptor or resource is resistant to change or is of little environmental value.
2	**Low**	The receptor or resource is tolerant of change without detriment to its character, is of low environmental or social value, or is of local importance.
3	**Medium**	The receptor or resource has low capacity to absorb change without fundamentally altering its present character, is of high environmental or social value, or is of national importance
4	**High**	The receptor or resource has moderate capacity to absorb change without significantly altering its present character, has some environmental or social value, or is of district/regional importance.
5	**Very High**	The receptor or resource has little or no capacity to absorb change without fundamentally altering its present character, is of very high environmental or social value, or is of international importance.

Table 5.3: Scored on a scale from 0 to 5 for impact magnitude.

SCALE (-) or (+)		DESCRIPTION
0		no observable effect
1		low effect
2		tolerable effect
3		medium high effect
4		high effect
5		very high effect (devastation)

Table 5.4: Scored duration over which the impact is expected to last.

SCALE (-) or (+)		DESCRIPTION
T		Temporary
P		Permanent

Table 5.5: Scored geographical extent of the induced change.

SCALE (-) or (+)		DESCRIPTION
L		limited impact on location
O		impact of importance for municipality.
R		impact of regional character
N		impact of national character
M		impact of cross-border character

5.4.2 Likelihood (Probability) of Occurrence

The likelihood (probability) of the pre-identified events occurring has been ascribed using a qualitative scale of probability categories (in increasing order of likelihood) as shown in Table 5.6. Likelihood is estimated on the basis of experience and/ or evidence that such an outcome has previously occurred. Impacts resulting from routine/planned events under normal operations are classified under category (E).

Table 5.6: Summary of the qualitative scale of probability categories (in increasing order of likelihood).

SCALE (-) or (+)		DESCRIPTION
A		Extremely unlikely (e.g. never heard of in the industry)
B		Unlikely (e.g. heard of in the industry but considered unlikely)
C		Low likelihood (egg such incidents/impacts have occurred but are uncommon)
D		Medium likelihood (e.g. such incidents/impacts occur several times per year within the industry)
E		High likelihood (e.g. such incidents/impacts occurs several times per year at each location where such works are undertaken)

5.4.3 Project Activities Summary of Impacts Results

The results of the impacts assessment and evaluation has adopted a matrix framework similar to the Leopold matrix. Assessment results of the magnitude, duration, extent, and probability of the potential impacts due to the proposed project activities interacting with the receiving environment are presented in form of a matrix table as shown in Tables 5.7-5.10.

The overall severity of potential environmental impacts of the proposed project activities on the receiving environment will be of low magnitude (Table 5.7), temporally duration (Table 5.8), localised extent (Table 5.9) and low probability of occurrence (Table 5.10) due to the limited scope of the proposed activities and the use of step-by-step approach in advancing exploration activities and adopting of appropriate mitigation measures.

The Proponent shall continue to evaluate the results of exploration success and the implementation of the subsequent exploration stages will be subject to the positive outcomes of previous activities as graded (Tables 5.7-5.10).

It is important to note that the assessment of the likely impacts as shown in Tables 5.7 - 5.10, have been considered without the implementation of mitigation measures detailed in the EMP Report.

The need for implementation of the appropriate mitigation measures as presented in the EMP Report has been determined based on the results of the impact assessment (Tables 5.7 - 5.10) and the significant impacts as detailed in Tables 5.11 and 5.12.

Table 5.7: Results of the sensitivity assessment of the receptors (Physical, Socioeconomic and Biological environments) with respect to the proposed exploration / prospecting activities.

RECEPTOR SENSITIVITY		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
1. Initial Desktop Exploration Activities	(i) General evaluation of satellite, topographic, land tenure, accessibility, supporting infrastructures and socioeconomic environment data	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	(ii) Purchase and analysis of existing Government high resolution magnetics and radiometric geophysical data	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	(iii) Purchase and analysis of existing Government aerial hyperspectral	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	(iv) Data interpretation and delineating of potential targets for future reconnaissance regional field-based activities for delineated targets	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2. Regional Reconnaissance Field-Based Activities	(i) Regional geological, geochemical, topographical and remote sensing mapping and data analysis	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	(ii) Regional geochemical sampling aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	(iii) Regional geological mapping aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	(iv) Limited field-based support and logistical activities including exploration camp site lasting between one (1) to two (2) days	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	(v) Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets for future detailed site-specific exploration if the results are positive and supports further exploration of the delineated targets	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

