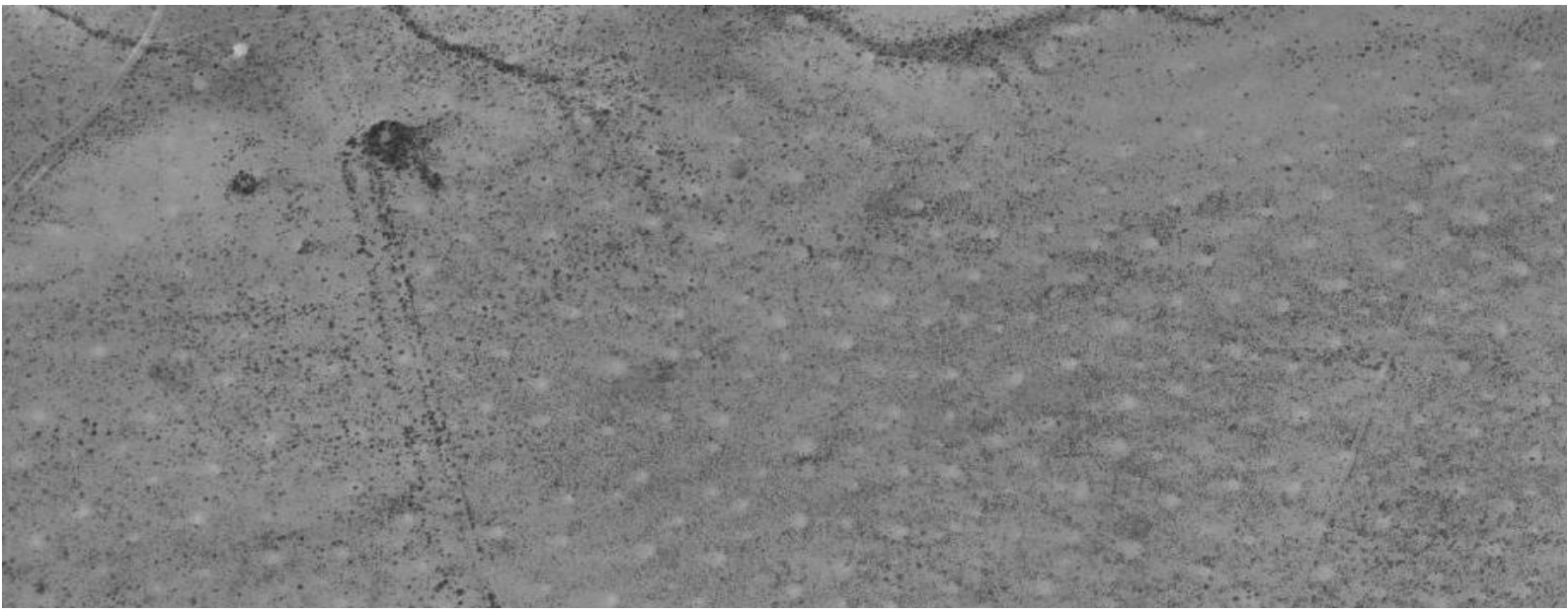
Bluestate Investments (Pty) Ltd
(The Proponent)

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) 8448,
Keetmanshoop District, //Karas Region



SEPTEMBER 2022

P. O Box 26826
6 Amasoniet Street
WINDHOEK, NAMIBIA

PROPONENT, LISTED ACTIVITIES AND RELATED INFORMATION SUMMARY

TYPE OF AUTHORISATIONS REQUIRING ECC

Exclusive Prospecting License (EPL) No. 8448

NAME OF THE PROPONENT

Bluestate Investments (Pty) Ltd

COMPETENT AUTHORITY

Ministry of Mines and Energy (MME)

PROPONENT ADDRESS AND CONTACT PERSON

P. O Box 26826
6 Amasoniet Street
WINDHOEK, NAMIBIA

Contact Person:
Dr Sindila Mwiya
Projects Director / International Resources Consultant
Mobile: + 264-811413229
Email: smwiya@rbs.com.na

PROPOSED PROJECT

Proposed Minerals Exploration / Prospecting activities
in the Exclusive Prospecting License (EPL)
No. 8448, Keetmashoop District, //Karas Region

PROJECT LOCATION

Keetmanshoop District, //Karas Region
(-26.416944, 18.938889)

ENVIRONMENTAL CONSULTANTS

Risk-Based Solutions (RBS) CC
(Consulting arm of Sivieda Group Namibia)
10 Schützen Street, Erf No. 7382, Sivieda House
Windhoek Central Business District (CBD)
P. O. Box 1839, **WINDHOEK, NAMIBIA**
Tel: +264-61-306058 / 224780 / 236598
Fax: +264-061-245001, Mobile: +264-811413229
Email: smwiya@rbs.com.na
Global Office / URL: www.rbs.com.na

ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Ms Emerita Ashipala
(MSc Env. Mag, BSc (Hons) Envi Bio)

Content List

List of Figures

List of Tables

NON-TECHNICAL SUMMARY

Bluestate Investments (Pty) Ltd (the "Proponent") has applied for mineral rights under the Exclusive Prospecting License (EPL) No. 8448 with respect to Base and Rare Metals, Dimension Stones, Industrial, non – nuclear Fuel Minerals, Nuclear Fuel Minerals, Precious Metals, Precious Stones (http://portals.flexicadastre. com/Namibia). The physical license of the EPL 8448 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 8448 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 of these areas.

The Proponent intends to 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 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 8448.

The area of the EPL falls within the Nama Karoo. The landscape is extremely barren and rocky with little soil cover. The vegetation consists of dwarf shrubs with some trees in riverbeds. Grass production is highly dependent on rainfall; thus, farming can be a difficult enterprise and livestock densities are low as a result of low vegetation cover and productivity of farmland (Mendelsohn et al. 2002). Generally, the area of the EPL is regarded as "low to very low" in the overall (all terrestrial species) diversity while the overall terrestrial endemism is "moderate" (Mendelsohn et al. 2002).

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 land owner/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 mineral 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. 8448:

(i) Groundwater studies including modelling as may be 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

Bluestate Investments (Pty) Ltd, the Proponent, holds mineral rights under Exclusive Prospecting License (EPL) No. 8448, 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.8448
- **EPL Holder and Proponent:** Bluestate Investments (Pty) Ltd
- **Application Date:** 10/11/2020
- **Commodities:** Base and Rare Metals, Dimension Stone, Industrial Minerals, Non-Nuclear Fuels Minerals, Nuclear Fuel Minerals, Precious Metals Precious Stones.
- **Size of the EPL:** 97345 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, surveying, and 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 investigation undertaken 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 8448 area, and the Proponent intend to conduct prospecting activities as part of the search for economic minerals deposits based 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 sure that 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 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 landowner 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.

1.3 Location, Site Description, Land Use, and Infrastructure

1.3.1 Location and Land Use

The EPL 8448 is located in the Keetmanshoop district, //Karas Region, the EPL is approximately 10 km northeast of Keetmanshop town (Fig 1.1 - 1.2). The EPL has a total area of 97345 Ha and covers the following commercial privately owned farmlands including: Kubis (Belle Vue), Stampriet, Kameelmund (Marhof), Kloofland, Eisenstein, Gareb, Spitzkoppe, Daweb, Grauhoff, Goris, Aurus, Klein Spitskop, Koppie, Gariganus, and Gariganus (Figs. 1.1-1.2). The land uses of the EPL area and surrounding general area is mainly centred on commercial agriculture and tourism freehold land including small stock, and intensive agricultural operations, a small portion on the west of the EPL falls within the urban land (Figs. 1.1 - 1.2).

1.3.2 Supporting Infrastructure and Services

The EPL area is accessible from Keetmanshoop on the B1 road, via the M29, C17 and C16 gravel roads (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 such as geological mapping, trenching, or drilling needs to be conducted following the delineation of potential targets 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 diesel 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.

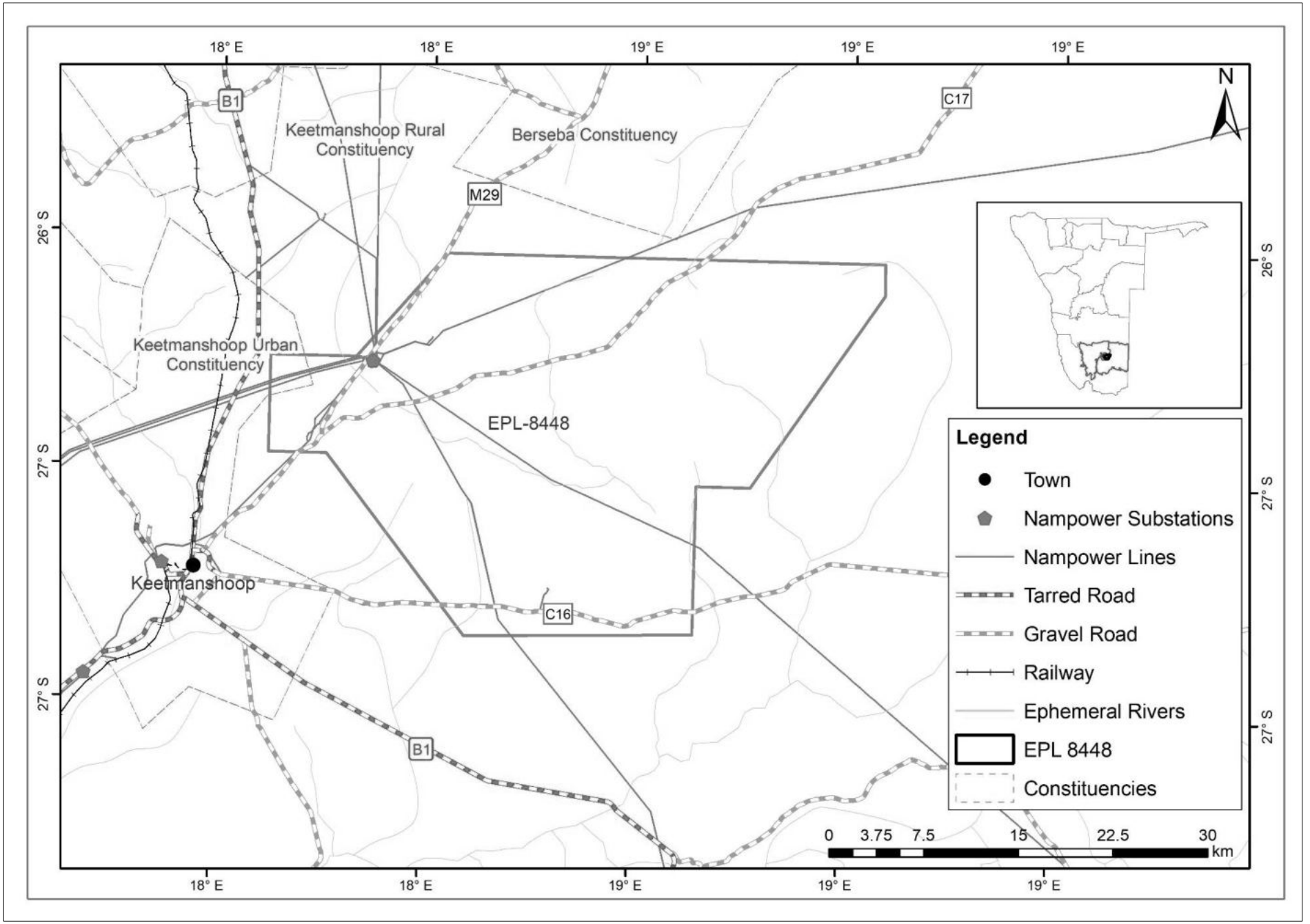


Figure 1.1: Detailed regional location of the EPL No. 8448 and related infrastructure