SENSITIVITY RATING		CRITERIA
1	Negligible	The receptor or resource is resistant to change or is of little environmental value.
2	Low	The receptor or resource is tolerant of change without detriment to its character, is of low environmental or social value, or is of local importance.
3	Medium	The receptor or resource has low capacity to absorb change without fundamentally altering its present character, is of high environmental or social value, or is of national importance
4	High	The receptor or resource has moderate capacity to absorb change without significantly altering its present character, has some environmental or social value, or is of district/regional importance.
5	Very High	The receptor or resource has little or no capacity to absorb change without fundamentally altering its present character, is of very high environmental or social value, or is of international importance.

Table 5.7: Cont.

RECEPTOR SENSITIVITY			PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
SENSITIVITY RATING		CRITERIA	Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
1	Negligible	The receptor or resource is resistant to change or is of little environmental value.																
2	Low	The receptor or resource is tolerant of change without detriment to its character, is of low environmental or social value, or is of local importance.																
3	Medium	The receptor or resource has low capacity to absorb change without fundamentally altering its present character, is of high environmental or social value, or is of national importance																
4	High	The receptor or resource has moderate capacity to absorb change without significantly altering its present character, has some environmental or social value, or is of district/regional importance.																
5	Very High	The receptor or resource has little or no capacity to absorb change without fundamentally altering its present character, is of very high environmental or social value, or is of international importance.																
3. Initial Local Field-Based Activities	(i)	Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during regional reconnaissance field activities	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	(ii)	Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	(iii)	Ground geophysical survey (Subject to the positive outcomes of i and ii above)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	(iv)	Possible Trenching (Subject to the outcomes of i - iii above)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	(v)	Field-based support and logistical activities will be very limited focus on a site-specific area for a very short time (maximum five (5) days)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	(vi)	Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4. Detailed Local Field-Based Activities	(i)	Access preparation and related logistics to support activities	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	(ii)	Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during the initial field-based activities	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	(iii)	Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	(iv)	Ground geophysical survey, trenching, drilling and sampling (Subject to the positive outcomes of i and ii above).	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5. Prefeasibility and Feasibility Studies	(i)	Detailed site-specific field-based support and logistical activities, surveys, detailed geological mapping	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	(ii)	Detailed drilling and bulk sampling and testing for ore reserve calculations	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	(iii)	Geotechnical studies for mine design	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	(iv)	Mine planning and designs including all supporting infrastructures (water, energy and access) and test mining activities	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	(v)	EIA and EMP to support the ECC for mining operations	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	(vi)	Preparation of feasibility report and application for Mining License	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Table 5.8: Results of the scored time period (duration) over which the impact is expected to last.

RECEPTOR SENSITIVITY		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
SCALE / DESCRIPTION: T = Temporary; P = Permanent		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
1. Initial Desktop Exploration Activities	(i) General evaluation of satellite, topographic, land tenure, accessibility, supporting infrastructures and socioeconomic environment data	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(ii) Purchase and analysis of existing Government high resolution magnetics and radiometric geophysical data	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(iii) Purchase and analysis of existing Government aerial hyperspectral	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(iv) Data interpretation and delineating of potential targets for future reconnaissance regional field-based activities for delineated targets	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
2. Regional Reconnaissance Field-Based Activities	(i) Regional geological, geochemical, topographical and remote sensing mapping and data analysis	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(ii) Regional geochemical sampling aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(iii) Regional geological mapping aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(iv) Limited field-based support and logistical activities including exploration camp site lasting between one (1) to two (2) days	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(v) Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets for future detailed site-specific exploration if the results are positive and supports further exploration of the delineated targets	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T