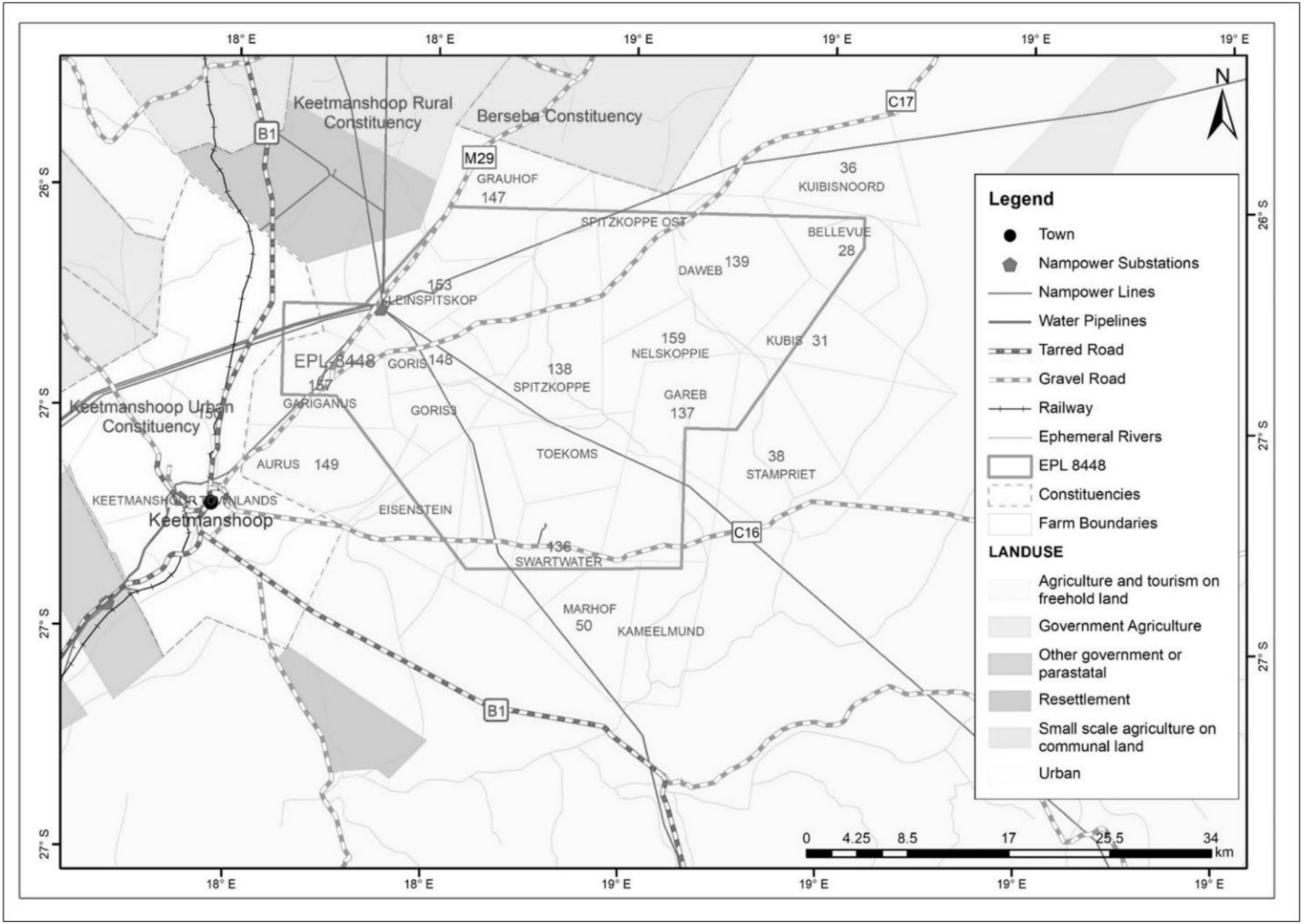


Figure 1.2: Detailed regional location overlaying commercial farms and various land use surrounding EPL No. 8448

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. 8448 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 June – July 2022**).

(ii) Preparation of the Background Information Document (BID) (**Undertaken in June 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 – 31st August 2022**).

(v) 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 **June - July 2022**.

(vi) 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**).

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

(viii) Comments and inputs from the client and I&APs consultations used to finalise the EIA / Scoping and EMP Reports (**Undertaken in July – 31st August 2022**).

(ix) 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**).

(x) 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.

(xi) 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.

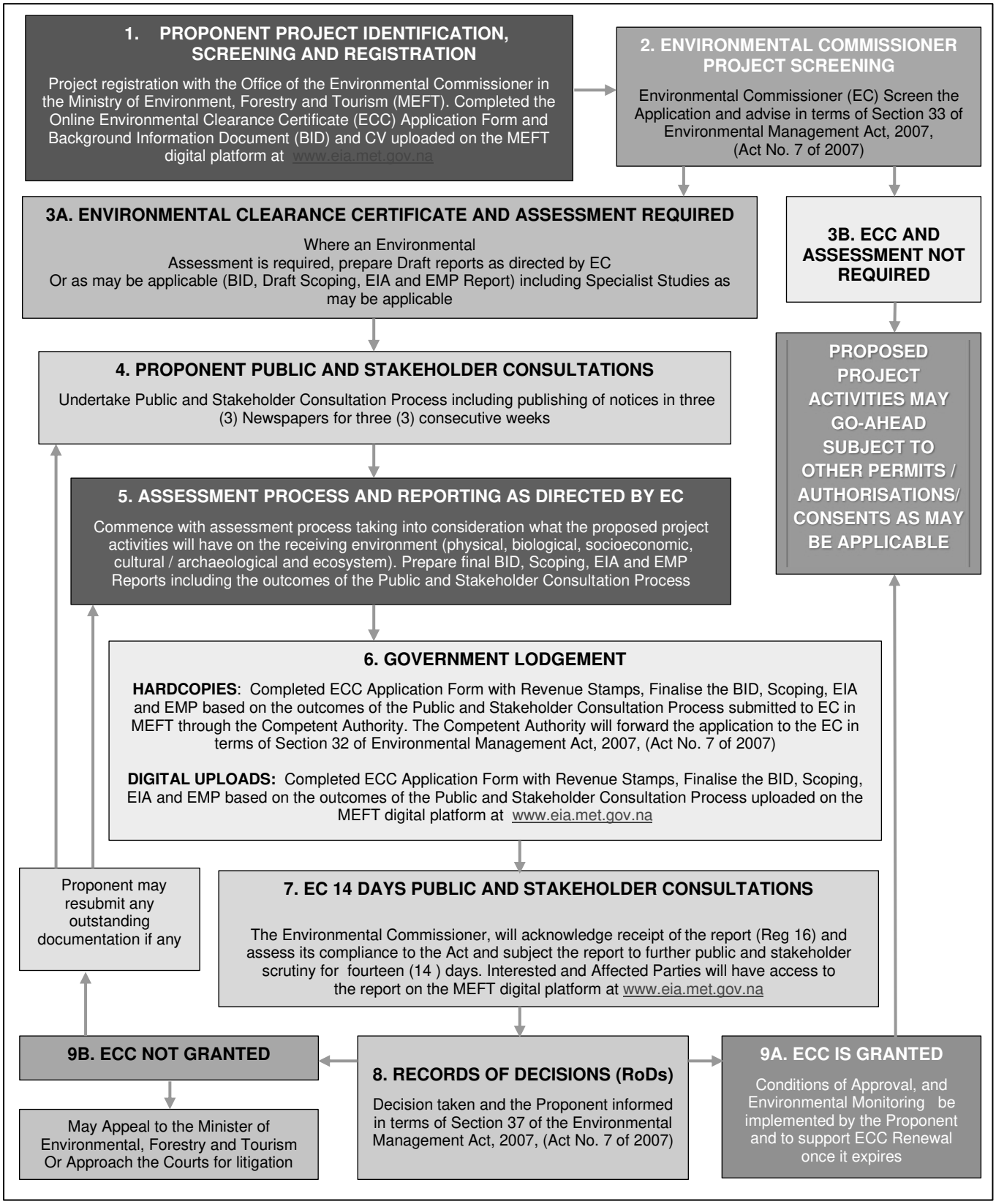


Figure 1.3: RBS Schematic presentation of Namibia's Environmental Assessment Procedure

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:** **References**

8. **Section 8:** **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 fieldwork 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 8448.

Table 3.2: Legislation relevant to the proposed exploration operations in the EPL No. 8448.

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 and Land reform (MAWLR)**	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 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.

LAW	SUMMARY DESCRIPTION
	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 Employment Creation (MLIREC)**	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.*
	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

LAW	SUMMARY DESCRIPTION
Petroleum Products and Energy Act 13 of 1990 ***Ministry of Mines and Energy (MME)***	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
		mg/l		-	-	-	at 25 to 30 ºC: 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	Zn	µ g/l	R	3000	-	100	-	S	5000	1000	5000	10000	>10000
in pipe		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

The //Karas Region is an arid zone with low and erratic rainfall as a result of low rainfall (Mendelsohn et al. 2002). The general area of the EPL falls within the subtropical desert climate. Precipitation of the area is characterised by relatively low summer rainfall (average 50-230 mm per year) mainly in February, March, and April, but the extreme south-western areas of //Karas receive occasional winter rain. Year-to-year variability of rainfall is very high, whereas years without significant rainfall are normal (climatedata.org).

The project area does not have a weather station with reliable wind records. However, based on the regional wind patterns, the prevailing wind in the area seems to be dominated by winds from the north-eastern and southwestern quadrants with an average wind speed of 3.4 meters per second. Locally, the situation may be different dues to various influences including topographic effects.

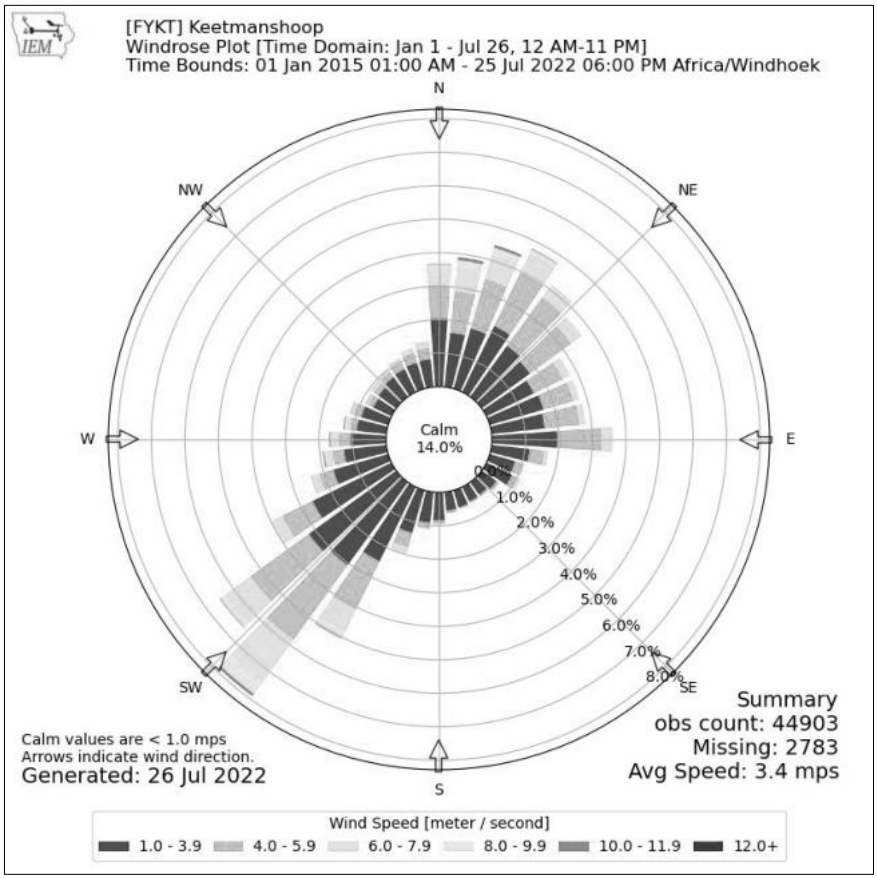


Figure 4.1: Dominant wind speed and direction of the Keetmanshoop (IEM, 2022).

4.2 Flora and Fauna Diversity

4.2.1 Overview

The area of the EPL falls within the Nama Karoo. The landscape is extremely barren and rocky with little soil cover. The vegetation consists of dwarf shrubs with some trees in riverbeds (Mendelsohn et al. 2002). Generally, the area of the EPL is regarded as “low to very low” in the overall (all terrestrial species) diversity while the overall terrestrial endemism is “moderate” (Mendelsohn et al. 2002).

4.2.2 Summary of Fauna Diversity

4.2.2.1 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 high *percentage* of endemic reptile species (39%) associated with the general south-central part of Namibia underscores the importance of the area. The most important reptiles in the area are viewed as those classified as a vulnerable and protected game under Namibian legislation – i.e., *Stigmochelys pardalis, Psammobates oculiferus, Psammobates tentorius verroxii, Python natalensis & Varanus albigularis. Tortoises – e.g., Stigmochelys pardalis, Psammobates oculiferus, Psammobates tentorius verroxii* – are viewed as the group of reptiles most under threat in Namibia (Griffin 1998a). Reptile species of concern are the burrowing species such as the blind snakes *Rhinotyphlops boylei and Rhinotyphlops schinzi* as these species are very difficult to study (and observe) with very little known about their ecological role and actual status in Namibia. However, none of these species are exclusively associated with the proposed development site.

4.2.2.2 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. The loss of habitat would be limited to the actual footprint of the exploration. Of the 14 species of frogs that may occur in the study area, two are of conservation interest – the Dombe Dwarf Toad (*Poyntonophrynus dombensis*) and the Spotted Rubber Frog (*Phrynomantis affinis*). They may be rare and seasonal in the area.

4.2.2.3 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 61-75 species of mammals likely occurs in the study area.

4.2.2.4 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. The only endemic species known/expected to occur in the general Keetmanshoop area are the Rosy- faced Lovebird and Rüppell's Korhaan. Other important species include various raptors (e.g. Martial, Tawny & Verreauxs') which are declining throughout Namibia (declines not always understood, although humans are often the cause thereof – e.g. killed as perceived predators of poultry and lambs or as collateral damage during poisoning episodes against problem animals). Numerous associated power lines and pylon infrastructures are viewed as the biggest threat to species such as bustards and larger raptors. However, none of these species are exclusively associated with the EPL area.

4.2.3 Summary of Fauna Diversity

4.2.3.1 Trees /shrub species

Important tree and shrub species are the endemic (*Aizoanthemum dinteri, Aloe pachygaster Dinter*) etc, near endemic (*Aloidendron dichotomum, Blepharis gross, Commiphora glaucescens* etc), species protected under the Forestry Ordinance No. 37 of 1952 and/or Forest Act No. 72 of 1968 (Acacia erioloba, Boscia albitrunca, Maerua schinzii, Parkinsonia africana Sond) Table 4.1. The EPL falls within the Nama Karoo with extremely diverse vegetation cover as indicated in Fig. 4.1.

Table 4.1 Endemic, near endemic, protected and forestry protected species occurring in the general area (National Herbarium of Namibia (WIND). 2020).

SPECIES	ENDEMISM	PROTECTED
Acacia erioloba E.Mey. [1]		Forestry Protected
Aizoanthemum dinteri (Schinz) Friedrich	Endemic	
Aloe pachygaster Dinter	Endemic	Protected
Aloidendron dichotomum (Masson) Klopper & Gideon F.Sm.	Near Endemic	Protected
Anisostigma schenckii (Schinz) Schinz	Endemic	
Blepharis fleckii P.G.Mey.	Endemic	
Blepharis grossa (Nees) T.Anderson	Near Endemic	
Blepharis spinifex Merxm.	Endemic	
Boscia albitrunca (Burch.) Gilg & Gilg-Ben.		Forestry Protected
Cleome suffruticosa Schinz	Endemic	
Commiphora glaucescens Engl.	Near Endemic	
Crassula muscosa L. var. muscosa		Protected
Euphorbia lignosa Marloth	Near Endemic	
Euphorbia spartaria N.E.Br.	Endemic	
Lapeirousia gracilis Vaupel	Endemic	
Maerua schinzii Pax		Forestry Protected
Merremia bipinnatipartita (Engl.) Hallier f.	Endemic	
Mollugo walteri Friedrich	Endemic	
Monechma calcaratum Schinz	Endemic	
Monsonia trilobata Kers	Endemic	
Monsonia umbellata Harv.	Near Endemic	
Myxopappus acutilobus (DC.) Källersjö	Near Endemic	
Namophila urotepala U.Müll.-Doblies & D.Müll.-Doblies	Endemic	
Ondetia linearis Benth.	Endemic	
Ozoroa namaensis (Schinz & Dinter) R.Fern.	Near Endemic	
Parkinsonia africana Sond.		Forestry Protected
Pavonia rehmannii Szyszyl.	Endemic	
Pegolettia oxyodonta DC.	Near Endemic	
Petalidium setosum C.B.Clarke ex Schinz	Near Endemic	
Psilocaulon gessertianum (Dinter & A.Berger) Dinter & Schwantes	Endemic	

SPECIES	ENDEMISM	PROTECTED
Ptycholobium biflorum (E.Mey.) Brummitt subsp. biflorum	Near Endemic	
Ruschia odontocalyx (Schltr. & Diels) Schwantes	Endemic	Protected
Sisyndite spartea E.Mey. ex Sond.	Near Endemic	
Solanum dinteri Bitter	Endemic	
Solanum rigescentoides Hutch.	Endemic	
Tephrosia dregeana E.Mey. var. dregeana	Near Endemic	
Tripteris nervosa Hutch.	Endemic	

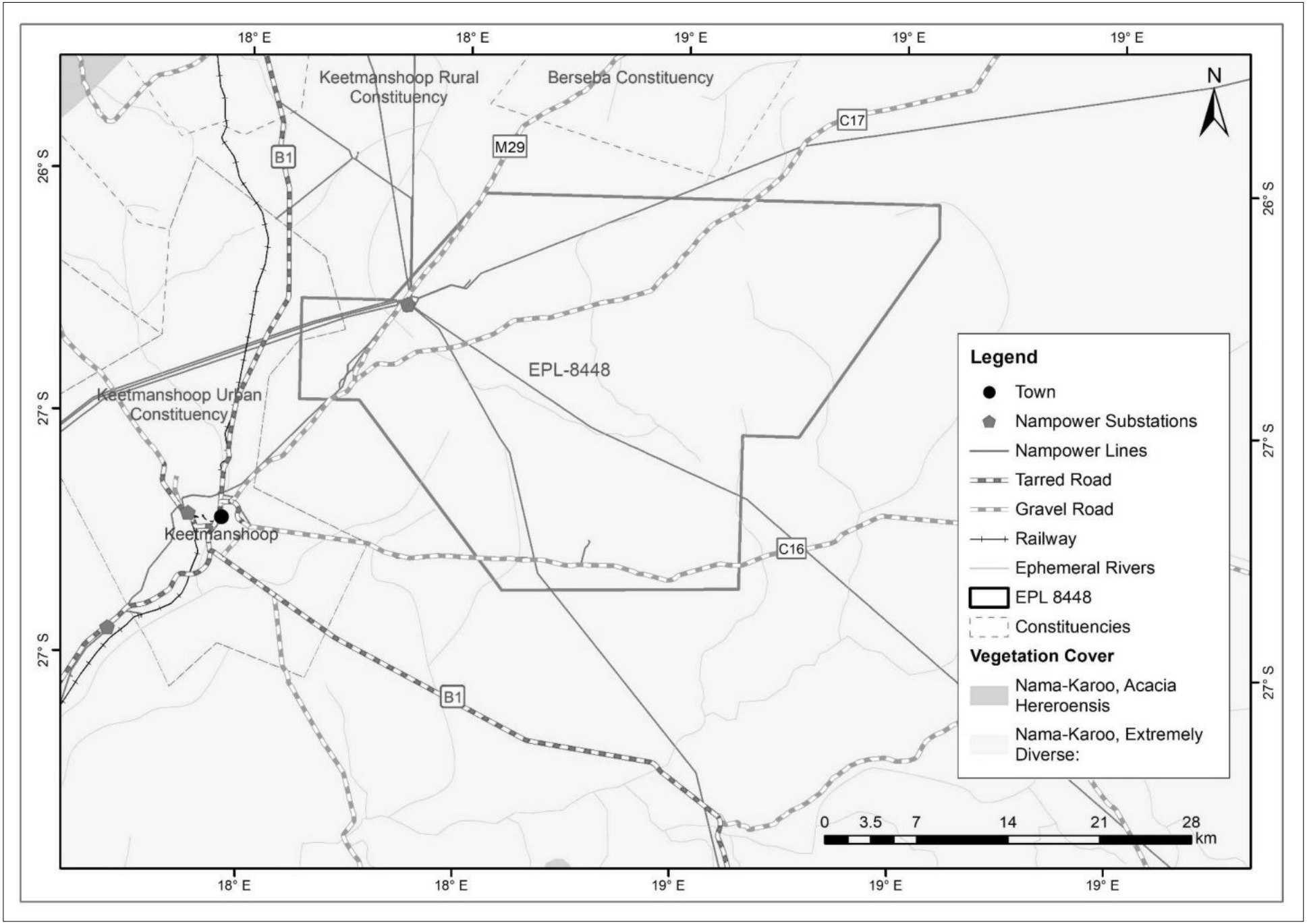


Figure 4.2: Vegetation diversity found within and around the EPL No. 8448 area

4.3 Ground Components

4.3.1 Geology

Namibia's varied geology encompasses rocks of the Archaean to Cenozoic age, thus covering more than 2 600 million years (Ma) of Earth's history (Mendelsohn et al. 2002). Much of the southern part of Namibia is underlain by sedimentary rocks of the Nama Group and thus forms the large hydrogeological unit of the Fish River Basin and the Keetmanshoop-Aroab area. Due to their predominantly horizontal bedding, rocks of the Nama Group tend to weather and erode in layers, resulting in flat plains, with major drainages forming canyons and gorges. Erosion produces rock fragments or clay-size particles, and rivers accumulate very little sandy alluvium. The western boundary of the Nama Group is clearly defined as the major escarpment adjacent to the Schwarz, while to the east, the escarpment of the Weissrand, made up of younger deposits of the Stampriet basin, forms the natural boundary. The geology consists of Dwyka shale and tillite of the Karoo Sequence, which are intruded by dolerite dykes and shale (Nama Group), which is generally a weak aquifer (Fig 4.3).