Table 5.8: *Cont.*

DURATION OF IMPACT		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
SCALE / DESCRIPTION: T = Temporary; P = Permanent		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
3. Initial Local Field-Based Activities	(i) Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during regional reconnaissance field activities	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(ii) Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(iii) Ground geophysical survey (Subject to the positive outcomes of i and ii above)	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(iv) Possible Trenching (Subject to the outcomes of i - iii above)	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(v) Field-based support and logistical activities will be very limited focus on a site-specific area for a very short time (maximum five (5) days)	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(vi) Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
4. Detailed Local Field-Based Activities	(i) Access preparation and related logistics to support activities	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(ii) Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during the initial field-based activities	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(iii) Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(iv) Ground geophysical survey, trenching, drilling and sampling (Subject to the positive outcomes of i and ii above).	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
5. Prefeasibility and Feasibility Studies	(i) Detailed site-specific field-based support and logistical activities, surveys, detailed geological mapping	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(ii) Detailed drilling and bulk sampling and testing for ore reserve calculations	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(iii) Geotechnical studies for mine design	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(iv) Mine planning and designs including all supporting infrastructures (water, energy and access) and test mining activities	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(v) EIA and EMP to support the ECC for mining operations	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	(vi) Preparation of feasibility report and application for Mining License	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T

Table 5.9: Results of the scored geographical extent of the induced change.

GEOGRAPHICAL EXTENT OF IMPACT		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
1. Initial Desktop Exploration Activities	(i) General evaluation of satellite, topographic, land tenure, accessibility, supporting infrastructures and socioeconomic environment data	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(ii) Purchase and analysis of existing Government high resolution magnetics and radiometric geophysical data	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(iii) Purchase and analysis of existing Government aerial hyperspectral	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(iv) Data interpretation and delineating of potential targets for future reconnaissance regional field-based activities for delineated targets	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
2. Regional Reconnaissance Field-Based Activities	(i) Regional geological, geochemical, topographical and remote sensing mapping and data analysis	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(ii) Regional geochemical sampling aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(iii) Regional geological mapping aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(iv) Limited field-based support and logistical activities including exploration camp site lasting between one (1) to two (2) days	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(v) Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets for future detailed site-specific exploration if the results are positive and supports further exploration of the delineated targets	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

SCALE		DESCRIPTION
L		limited impact on location
O		impact of importance for municipality
R		impact of regional character
N		impact of national character
M		impact of cross-border character

Table 5.9: *Conti.*

GEOGRAPHICAL EXTENT OF IMPACT		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
3. Initial Local Field-Based Activities	(i) Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during regional reconnaissance field activities	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(ii) Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(iii) Ground geophysical survey (Subject to the positive outcomes of i and ii above)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(iv) Possible Trenching (Subject to the outcomes of i - iii above)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(v) Field-based support and logistical activities will be very limited focus on a site-specific area for a very short time (maximum five (5) days)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(vi) Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
4. Detailed Local Field-Based Activities	(i) Access preparation and related logistics to support activities	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(ii) Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during the initial field-based activities	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(iii) Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(iv) Ground geophysical survey, trenching, drilling and sampling (Subject to the positive outcomes of i and ii above).	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
5. Prefeasibility and Feasibility Studies	(i) Detailed site-specific field-based support and logistical activities, surveys, detailed geological mapping	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(ii) Detailed drilling and bulk sampling and testing for ore reserve calculations	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(iii) Geotechnical studies for mine design	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(iv) Mine planning and designs including all supporting infrastructures (water, energy and access) and test mining activities	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(v) EIA and EMP to support the ECC for mining operations	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(vi) Preparation of feasibility report and application for Mining License	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

SCALE		DESCRIPTION
L		limited impact on location
O		impact of importance for municipality
R		impact of regional character
N		impact of national character
M		impact of cross-border character

Table 5.10: Results of the qualitative scale of probability occurrence.

IMPACT PROBABILITY OCCURRENCE			PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
			Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
1. Initial Desktop Exploration Activities	(i)	General evaluation of satellite, topographic, land tenure, accessibility, supporting infrastructures and socioeconomic environment data	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	(ii)	Purchase and analysis of existing Government high resolution magnetics and radiometric geophysical data	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	(iii)	Purchase and analysis of existing Government aerial hyperspectral	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	(iv)	Data interpretation and delineating of potential targets for future reconnaissance regional field-based activities for delineated targets	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
2. Regional Reconnaissance Field-Based Activities	(i)	Regional geological, geochemical, topographical and remote sensing mapping and data analysis	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	(ii)	Regional geochemical sampling aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	(iii)	Regional geological mapping aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	(iv)	Limited field-based support and logistical activities including exploration camp site lasting between one (1) to two (2) days	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	(v)	Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets for future detailed site-specific exploration if the results are positive and supports further exploration of the delineated targets	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A