4.3.2 Soils

The area of the EPL 8448 is dominated by Eutric Leptosols and rock outcrops (Fig.4.4). Leptosols typically form in actively eroding landscapes, especially in the hilly or undulating areas that cover much of southern and north-western Namibia (Mendelsohn et al. 2002). These coarse-textured soils are characerised by their limited depth caused by the presence of a continuous hard-rock highly calcareous or cemented layer within 30 cm of the surface. The leptosols are, therefore, the shallowest soils to be found in Namibia and they often contain much gravel. As a result, their water-holding capacity is low, and vegetation in areas in which they occur is often subject to drought. Rates of water run-off and water erosion can be high when heavy rains. At best, these soils can support low densities of livestock and wildlife (Mendelsohn et al. 2002).

4.3.3 Water Sources

Rock types of the Nama Group are inherently impermeable with little or no primary porosity. Groundwater is hosted in secondary features like faults and joints in sedimentary rocks of clastic origin (sandstone, quartzite, and shale) and solution features in limestones and dolomites. Lack of recharge and poor groundwater quality in most areas further aggravates the situation. In the //Karas region water levels are generally shallow in the east, close to the course of the Fish River, but become progressively deeper towards the escarpment in the west, where water levels deeper than 200m are recorded. The EPL falls within the Fish River basin and contains several boreholes (Fig. 4.5). Drilling targets are mostly tectonic features such as faults and joints. The largest town and regional centre source water from a surface water scheme fed from Naute Dam whereas smaller towns like Aroab, Maltahöhe, Kalkrand, Gibeon, Berseba, and Bethanie rely on groundwater extracted from aquifers in Nama sediments (Groundwater in Namibia, 2001).

.

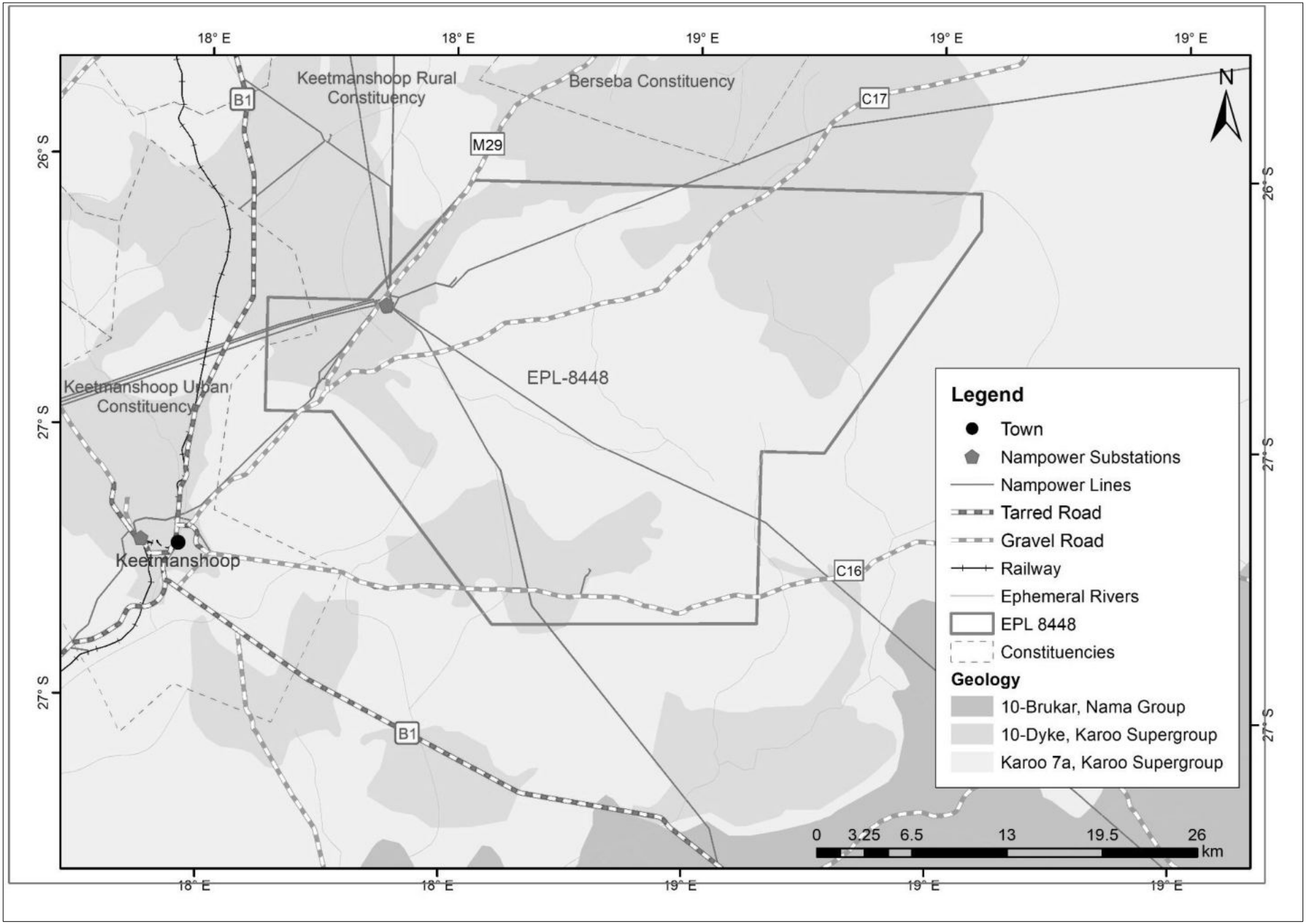


Figure 4.3: Rock types / solid geology found within and around the EPL No. 8448 area

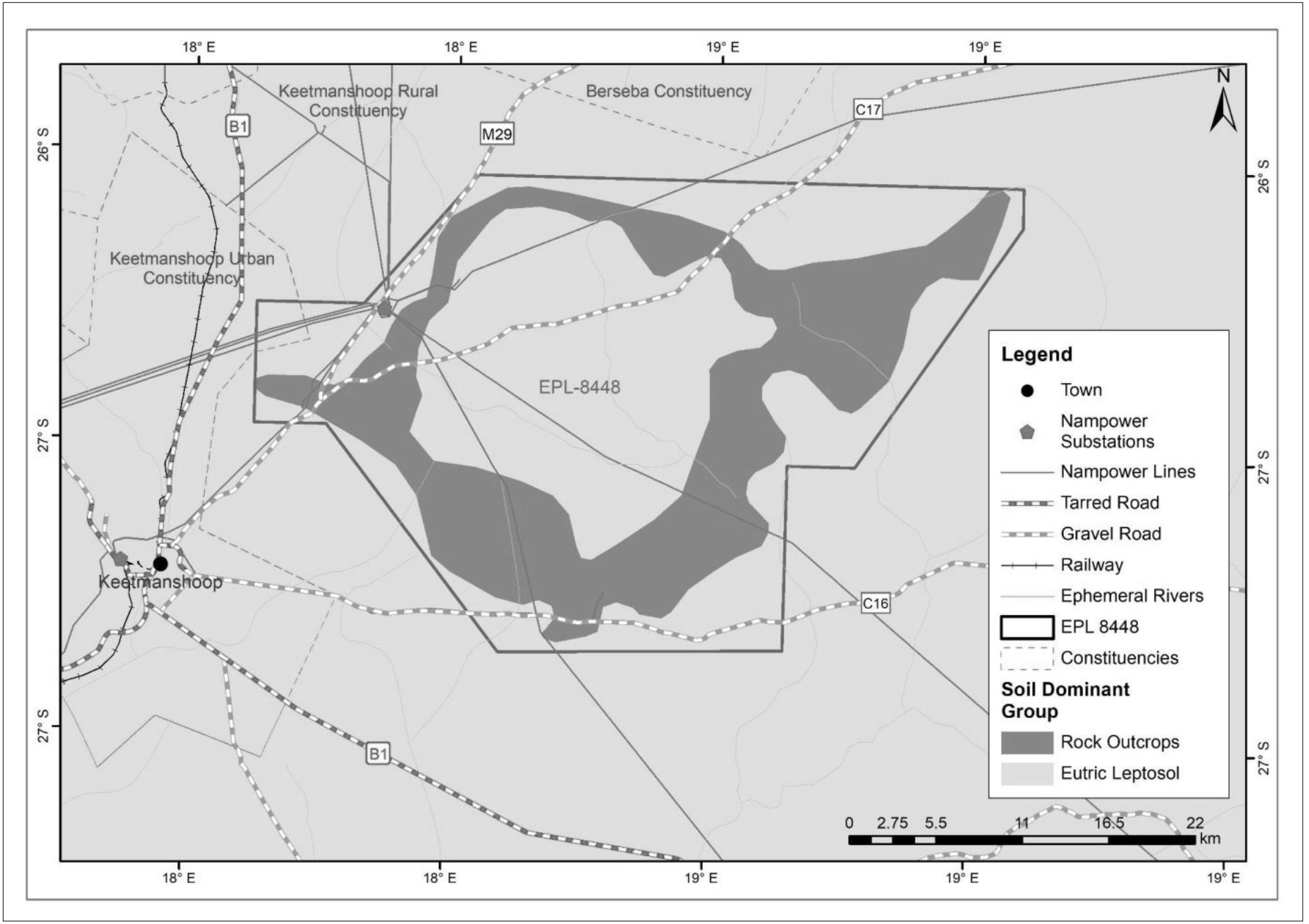


Figure 4.4: Soil types / surficial geology found within and around the EPL No. 8448 area

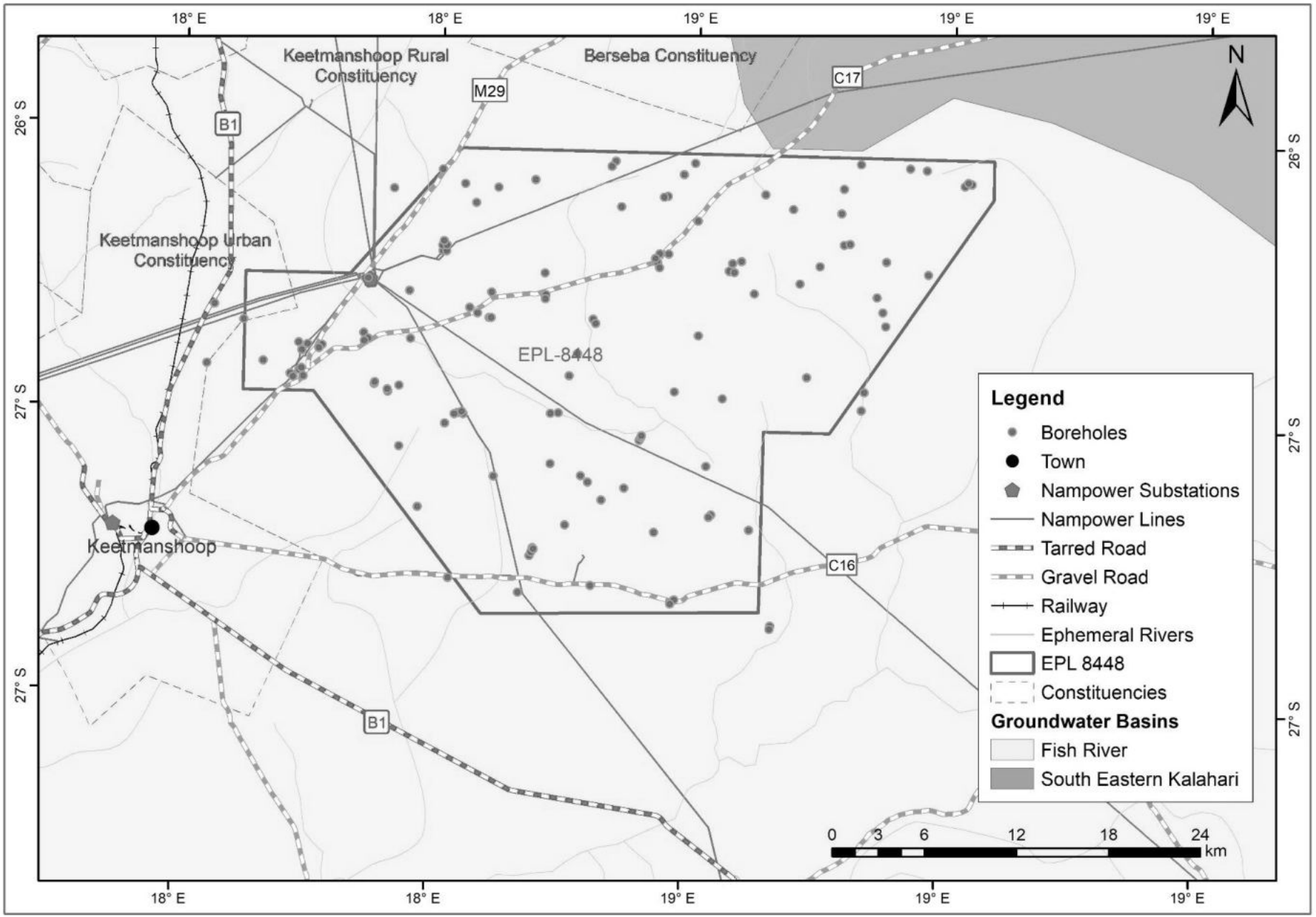


Figure 4.5: Groundwater and water supply schemes found within and around the EPL No. 8448 area.

4.4 Socioeconomic Setting

4.4.1 Overview

The //Karas Region has an estimated population of 76000 (CBS, 2011), the average population density being 0.5 persons per square kilometre. The predominant languages in the region are Nama and Damara, Afrikaans although Otjherero and Oshiwambo are also commonly spoken. The region has been divided into seven constituencies, namely the Nami-#Nus, Berseba, Oranjemund, Karasburg east, Karasburg west, Keetmanshoop Urban, and Keetmanshoop Rural. The EPL falls within the Berseba constituency.

4.4.1.1 Regional Socioeconomic Setting

- According to the Namibia 2001 Population and Housing Census, //Karas had a population of 69,329 (32,346 females and 36,976 males or 114 males for every 100 females) growing at an annual rate of 1.3% (National Statistics Agency (NSA), 2016 and 2013).

- About 54% lived in urban areas, while 46% lived in rural areas, and with an area of 161,215 km^2, the population density was 0.4 persons per km2.

- By age, 11% of the population was under 5 years old, 20% between 5 and 14 years, 63% between 15and 59 years, and 6% 60 years and older.

- The population was divided into 15,481 households, with anaverage size of 4.1 persons; 35% of households had a female head of the house, while 65% had a male. For those 15 years and older, 69% had never married, 20% married with a certificate, 2% married traditionally, 5% married consensually, 1% were divorced or separated, and 2% were widowed.

- For those 15 years and older, the literacy rate was 87%. Nearly 45% of the population are from coloured and white Namibian groups. In terms of education, 52% of girls and 48% of boys between the ages of 6 and 15 were attending school, and of those 15 years and older, 77% had left school, 7% were currently at school, and 7% had never attended.

- According to the 2012 Namibia Labour Force Survey, unemployment in the //Karas Region stood at 23.9% (National Statistics Agency (NSA), 2016 and 2013). Among households, 94% had safe water, 26% had no toilet facility, 50% had electricity for lighting, 81% had access to radio, and 35% had wood or charcoal for cooking. In terms of households' main sourcesof income, 7% derived it from farming, 69% from wages and salaries, 6% from cash remittances, 5% from business or nonfarming, and 10% from pensions (National Statistics Agency (NSA), 2016 and 2013).

- For every 1,000 live births, 37 female and 56 male infant deaths occurred. The life expectancy at birth was 61 years for females and 54 for males (National Statistics Agency (NSA), 2016 and 2013). Among children younger than 15, 4% had lost a mother, 6% had a father, and 1% were orphaned by both parents. About 3% of the entire population had a disability, of which 22% were deaf, 29% blind, 10% had a speech disability, 13% had hand disability, 27% had leg disability, and 7% had mental disability.

- There has been a proportional decline in the //Karas Regions population as only 3.66% of the country's population live in the region and the region's population is growing at a slower rate (1.1%) than the national growth rate (1.4%).

- There is a high migration rate from especially the north central regions to the //Karas region.

- There is only slightly more males than female indicating that either migratory male job seekers had moved away from the region (a possible explanation for the negative growth rate in the Lüderitz/!Nami=nüs constituency) or that more females are being employed by companies that historically employed men.

- A high proportion (63%) of the population is of working age (between 15 and 59 years);
- There is a large urban population (54% compared to 43% nationally) and 92.4% of the residents in the Lüderitz /!Nami=nüs constituency live in the town.
- The main source of income in the region is wages and salaries (72%) and the fishing and mining industries are the largest employers, and.
- There is a high labour force participation rate of 75.4% for the region.

4.4.1.2 Locally Socioeconomic Setting

The EPL falls within the Keetmanshop Rural constituency with the following socio – economic summary:

- Keetmanshoop Urban was the most densely populated among all constituencies, with a density of 37.1 persons per square kilometre. On the other hand, Keetmanshoop Rural was the least densely populated constituency with a density of 0.2 persons per square kilometre.
- Keetmanshoop Urban constituency accommodated over 25 percent of the total population, or 19,447 persons - up from 22.8 percent 10 years ago. Only 9.3 percent of the population (7,219 persons) lived in the Keetmanshoop Rural constituency.
- The regional adult literacy rate was 96.6 percent with no major difference between males and females. The adult literacy rate in urban areas stood at 98.0 percent compared to 94.9 percent in rural areas. Furthermore, adult literacy was 93.6%.
- The labour force participation rate for the //Karas Region was 75.4 percent. The rate was higher for males (79.6%) than for females (70.9%). There was no difference in the Labour force participation rate in rural and urban areas (75.4% each). The labour force participation rates for Keetmanshop Rural constituency were 72.3%
- Higher proportion of unemployed females than males in all constituencies were actively looking for work. However, the highest proportion of job seekers of both sexes in Keetmanshop Rural was 21.4%

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 8448. 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 minerals exploration activities in EPL No. 8448. The closing date for registration and submission of written objections, comments, and inputs to the environmental assessment process was 31 August 2022.

The public consultation process was undertaken by sending postal letters and Draft Environmental Impact Assessment and Environmental Management Plan Reports to farmers (Annex 2) and newspaper advertisements as shown in Figs. 4.6 - 4.7 and tear sheets in Annex 3. The project was advertised as follows:

- New Era Newspaper dated 9th June 2022 Fig.4.6, and
- The Confidante Newspaper dated 17 – 23 June 2022. Fig.4.7.

NEW ERA
Rukwangali

Nghipondoka: Ose kapi tatuvhuru kuruganena pwanyamwetu

■ Paheja Siririka

Ministera Anna Nghipondoka katente asi gerongo kapi tavavhuru kurugana pwavelike vanapumbwa makwatesoko kovahameni navenye ngesi kuna kutwima mokuwapukurura mukaro ogu.

Age katente asi awo ngesi kuna kugwanekera novagendesi pamberewa ntani nombunga dovarongwa posiruwo sokuwapukurura erongo omu vana kukaturapo epongo kosure zaEros zontateko nkera.

Nghipondoka katente asi sitambo sepongo eli kuna hara vawizepo noyitiundwamo yina kwata moyitji sirongo nasinye omu tuna hara asi nombunga nadinye dihamenemo.

"Mokugusapo ndikusikisamo sitambo nasinye, omu yina kupumbwa elihamenomo navenye, kuna kara asi navenye vahepa kuhamenamo unene vanonandivadinkantu, varongwa ntani vamiti" , yimo ngoso ana kutanta.

Nghipondoka katente asi; sitambo setu kuna kara asi kugwanekera kumwe novampitisili womonomukunda horowero, omu navakazogera nokukaliyonga momunene epongo eli ngalikarako mwa

Ministera Anna Nghipondoka

Kudumogona.

Eyi kuna kara asi yahepa kugwana siruwo nye sokureta erongo momaliyongo nampili paupolitika.

Elikwamo eli kuna kulitumbura asi kuwapukurura erongo kuna kara noyiturapo yitanoeyinatutarurura, posiruwo esi tuna kugwanekera kumwe nonomukunda ngendeseso, kwagwana navenye, etekuro lyewa ntani kugwana erongo eli lina waperere ntani mukaro gokuparuka, yirugana ntani ekuliko, varongwa, kuronga ntani kuronga kokuslkiliramo ntani yimaliwa nye yokuruganesa kerongo.