SCALE		DESCRIPTION
A		Extremely unlikely (e.g. never heard of in the industry)
B		Unlikely (e.g. heard of in the industry but considered unlikely)
C		Low likelihood (egg such incidents/impacts have occurred but are uncommon)
D		Medium likelihood (e.g. such incidents/impacts occur several times per year within the industry)
E		High likelihood (e.g. such incidents/impacts occurs several times per year at each location where such works are undertaken)

Table 5.10: *Cont.*

IMPACT PROBABILITY OCCURRENCE			PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
SCALE	**DESCRIPTION**		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
A	Extremely unlikely (e.g. never heard of in the industry)																	
B	Unlikely (e.g. heard of in the industry but considered unlikely)																	
C	Low likelihood (egg such incidents/impacts have occurred but are uncommon)																	
D	Medium likelihood (e.g. such incidents/impacts occur several times per year within the industry)																	
E	High likelihood (e.g. such incidents/impacts occurs several times per year at each location where such works are undertaken)																	
3. Initial Local Field-Based Activities		(i) Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during regional reconnaissance field activities	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
		(ii) Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
		(iii) Ground geophysical survey (Subject to the positive outcomes of i and ii above)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
		(iv) Possible Trenching (Subject to the outcomes of i - iii above)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
		(v) Field-based support and logistical activities will be very limited focus on a site-specific area for a very short time (maximum five (5) days)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
		(vi) Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
4. Detailed Local Field-Based Activities		(i) Access preparation and related logistics to support activities	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
		(ii) Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during the initial field-based activities	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
		(iii) Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
		(iv) Ground geophysical survey, trenching, drilling and sampling (Subject to the positive outcomes of i and ii above).	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
5. Prefeasibility and Feasibility Studies		(i) Detailed site-specific field-based support and logistical activities, surveys, detailed geological mapping	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
		(ii) Detailed drilling and bulk sampling and testing for ore reserve calculations	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
		(iii) Geotechnical studies for mine design	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
		(iv) Mine planning and designs including all supporting infrastructures (water, energy and access) and test mining activities	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
		(v) EIA and EMP to support the ECC for mining operations	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
		(vi) Preparation of feasibility report and application for Mining License	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A

5.5 Evaluation of Significant Impacts

5.5.1 Overview

The significance of each impact has been determined by assessing the impact severity against the likelihood (probability) of the impact occurring as summarised in the impact significance assessment matrix provided in Table 5.11.

5.5.2 Significance Criteria

Significance criteria for negative/adverse impacts (i.e., relative ranking of importance) are defined in Table 5.11. It is important to note that impacts have been considered without the implementation of mitigation measures. The need for appropriate mitigation measures as presented in the EMP report has been determined based on the impact assessment results presented in this report.

Table 5.11: Scored impact significance criteria.

IMPACT SEVERITY (Magnitude, Duration, Extent, Probability)	**RECEPTOR CHARACTERISTICS (SENSITIVITY)**				
	Very High (5)	**High (4)**	**Medium (3)**	**Low (2)**	**Negligible (1)**
Very High (5)	Major [5/5]	Major [4/5[	Moderate [3/5]	Moderate [2 /5]	Minor 1/5
High (4)	Major [5/4]	Major [4/4]	Moderate [3/4]	Moderate [2/4]	Minor [1/4]
Medium (3)	Major [5/3]	Moderate [4/3]	Moderate [3/3]	Minor [2/3]	None [1/3]
Low (2)	Moderate [5/2]	Moderate [4/2]	Minor [3/2]	None [2/2]	None [1/2]
Negligible (1)	Minor [5/1]	Minor [4/1]	None [3/1]	None [2/1]	None [1/1]

5.5.3 Assessment Likely Significant Impacts

The assessment of significant impacts depended upon the degree to which the proposed project activities are likely to results in unwanted consequences on the receptor covering physical and biological environments (Table 5.12). Overall, the assessment of significant impacts has focused on the ecosystem-based approach that considers potential impacts to the ecosystem. The main key sources of impacts that have been used in the determination of significant impacts posed by the proposed minerals exploration comprised activities. Each of the main areas of impact have been identified and assessed as follows:

- Positive Impacts are classified under a single category. they are then evaluated qualitatively with a view to their enhancement, if practical.
- Negligible or Low Impacts will require little or no additional management or mitigation measures (on the basis that the magnitude of the impact is sufficiently small, or that the receptor is of low sensitivity).
- Medium or High Impacts require the adoption of management or mitigation measures.
- High Impacts always require further management or mitigation measures to limit or reduce the impact to an acceptable level.

Overall, the results of the significant impact assessment matrix for the proposed minerals exploration activities on the physical and biological environments are shown in Tables 5.12.

Table 5.12: Significant impact assessment matrix for the proposed exploration activities.

SIGNIFICANT IMPACT		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL, AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
1. Initial Desktop Exploration Activities	(i) General evaluation of satellite, topographic, land tenure, accessibility, supporting infrastructures and socioeconomic environment data	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	(ii) Purchase and analysis of existing Government high resolution magnetics and radiometric geophysical data	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	(iii) Purchase and analysis of existing Government aerial hyperspectral	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	(iv) Data interpretation and delineating of potential targets for future reconnaissance regional field-based activities for delineated targets	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
2. Regional Reconnaissance Field-Based Activities	(i) Regional geological, geochemical, topographical and remote sensing mapping and data analysis	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	(ii) Regional geochemical sampling aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	(iii) Regional geological mapping aimed at identifying possible targeted based on the results of the initial exploration and regional geological, topographical and remote sensing mapping and analysis undertaken	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	(iv) Limited field-based support and logistical activities including exploration camp site lasting between one (1) to two (2) days	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	(v) Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets for future detailed site-specific exploration if the results are positive and supports further exploration of the delineated targets	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

IMPACT SEVERITY (Magnitude, Duration, Extent, Probability)	RECEPTOR CHARACTERISTICS (SENSITIVITY)				
	Very High (5)	High(4)	Medium (3)	Low (2)	Negligible (1)
Very High (5)	Major [5/5]	Major [4/5[	Moderate [3/5]	Moderate [2 /5]	Minor 1/5
High (4)	Major [5/4]	Major [4/4]	Moderate [3/4]	Moderate [2/4]	Minor[1/4]
Medium (3)	Major [5/3]	Moderate[4/3]	Moderate[3/3]	Minor[2/3]	None[1/3]
Low (2)	Moderate [5/2]	Moderate[4/2]	Minor[3/2]	None[2/2]	None[1/2]
Negligible (1)	Minor [5/1]	Minor [4/1]	None [3/1]	None [2/1]	None [1/1]

Table 5.12: *Cont.*

SENSITIVITY		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
3. Initial Local Field-Based Activities	(i) Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during regional reconnaissance field activities	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	(ii) Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	(iii) Ground geophysical survey (Subject to the positive outcomes of i and ii above)	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2
	(iv) Possible Trenching (Subject to the outcomes of i - iii above)	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2
	(v) Field-based support and logistical activities will be very limited focus on a site-specific area for a very short time (maximum five (5) days)	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2
	(vi) Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
4. Detailed Local Field-Based Activities	(i) Access preparation and related logistics to support activities	2\2	2\2	2\2	2\2	2\2	2\2	3/2	3/2	3/2	3/2	3/2	2\2	2\2	2\2	2\2	2\2
	(ii) Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during the initial field-based activities	2\2	2\2	2\2	2\2	2\2	2\2	3/2	3/2	3/2	3/2	3/2	2\2	2\2	2\2	2\2	2\2
	(iii) Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2
	(iv) Ground geophysical survey, trenching, drilling and sampling (Subject to the positive outcomes of i and ii above).	2\2	2\2	2\2	2\2	2\2	2\2	3/2	3/2	3/2	3/2	3/2	2\2	2\2	2\2	2\2	2\2
5. Prefeasibility and Feasibility Studies	(i) Detailed site-specific field-based support and logistical activities, surveys, detailed geological mapping	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2
	(ii) Detailed drilling and bulk sampling and testing for ore reserve calculations	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3
	(iii) Geotechnical studies for mine design	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2	2\2
	(iv) Mine planning and designs including all supporting infrastructures (water, energy and access) and test mining activities	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3
	(v) EIA and EMP to support the ECC for mining operations	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1
	(vi) Preparation of feasibility report and application for Mining License	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/1