Mukuronagona gerongo pamberewa Edda Bohn katente asi, Namibia kuna kuliwapayikira morwa nawo vamwe vahameni wombunga zaUN omu vagava asi erongo vahepa kuliwapukurura pantambo uzuni ntani yahepa kuhoroka ponomukundahorowero.

Nositamboasitwahepakukara nerongo lyomawokowoko yiyo yina kutanta nyue eyi, kumwe na Bohn katente asi twahena kuturapo elikwamo lina wapere omu natuwapukurura eronbgo nomunatuvhura kulipa yimaliwa yinagwanene.

" Ose tuna yimono eyi melikwamo lyetu, asi ngapi apa twatanda asi eronbgo lyomawokowoko omu nye twatulisapo pakare simaliwa somawokowoko konosure omu twayitura asi yikare kapisi mfuto zosure.

Ose hena twamona asi yiruganeso yosirongo mudima kapi yagwanena. Bohn kagwedereko hena asi; mvhura mwankenye mvhura, ose kugwana yimaliwa vana horako eyi avagava konosure.

Twahepa kuwapukurura nokugwedako kweyi aligava epangero omu alifutu vamitili, mavango gokuruganena ntani nayimwe yokuvhura kurongesa –yinzi yina hemenemo yina kupura yimaliwa melikwamo lyerongo."

Siruwo sokudingura vanasigusako mosipangero saKatutura

Egendeso lyosipangero sepangero saKatutura ngesi vana vanagusapo etarerio vaveli mosiruwo sosisupi. Awo kavatente asi kapi vana kukapulisira vantu vaze vakatare ekoro lyawo mosipangero morwa kambumburu aka koCovid-19 kuna kuligwederera unene.

Mbudi ezi kavatumine konosayitunga ezi kavatumine moutatu kazitundire kosipangero saKatutura sepangero mukurona gendesi gwaso ndokotora Mwadina Shiweda, katente asi morwa sivaro nye esi siona kukanduka so Covid-19 monkarapamwe, ngesi kapi vana kukapulisira vadinguli mosipangero sepangero sina.

Dogoro vegemdeso ngavatante asi ngesi yinalitjindji ntani ngava vhura kukatarerapo unene nsene mukaro ogu goCovid-19 guna litura.

Ose kuna kuyimona asi ukanguki nekeverero kuna kara sokuhova kovantu vetu vakare asi vaveli ndi vava vana kupira kuvera. Yipo nye asi ose ngesi tuna rundurura elikwamo lyetu lyokutarerapo.

Elikwamo lyokurundurura noveta kwatameka mo 7 December 2021, dogoro ngatu gave ko mbudi peke." Yimo ana kutanta DR. Shiweda.

Mukunda horowero gwaKhomas momandaha pita kagukere nosivaro sina siki ko 121 ava vana kara nokambumburu koCovid-19 ntani mouvali sivaro kasikere 62 ava vana kara asi kuna kusuntungana nokambumburu aga, ano ngesi sivaro nye sovantu vana kara nokambumburu aka kuna kara 1034 sirongo nasinye.

Eyi kayininkisire nye ministera goukanguki ndokotora Kalumbi Shangula ahundire vantu asi vahepa kutjindjankeresozawozokupatrukisa omu navasesupika kuhanesa mukisi ogu gokambumburu koCorona, unene posiruwo nye esi tuna kuza ngesisokukapwizumukanokukadana Krismisa ntani mumvho gomupe.

- Nampa

Rutjeno rwahana asi paveta komarukanda vatunga vahepwe

■ Varugani Venduka

Masere govantu vatunga korukanda simpe kuna kutwikira kutura rutjeno pwahana asi paveta ntani kuruganesa marutjeno gokutjilisa awo kugaruganesa konoramba , kukangura ntani konoeiskas dawo.

Mutungimo gumwe morukanda rwaHavana ogu kahundilire asi twahamutumbura kedina katente asi eyi kuna kuyiretesapo morwa sinzi sovantu kuna hara vagwane rutjeno.

Apa nye katukere tatugendi momarukanda ngwendi Havana, Ombili ntani Okahandja Park moutano, mugavimbudikamwene vantu omu vanakutura rutjeno runa gumu mvhura kazirokere mutatu nomuune.

Rutjeno oru kwarusimina mevhu ano rumwe kwakara tupu pevhu lyangoso yina kara asi udona una karapo opo unene siruwo nye esi zina kuroka mvhura nevhu alyo lina woro.

Ogu ana kara asi gayidiva udona wokutura marutjeno ogo, gonomvhura 21 mutungimo morukanda rwaHavana age kuna kuhundira asi ava ava kava rutjeno vahepa kurureta korukanda oru.

Mumati gona ogu nage kanyokere kutumbura Edina lyendi kasikeme monzira vana kutumbura asi Zambia ogu ana kuwapayika rutjeno oru karugwire kumwe nokudimisa ramba moune ngurova.

Mokumupurako nye asi kapi yina kara siponga mokutura rutjeno, age kalimbwilire asi kuvhura rukuvete.

Amen are rwagusa kuvetange nye yinke nani vhura kurugana? Eparukuna kutusininikaturugane yininke yangoso tugwane rutjeno.

Age katente asi aw okapi vavaturamo melikwamo lyokugwana rutjeno vatulisapo wondango zositata makura yiyo yina kuvaninkisa vavakenye rutjeno nsene asi ono kara namukwenii mosinano sokusika ko 500 m ure nembo lyoge.

Simpe age katente asi kufuta yimaliva yina siki ko N$1000 mokwedi morwa kuwiza kumwe nosiruwo, morwa aw okapi tavaruganesa esuga ntani kukangura.

Ose kuruganesako mokugwana noramba membo, ntani noeiskas ntani TV. Ose kutereka korutjeno rogasie, yimo ana kuhuyunga mudinkantu ogu. Ose kuna hara mema gomawa ntani yikasayise monoplots detu.

Kapisi ure nendi, gonomvhura 48 mugara kurona kuna kukonakona asi tayirugana ndi ngapi. Udigu unene nye nsene asi wayidiva kuyiruganesa, kuvhura nye yipire kukuhorokera nkenye eyi.

Ogun age ana kuliza novakwawo, Fredirick Gamibeb. Asi rutjeno oru kwarugwanekedesa popanzi nye nsene kapi yina wapa kukoka marutjeno nagenye.

Gamibeb kuna kundindira asi vagwane nonzira ntani rutjeno morwa vantu ngesi vana horowora. Mukurona govaporosi wositata sa Venduka Abraham Kanime katente asi etengeko lyakarapo nsene muntu vana kugwana asi kwagusa rutjeno pwahana asi paveta, yimaliva yokusika ko N$2000.

Kanime katente asi nsene rutjeno vanarutura neyi ava dingipo, kapisi hepero odingunu nepo morwa nsene pana zimema kuvhura nye rukuvete.

Nsene asi rutjeno runa zimema hawe waha danenapo siponga unene yimo ana kutanta ngoso Kanime.

PUBLIC NOTICE

APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) BY BLUESTATE (Pty) Ltd FOR PROPOSED MINERALS PROSPECTING ACTIVITIES IN THE EXCLUSIVE PROSPECTING LICENSE (EPL) 8448, KEETMANSHOOP DISTRICT, //KARAS REGION

Bluestate Investments (Pty) Ltd (the "**PROPONENT**") has the preparedness to grant mineral rights under the Exclusive Prospecting Licenses (EPL) 8448 with respect to Base and Rare Metals, Dimension Stone, Industrial Minerals, Precious Metals, and Precious Metals, and Precious Stones. The physical license of the EPL will only be granted by the Mining Commissioner once the Proponent has obtained Environmental Clearance Certificate (ECC) from the Environmental Commissioner. The EPL 8448 has a total area of 97345 Ha and falls within commercial farmlands as indicated on the map. Once the ECC is granted, 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) is 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 1st JULY 2022

Risk-Based Solutions (RBS) CC (URL: www.rbs.com.na)
Your Permitting & De-Risking Specialist Consultants (Oil, Gas, Minerals & Energy Exploration, Production & Mining) & Environmental Assessments (SEA, EIA, EMP, EMS & ESG)

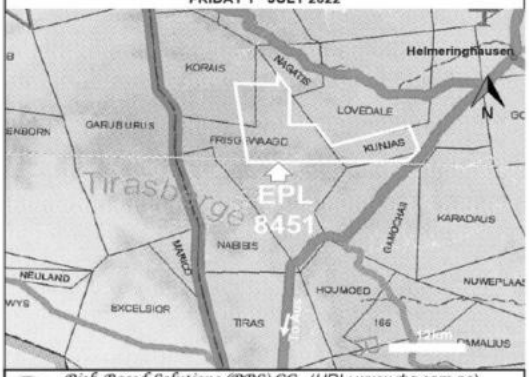
Figure 4.6: Public noticed tear sheet for EPL No.8448 advertised in the New Era Newspaper, dated 9th June 2022.

PUBLIC NOTICE

APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) BY FARPOINT INVESTMENTS (Pty) Ltd FOR PROPOSED MINERALS PROSPECTING ACTIVITIES IN THE EXCLUSIVE PROSPECTING LICENSE 8451, BERSEBA DISTRICT, //KARAS REGION

Farpoint Investments (Pty) Ltd (the "**PROPONENT**") has the preparedness to grant mineral rights under the Exclusive Prospecting Licenses (EPL) 8451 with respect Dimension Stone and Non-Nuclear Fuels. The physical license of the EPL will only be granted by the Mining Commissioner once the Proponent has obtained Environmental Clearance Certificate (ECC) from the Environmental Commissioner. The EPL 8451 has a total area of 8631.1588 Ha and falls within commercial farmlands as indicated on the map. Once the ECC is granted, 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) is 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 1st JULY 2022



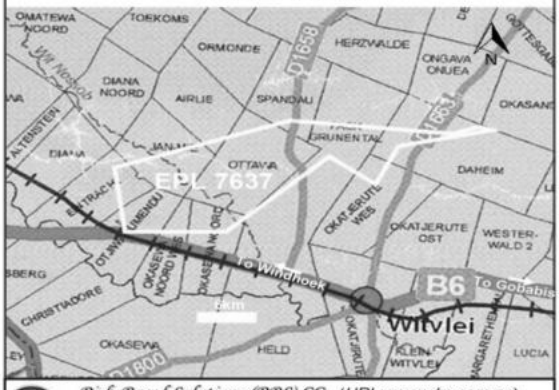
Risk-Based Solutions (RBS) CC (URL: www.rbs.com.na)
Your Permitting & De-Risking Specialist Consultants (Oil, Gas, Minerals & Energy Exploration, Production & Mining) & Environmental Assessments (SEA, EIA, EMP, EMS & ESG)

PUBLIC NOTICE

APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) BY AEED CONSORTIUM (Pty) Ltd FOR PROPOSED MINERALS PROSPECTING ACTIVITIES IN THE EXCLUSIVE PROSPECTING LICENSE (EPL) No. 7637, GOBABIS DISTRICT, OMAHEKE REGION

AEED Consortium (Pty) Ltd (the "**PROPONENT**") has applied for the transfer of the EPL No. 7637 from Ayen Tjiteere. The EPL 7637 was granted on the 30/10/2019 and will expire on 29/10/2022. The EPL 7637 has a total area of 18904.7886 Ha and covers commercial farmlands as indicated on the map. The license is granted for base and rare and precious metals. Once the ECC and EPL transfer 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) is 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 1st JULY 2022



Risk-Based Solutions (RBS) CC (URL: www.rbs.com.na)
Your Permitting & De-Risking Specialist Consultants (Oil, Gas, Minerals & Energy Exploration, Production & Mining) & Environmental Assessments (SEA, EIA, EMP, EMS & ESG)

PUBLIC NOTICE

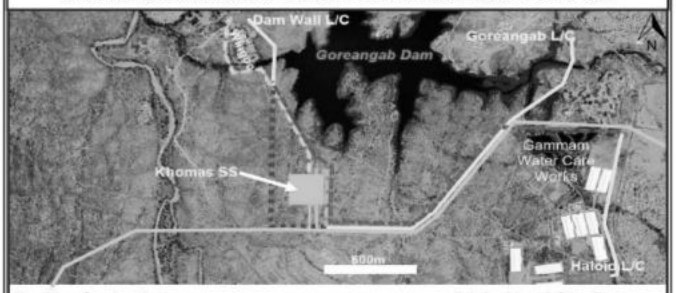
APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) FOR PROPOSED NEW AND REROUTING OF EXISTING 66kV OVERHEAD POWERLINES NETWORKS BY LINKING THE GOREANGAB LOAD CENTRE (L/C) AND DAM WALL L/C TO THE NEW KHOMAS SUBSTATION (SS) AROUND GOREANGAB DAM, WINDHOEK, KHOMAS REGION

The **City of Windhoek** (**CoW**), (the **Proponent**) is proposing to develop new and reroute existing 66kV overhead powerlines around the southern-eastern, southern, and western edges of the Goreangab Dam by linking the various powerline segments Goreangab Load Centre (L/C) and Dam Wall L/C to the new Khomas Substation (SS). The following is the summary of the proposed new and existing overhead powerlines to be created and dismantled, respectively:

1. **CoW New Overhead Powerline Networks / Routes to be Developed:**
   (a) Red broken line: 66kV Haloid L/C line Tie-In point to Dam Wall L/C Tie-In point: 3.88km
   (b) Cyan broken line: 66kV Dam Wall L/C to Khomas SS: 1.75km
   (c) Green broken line: 66kV Khomas to Goreangab L/C line Tie-In point: 0.62km
2. **Existing CoW Overhead Powerline Networks to be Dismantled Due to New Developments:**
   (a) Purple broken line: 66kV Goreangab L/C to Dam Wall L/C: 1.62km.
   (b) Blue broken line: 66kV Goreangab L/C to Haloid L/C: 0.93km

The proposed powerlines rerouting project activities are listed in the Environmental Management Act, 2007, (Act No. 7 of 2007) and the Environmental Impact Assessment (EIA) Regulations 30 of 2012 and cannot be undertaken without an Environmental Clearance Certificate (ECC) In fulfilment of the environmental requirements, the developer 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 EIA and Environmental Management Plan (EMP) Reports to support the application for an ECC. Interested and Affected Parties (I&APs) are hereby invited to register and submit written comments / objections with respect to the proposed overhead powerlines project.

REGISTER BY EMAIL: frontdesk@rbs.com.na
Dr Sindila Mwiya (EAP/Technical Permitting Advisor/Consultant
DEADLINE FOR SUBMISSION OF WRITTEN INPUTS/OBJECTIONS TO BE CONSIDERED IN THE ENVIRONMENTAL ASSESSMENT PROCESS IS: FRIDAY 1st JULY 2022



New Lines Construction
- 66kV Dam Wall L/C to Khomas SS: 1.75km
- 66kV Haloid L/C line Tie-In point to Dam Wall L/C Tie-In point: 3.88km
- 66kV Khomas to Goreangab L/C line Tie-In point: 0.62km

Existing Lines To Be Dismantled
- 66kV Goreangab L/C to Dam Wall L/C: 1.62km
- 66kV Goreangab L/C to Haloid L/C: 0.93km

Existing Lines & Other Features
- CoW Existing Network
- Existing 220kV Nampower HV
- Load Centre (L/C)
- Sub Station (SS)

Risk-Based Solutions (RBS) CC (URL: www.rbs.com.na)
Your Permitting & De-Risking Specialist Consultants (Oil, Gas, Minerals & Energy Exploration, Production & Mining) and Environmental Assessments (SEA, EIA, EMP, EMS & ESG)

PUBLIC NOTICE

APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) BY BLUESTATE (Pty) Ltd FOR PROPOSED MINERALS PROSPECTING ACTIVITIES IN THE EXCLUSIVE PROSPECTING LICENSE (EPL) 8448, KEETMANSHOOP DISTRICT, //KARAS REGION

Bluestate Investments (Pty) Ltd (the "**PROPONENT**") has the preparedness to grant mineral rights under the Exclusive Prospecting Licenses (EPL) 8448 with respect to Base and Rare Metals, Dimension Stone, Industrial Minerals, Precious Metals, and Precious Metals, and Precious Stones. The physical license of the EPL will only be granted by the Mining Commissioner once the Proponent has obtained Environmental Clearance Certificate (ECC) from the Environmental Commissioner. The EPL 8448 has a total area of 97345 Ha and falls within commercial farmlands as indicated on the map. Once the ECC is granted, 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) is 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 1st JULY 2022

Risk-Based Solutions (RBS) CC (URL: www.rbs.com.na)
Your Permitting & De-Risking Specialist Consultants (Oil, Gas, Minerals & Energy Exploration, Production & Mining) & Environmental Assessments (SEA, EIA, EMP, EMS & ESG)

Figure 4.7: Public noticed tear sheet for EPL No.8448 advertised in the Confidante Newspaper, dated 17-23 June 2022.

4.6.3 Stakeholders and Public Discussions

An objection letter was submitted by Probart & Verdos represented by M.C Verdos on behalf of Gideon Jacobus Steenkamp, owner of Portion 2 of Farm Spitskoppe Ost No.159, Registration Division "T", //Karas Region and the Remainder of Farm 159, Spitskoppe Ost No. 159, Registration Division "T", //Karas Region and another letter by Mandy Investments 201 cc, owner of Portion 1 of the Farm Spitzkoppie Ost (Nelskoppe) No 159. (Annex 4). The main concern is on livestock farming and the operation of a tourist rest camp to a Mesosausrus Fossil Site on the farms. Further indicating the presence of protected plant and animal species.

There are currently no potential minerals target/s that have been delineated on the farm in question and there is no guarantee that detailed field-based exploration will indeed be undertaken on this specific farm resulting in negative impacts presented. Our study covers environmental assessment work aimed at supporting the applications for ECCs for these EPLs to enable the minerals rights holder to undertake field-based exploration activities if potential prospective targets are delineated during the desktop study phase. It is highly unlikely that the proposed exploration activities will have major influences on the carrying capacity of the farm in question or other surrounding farms in the surrounding area.

On the concern on water scarcity highlighted by Mandy Investment 201 CC, the only time water may be required is if a key target requiring drilling has been identified. Water requirements for minerals exploration drilling are usually transported to the site by a small tanker and often obtained from reliable sources. The whole footprint of detailed field-based exploration activities is often highly localised.

The important baseline information highlighted under 6 – 9.5 and similarly highlighted in the letter by Mandy Investment 201 CC has been noted and has been taken into consideration during the environmental assessment process and implementation of the Environmental Management Plan (EMP) prepared. The aim of conducting the environmental assessment is to identify key sensitive receiving environmental receptors and likely negative or positive impacts that may be caused by the proposed exploration activities and prepare mitigation measures to be contained in the EMP report for implementation by the Proponent.

4.6.4 Stakeholders and Public Consolations Recommendations

Overall, the comments/ input has been taken into consideration and be contained in the EMP report for implementation by the Proponent. This EIA has recommended that the Proponent shall notify the landowners of 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 a 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. 8448 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. 8448, 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	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
T	Temporary																
P	Permanent																
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				
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
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																
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

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

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)

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

Table 5.10: *Cont.*

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
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

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)

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

Bluestate Investments (Pty) Ltd (**the Proponent**) intends to undertake exploration activities in the Exclusive Prospecting Licence (EPL) No. 8448, with special focus on Base and Rare Metals, Dimension Stone, Industrial Minerals, 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 8448 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.

7 REFERENCES

1. FURTHER GENERAL READING

Department of Water Affairs and Forestry, 2001. Groundwater in Namibia: An explanation to the hydrogeological map. *MAWRD*, Windhoek, 1, 128 pp.

Geological Survey of Namibia, 1999. Regional geological map of Namibia. Ministry of Mines and Energy, Windhoek, Namibia.

Miller, R.McG. 2008. The geology of Namibia. Geological Survey, Ministry of Mines and Energy, Windhoek, Vol. 3.

Miller, R. McG., 1992. Stratigraphy. *The mineral resource of Namibia*, *Geological Survey of Namibia, MME*, Windhoek, 1.2 .1 -1.2.13.

Miller, R. McG., 1983a. The Pan – African Damara Orogen od S.W.A. / Namibia, Special Publication of the Geological Society of South Africa, **11**, 431 - 515.

Miller, R. McG., 1983b. Economic implications of plate tectonic models of the Damara Orogen, Special Publication of the Geological Society of South Africa, **11**, 115 -138.

Ministry of Environment and Tourism, 2002. Atlas of Namibia. Comp. J. Mendelsohn, A. Jarvis, T. Roberts and C. Roberts, David Phillip Publishers, Cape Town.

Müller, M.A.N. 1984. Grasses of South West Africa/Namibia. John Meinert Publishers (Pty) Ltd, Windhoek, Namibia.

National Planning Commission (NPC) (2013). Policy Brief: Trends and Impacts of Internal Migration in Namibia. National Planning Commission: Windhoek.

National Statistic Agency (NSA) (2012). Poverty Dynamics in Namibia: A Comparative Study Using the 1993/94, 2003/04 and the 2009/2010 NHIES Surveys. National Statistics Agency: Windhoek.

National Statistics Agency (NSA) (2013). Profile of Namibia: Facts, Figures and other Fundamental Information. National Statistics Agency: Windhoek.

National Statistics Agency (NSA) (2014a). Namibia 2011 Population and Housing Census Main Report. National Statistics Agency: Windhoek.

National Statistics Agency (NSA) (2014b). 2011 Population and Housing Census: Karas Regional Profile. National Statistics Agency: Windhoek.

National Statistics Agency (NSA) (2014c). Namibia 2011 Census Atlas. National Statistics Agency: Windhoek.