IMPACT SEVERITY (Magnitude, Duration, Extent, Probability)	RECEPTOR CHARACTERISTICS (SENSITIVITY)				
	Very High (5)	High(4)	Medium (3)	Low (2)	Negligible (1)
Very High (5)	Major [5/5]	Major [4/5[	Moderate [3/5]	Moderate [2 /5]	Minor 1/5
High (4)	Major [5/4]	Major [4/4]	Moderate [3/4]	Moderate [2/4]	Minor[1/4]
Medium (3)	Major [5/3]	Moderate[4/3]	Moderate[3/3]	Minor[2/3]	None[1/3]
Low (2)	Moderate [5/2]	Moderate[4/2]	Minor[3/2]	None[2/2]	None[1/2]
Negligible (1)	Minor [5/1]	Minor [4/1]	None [3/1]	None [2/1]	None [1/1]

5.6 Assessment of Overall Impacts

5.6.1 Summary of the Results of the Impact Assessment

In accordance with Tables 5.7 - 5.12, the following is a summary of the overall likely negative and significant impacts of the proposed exploration activities on the receiving environment (physical, biological and socioeconomic environments) without and with mitigations:

(i) Initial desktop exploration activities: Overall likely negative impact on the receiving environment will be negligible with extremely unlikely probability of occurrence without mitigations. Overall significant impacts will be negligible **[1/1]** (Table 5.12). Except for the socioeconomic components which carry a **(+)**, the rest of the likely impacts are negative **(-)**.

(ii) Regional reconnaissance field-based activities: Overall likely negative impact on the receiving environment will be negligible with extremely unlikely probability of occurrence without mitigations. Overall significant impacts will be negligible **[1/1]**. Some field-based activities will have localised low impacts with low probability of occurrence without mitigations and negligible with mitigations. Overall significant impacts will be negligible **[1/1]** (Table 5.12). Except for the socioeconomic components which carry a **(+)**, all the other likely impacts are negative **(-)**.

(iii) Initial local field-based activities: Initial field-based activities will have localised low impacts with low probability of occurrence without mitigations and negligible with mitigations**.** Overall significant impacts will be negligible **[2/2]**. All desktop related activities and laboratory assessments will have negligible impacts with extremely unlikely probability of occurrence without mitigations. Overall significant impacts will be negligible **[2/2]** (Table 5.12). Except for the socioeconomic components which carry a **(+)**, all the other likely impacts are negative **(-)**.

(iv) Detailed local field-based activities: Overall likely negative impact on the receiving environment will be high and localised impacts without mitigations and localised low impacts with mitigations. Overall significant impacts will be medium **[2/2]** without mitigations and low with mitigations (Table 5.12). Except for the socioeconomic components which carry a **(+)**, all the other likely impacts are negative **(-)**, and.

(v) Prefeasibility and feasibility studies to be implemented on a site-specific area if the local field-based studies prove positive: Overall likely negative impact on the receiving environment will be high and localised impacts without mitigations and localised medium impacts with mitigations. Overall significant impacts will be medium **[3/3]** without mitigations and low with mitigations for bulk sampling, test mining and field logistics (Table 5.12). Except for the socioeconomic components which carry a **(+)**, all the other likely impacts are negative **(-)**.

6 CONCLUSION AND RECOMMENDATION

6.1 Conclusions

Johannes Christiaan Kake (**the Proponent**) intends to undertake exploration activities in the Exclusive Prospecting Licence (EPL) No. 8300, with special focus on Base and Rare Metals, Dimension Stone, Industrial Minerlas, Non-Nuclear Fuels Minerals, Nuclear Fuel Minerals, Precious Metals Precious Stones.

The exploration activities to be undertaken as assessed in this environmental assessment are as follows:

(i) Initial desktop exploration activities.

(ii) Regional reconnaissance field-based activities.

(iii) Initial local field-based activities including detailed mapping, sampling, and drilling operations.