National Statistics Agency (NSA) (2014d). The Namibia Labour Force Survey 2013 Report. National Statistics Agency: Windhoek

National Statistics Agency (NSA) (2014e). Gross Domestic Product: First Quarter 2014. National Statistics Agency: Windhoek

Schneider, G.I.C. and Seeger, K.G. 1992. Copper, 2.3,118 pp. In: The Mineral Resources of Namibia, Geological Survey of Namibia, Windhoek.

Steven, N. M., 1993. A study of epigenetic mineralization in the Central Zone of the Damara Orogen, Namibia, with special reference to gold, tungsten, tin, and rare earth element. *Geological Survey of Namibia, Memoir* 16,166 pp.

Van Wyk, B. and Van Wyk, P. 1997. Field guide to trees of Southern Africa. Cape Town: Struik Publishers.

Van Oudtshoorn, F. 1999. Guide to grasses of southern Africa. Briza Publications, Pretoria, South Africa.

World Travel and Tourism Council, 2013, Travel and Tourism Economic impact 2013, Namibia, London, United Kingdom.

South African National Standards (SANS), 2005**.** South African National Standard, Ambient Air Quality – Limits for Common Pollutants. SANS 1929:2005. Standards South Africa, Pretoria.

2. REFERENCES AND FURTHER READING ON FAUNA AND FLORA

Alexander, G. and Marais, J. 2007. A guide to the reptiles of southern Africa. Struik Publishers, Cape Town, RSA.

Barnard, P. 1998. Underprotected habitats. In: Barnard, P. (ed.). Biological diversity in Namibia: a country study. Windhoek: Namibian National Biodiversity Task Force.

Bester, B. 1996. Bush encroachment – A thorny problem. *Namibia Environment* 1: 175-177.

Branch, B. 1998. Field guide to snakes and other reptiles of southern Africa. Struik Publishers, Cape Town, RSA.

Branch, B. 2008. Tortoises, terrapins and turtles of Africa. Struik Publishers, Cape Town, RSA.

Boycott, R.C. and Bourquin, O. 2000. The Southern African Tortoise Book. O Bourquin, Hilton, RSA.

Broadley, D.G. 1983. Fitzsimons' Snakes of southern Africa. Jonathan Ball and AD. Donker Publishers, Parklands, RSA.

Brown, C.J., Jarvis, A., Robertson, T. and Simmons, R. 1998. Bird diversity. In: Barnard, P. (ed.). Biological diversity in Namibia: a country study. Windhoek: Namibian National Biodiversity Task Force.

Brown, I, Cunningham, P.L. and De Klerk, M. 2006. A comparative study of wetland birds at two dams in central Namibia. *Lanioturdus* 39(1): 2-9.

Buys, P.J. and Buys, P.J.C. 1983. Snakes of Namibia. Gamsberg Macmillan Publishers, Windhoek, Namibia.

Carruthers, V.C. 2001. Frogs and frogging in southern Africa. Struik Publishers, Cape Town, RSA.

Channing, A. 2001. Amphibians of Central and Southern Africa. Protea Bookhouse, Pretoria, RSA.

Channing, A. and Griffin, M. 1993. An annotated checklist of the frogs of Namibia. *Madoqua* 18(2): 101-116.

Coats Palgrave, K. 1983. Trees of Southern Africa. Struik Publishers, Cape Town, RSA.

Cole, D.T. and Cole, N.A. 2005. Lithops Flowering Stones. Cactus and Co. Libri

Craven, P. 1998. Lichen diversity in Namibia. In: Barnard, P. (ed.). Biological diversity in Namibia: a country study. Windhoek: Namibian National Biodiversity Task Force.

Craven, P. (ed.). 1999. A checklist of Namibian plant species. Southern African Botanical Diversity Network Report No. 7, SABONET, Windhoek.

Crouch, N.R., Klopper, R.R., Burrows, J.E. and Burrows, S. M. 2011. Ferns of southern Africa – a comprehensive guide. Struik Nature, Cape Town, RSA.

Cunningham, P.L. 1998. Potential wood biomass suitable for charcoal production in Namibia. *Agri-Info* 4(5): 4-8.

Cunningham, P.L. 2006. A guide to the tortoises of Namibia. Polytechnic of Namibia, Windhoek, Namibia.

Curtis, B. and Barnard, P. 1998. Sites and species of biological, economic or archaeological importance. In: Barnard, P. (ed.). Biological diversity in Namibia: a country study. Windhoek: Namibian National Biodiversity Task Force.

Curtis, B. and Mannheimer, C. 2005. Tree Atlas of Namibia. National Botanical Research Institute, Windhoek, Namibia.

De Graaff, G. 1981. The rodents of southern Africa. Buterworths, RSA.

Du Preez, L. and Carruthers, V. 2009. A complete guide to the frogs of southern Africa. Struik Publishers, Cape Town, RSA.

Estes, R.D. 1995. The behaviour guide to African mammals. Russel Friedman Books, Halfway House, RSA.

Giess, W. 1971. A preliminary vegetation map of South West Africa. *Dinteria* 4: 1 – 114.

Griffin, M. 1998a. Reptile diversity. In: Barnard, P. (ed.). Biological diversity in Namibia: a country study. Windhoek: Namibian National Biodiversity Task Force.

Griffin, M. 1998b. Amphibian diversity. In: Barnard, P. (ed.). Biological diversity in Namibia: a country study. Windhoek: Namibian National Biodiversity Task Force.

Griffin, M. 1998c. Mammal diversity. In: Barnard, P. (ed.). Biological diversity in Namibia: a country study. Windhoek: Namibian National Biodiversity Task Force.

Griffin, M. 2003. Annotated checklist and provisional national conservation status of Namibian reptiles. Ministry of Environment and Tourism, Windhoek.

Griffin, M. and Coetzee, C.G. 2005. Annotated checklist and provisional national conservation status of Namibian mammals. Ministry of Environment and Tourism, Windhoek.

Hebbard, S. n.d. A close-up view of the Namib and some of its fascinating reptiles. ST Promotions, Swakopmund, Namibia.

Hockey, P.A.R., Dean, W.R.J. and Ryan, P.G. 2006. Roberts Birds of Southern Africa VII Edition. John Voelcker Bird Book Fund.

IUCN, 2015. IUCN red list of threatened animals, IUCN, Gland, Switserland.

Joubert, E. and Mostert, P.M.K. 1975. Distribution patterns and status of some mammals in South West Africa. *Madoqua* 9(1): 5-44.

Komen, L. n.d. The Owls of Namibia – Identification and General Information. NARREC, Windhoek.

Maclean, G.L. 1985. Robert's birds of southern Africa. John Voelcker Bird Book Fund.

Maggs, G. 1998. Plant diversity in Namibia. In: Barnard, P. (ed.). Biological diversity in Namibia: a country study. Windhoek: Namibian National Biodiversity Task Force.

Mannheimer, C. and Curtis, B. (eds) 2009. Le Roux and Müller's field guide to the trees and shrubs of N amibia. Macmillan Education Namibia, Windhoek.

Marais, J. 1992. A complete guide to the snakes of southern Africa. Southern Book Publishers, Witwatersrand University Press, Johannesburg, RSA.

Mendelsohn, J., Jarvis, A., Roberts, A. and Robertson, T. 2002. Atlas of Namibia. A portrait of the land and its people. David Philip Publishers, Cape Town, RSA.

Monadjem, A., Taylor, P.J., F.P.D. Cotterill and M.C. Schoeman. 2010. Bats of southern and central Africa. Wits University press, Johannesburg, RSA.

Müller, M.A.N. 1984. Grasses of South West Africa/Namibia. John Meinert Publishers (Pty) Ltd, Windhoek, Namibia.

Müller, M.A.N. 2007. Grasses of Namibia. John Meinert Publishers (Pty) Ltd, Windhoek, Namibia.

NACSO, 2010. Namibia's communal conservancies: a review of progress and challenges in 2009. NACSO, Windhoek.

Passmore, N.I. and Carruthers, V.C. 1995. South African Frogs - A complete guide. Southern Book Publishers, Witwatersrand University Press, Johannesburg, RSA.

Rothmann, S. 2004. Aloes, aristocrats of Namibian flora. ST promotions, Swakopmund.

SARDB, 2004. CBSG Southern Africa. In: Griffin, M. 2005. Annotated checklist and provisional national conservation status of Namibian mammals. Ministry of Environment and Tourism, Windhoek.

Schultz, M. and Rambold, G. 2007. Diversity shifts and ecology of soil lichens in central Namibia. Talk, Ecological Society of Germany, Austria and Switzerland (GfÖ), 37th Annual Meeting, Marburg: 12/9/2007 to 15/9/2007.

Schultz, M., Zedda, L. and Rambold, G. 2009. New records of lichen taxa from Namibia and South Africa. *Bibliotheca Lichenologica* 99: 315-354.

Simmons, R.E. 1998a. Important Bird Areas (IBA's) in Namibia. In: Barnard, P. (ed.). Biological diversity in Namibia: a country study. Windhoek: Namibian National Biodiversity Task Force.

Simmons, R.E. 1998b. Areas of high species endemism. In: Barnard, P. (ed.). Biological diversity in Namibia: a country study. Windhoek: Namibian National Biodiversity Task Force.

Simmons R.E., Brown C.J. and Kemper J. 2015. Birds to watch in Namibia: red, rare and endemic species. Ministry of Environment and Tourism and Namibia Nature Foundation, Windhoek.

Skinner, J.D. and Smithers, R.H.N. 1990. The mammals of the southern African subregion. University of Pretoria, RSA.

Skinner, J.D. and Chimimba, C.T. 2005. The mammals of the southern African subregion. Cambridge University Press, Cape Town, RSA.

Stander, P. and Hanssen, L. 2003. Namibia large carnivore atlas. Unpublished Report, Ministry of Environment and Tourism, Windhoek.

Steyn, M. 2003. Southern African Commiphora. United Litho, Arcadia.

Tarboton, W. 2001. A guide to the nests and eggs of southern African birds. Struik Publishers, Cape Town, RSA.

Taylor, P.J. 2000. Bats of southern Africa. University of Natal Press, RSA.

Tolley, K. and Burger, M. 2007. Chameleons of southern Africa. Struik Nature, Cape Town, RSA.

Van Oudtshoorn, F. 1999. Guide to grasses of southern Africa. Briza Publications, Pretoria, South Africa.

Van Wyk, B. and Van Wyk, P. 1997. Field guide to trees of Southern Africa. Cape Town: Struik Publishers.

8 ANNEXES

Annex 1: BID

Annex 2: Copies of Registered Letters Sent to Farmers

Annex 3: Copies of the Published Newspapers Adverts (Tear sheets)

Annex 4: An Objection Letter was Submitted by Probart & Verdos represented by M.C Verdos on behalf of Gideon Jacobus Steenkamp, owner of Portion 2 of Farm Spitskoppe Ost No.159, Registration Division "T", //Karas Region and the Remainder of Farm 159, Spitskoppe Ost No. 159, Registration Division "T", //Karas Region and another letter by Mandy Investments 201 cc, owner of Portion 1 of the Farm Spitzkoppie Ost (Nelskoppe) No 159.