(iv) Detailed local field-based activities including detailed mapping, sampling, and drilling operations, and.

(v) Prefeasibility and feasibility studies including possible test mining.

The overall severity of potential environmental impacts of the proposed project activities on the receiving environment (physical, biological, socioeconomic environments and ecosystem functions, services, use and non-use values or passive uses) will be of low magnitude, temporally duration, localised extent, and low probability of occurrence.

6.2 Recommendations

It's hereby recommended that the proposed exploration activities be issued with an Environmental Clearance Certificate (ECC). The Proponent shall take into consideration the following key requirements for implementing the proposed exploration programme:

(i) Based on the findings of this EIA Report, the Proponent shall prepare an EMP Report with key mitigations measures.

(ii) Mitigation measures shall be implemented as detailed in the EMP report.

(iii) The Proponent shall negotiate Access Agreements with the landowner/s as may be applicable.

(iv) The Proponent shall adhere to all the provisions of the EMP and conditions of the Access Agreement to be entered between the Proponent and the landowner/s in line with all applicable national regulations.

(v) Before entering any private or protected property/ area such as a private farm, the Proponent must give advance notices and obtain permission to always access the EPL area, and.

(vi) Where possible, and if water is found during the detailed exploration boreholes drilling operations, the Proponent shall promote access to freshwater supply for both human consumption, wildlife and agricultural support as may be requested by the local community / land owners/s or as may be needed for environmental protection including wildlife

management. The abstraction of the groundwater resources shall include water levels monitoring, sampling and quality testing on a bi-annual basis, and that the affected landowner/s must have access to the results of the water monitoring analyses as part of the ongoing stakeholder disclosure requirements on shared water resources as may be applicable.

6.3 Summary ToR for Test Mining and Mining Stages

In an even that economic minerals resources are discovered within the EPL 8300 area and could lead to the development of mining project, a new Environmental Clearance Certificate (ECC) for mining will be required. The ECC being supported by this EIA Report only covers the exploration phase.

A separate field-based and site-specific Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) reports supported by specialist studies as maybe applicable must be prepared in order to support the application for the new ECC for mining operations. The EIA and EMP studies shall form part of the prefeasibility and feasibility study with respect to the test mining or possible mining operations.

The site-specific EIA and EMP shall cover the area identified to have potential economic minerals resources as well as all areas to be used for infrastructural support areas such as pit / shaft area/s, waste rock, tailings dump, access, office blocks, water, and energy infrastructure support areas (water, energy, and road / access). In addition to the Terms of Reference (ToR) to be developed during the Environmental Scoping study phase for the test mining / mining stages, the following field-based and site-specific specialist studies shall be undertaken as part of the EIA and EMP for possible test mining or mining operations in an event of a discovery of economic minerals resources and possible development of a mining project:

(i) Groundwater studies including modelling as maybe applicable.

(ii) Field-based flora and fauna diversity.

(iii) Noise and Sound modelling linked to engineering studies.

(iv) Archaeological assessments.

(v) Socioeconomic assessment, and.

(vi) Others as may be identified / recommended by the stakeholders/ landowners/ Environmental Commissioner or specialists.

The aims and objectives of the Environmental Assessment (EA) covering EIA and EMP to be implemented as part of the feasibility study if a variable resource is discovered are:

(i) To assess all the likely positive and negative short- and long-term impacts on the receiving environment (physical, biological and socioeconomic environments) at local (EPL Area), regional, national (Namibia) and Global levels using appropriate assessment guidelines, methods and techniques covering the complete project lifecycle. The EIA and EMP to be undertaken shall be performed with reasonable skill, care and diligence in accordance with professional standards and practices existing at the date of performance of the assessment and that the guidelines, methods and techniques shall conform to the national regulatory

requirements, process and specifications in Namibia and in particular as required by the MME, MEFT and MAWLR, and.

(ii) The development of appropriate mitigation measures that will enhance the positive impacts and reduce the likely negative influences of the negative impacts identified or anticipated. Such mitigation measures shall be contained in a detailed EMP report covering the entire project lifecycle.

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8 ANNEXES

Annex 1: BID
Annex 2: Copies of the Published Newspapers Adverts (Tear sheets)