Risk - Based Solutions (RBS) cc (the Proponent)

Environmental Impact Assessment (EIA) to support the Application for Environmental Clearance Certificate (ECC) for the Proposed Exploration Activities in the Exclusive Prospecting License (EPL) 8221, Rehoboth District, Hardap Region

November 2021

10 Schutzen Street,
P. O. Box 1839,
Windhoek, Namibia

PROPONENT, LISTED ACTIVITIES AND RELATED INFORMATION SUMMARY

MEFT ECC APPLICATION REFERENCE No.
APP-003298

TYPE OF AUTHORISATIONS REQUIRING ECC
Exclusive Prospecting License (EPL) No. 8221
NAME OF THE PROPONENT
Risk – Based Solutions

COMPETENT AUTHORITY
Ministry of Mines and Energy (MME)

ADDRESS OF THE PROPONENT AND CONTACT PERSON
Risk-Based Solutions cc
10 Schutzen Street,
Central Business District (CBD)
P. O. Box 1839,
Windhoek, Namibia

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PROPOSED PROJECT
Proposed Minerals Exploration / Prospecting activities in the Exclusive Prospecting License (EPL) No. 8221, Rehoboth District, Hardap Region

PROJECT LOCATION
Rehoboth District, Hardap Region
(Latitude: -23.844132, Longitude: 17.306416)

ENVIRONMENTAL COSNSULTANT

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MSc Env. Mag, BSc (Hons) Envi Bio

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LIST OF ABBREVIATIONS

BID	Background Information Document
CA	Competent Authority
DEA	Department of Environmental Affairs
DoF	Directorate of Forestry
DWA	Department of Water Affairs
EA	Environmental Assessment
ECC	Environmental Clearance Certificate
EES	Earth Environmental Services
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPL	Exclusive Prospecting License
HSE	Health Safety and Environment
MAWLR	Ministry of Agriculture, Water and Land Reform
MEAC	Ministry of Education, Arts and Culture
MEFT	Ministry of Environment, Forestry and Tourism
MHISS	Ministry of Home Affairs, Immigration, Safety and Security
MHSS	Ministry of Health and Social Services
MIGA	Multilateral Investment Guarantee Agency
ML	Mining License
ML	Mining License
MLIREC	Ministry of Labour, Industrial Relations and Employment Creation
MME	Ministry of Mines and Energy
NBRI	National Botanical Research Institute
NSA	National Statistics Agency
RBD	Risk-Based Solutions
RD	Records of Decisions
SADC	Southern Africa Development Community
TOR	Terms of Reference

NON-TECHNICAL SUMMARY

Risk-Based Solutions (RBS) CC (the "Proponent") is in the process of applying for mineral rights under the Exclusive Prospecting License (EPL) No. 8221 with respect to base and rare metals, dimension stone, industrial minerals, non-nuclear fuels minerals, nuclear fuels minerals, precious metals, and precious stones groups (http://portals.flexicadastre.com/Namibia). The physical license of the EPL 8221 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 8221 regime, the Proponent is only authorised by the Ministry of Mines and Energy to conduct prospecting, and 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 mining.

The Proponent intends to conduct prospecting activities and looking specifically at greenfield areas, historically not known to have minerals potential or no detailed exploration has taken place in some these areas. However, the Proponent intends to undertake mineral exploration activities including desktop studies, followed by site-specific activities on targets that may be delineated and using field-based exploration techniques/ methods such as geophysical surveys, geological mapping, trenching, drilling, bulk sampling and test mining. The implementation of the site-specific field-based activities will be subject to the discovery of potential economic minerals deposits.

The proposed exploration activities are listed in the Environmental Impact Assessment (EIA) Regulations and the Environmental Management (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 Earth Environmental Services (EES) CC to support the application for the ECC for the proposed exploration activities in the EPL 8221.

The EPL 8221 is located in the Rehoboth District, Hardap Region. The EPL 8221 has a total area of 97168.4954 Ha and covers the following commercial privately owned farmlands (Figure 1): Diergaard Aub, Groendraai, Nakaeis, Nakaeis Suid, Farm 682, Witkop Suid, Farm No. 673, Naris, Tsumis, Gous, Izaaksrus, Kurunap, Geluksoord, Te-Laat, Karagab, Jacobsdal, Waterval, Vredesrus, Vrede, Soutrivier, Vlakplaat, Langverwad, Moeilikheid, Goabgous, Gauchas, Steenkop, Samaubs, Oas, Vulkaan, Good Hope and Siverbron.

Hardap Region is located in a semi-arid area, nearby a town known as Tsumis. The area is classified to have a desert climate. The general area is regarded as low in terrestrial diversity. There are approximately 240-300 bird species recorded. The overall reptile diversity and endemism in the general area is estimated at between 61-70 species and 1-8 species, respectively. The vegetation structure is classified as the Namib Desert, characterised by dwarf shrub savanna within the Nama-Karoo basin, dominated by species including: *Acacia hereronsis, Combertum apicutatum, Acacia reficiens, Acacia hebeclada, Ziziphus mucronate and Rhus species.* The overall plant diversity/species coverage is estimated to 100-149 species (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 implemented and monitored by the Proponent.

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.

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

In addition to the Terms of Reference (ToR) to be developed during the environmental scoping study phase for any possible mining operations, the following field-based and site-specific specialist studies shall be considered in the TOR for the EIA and EMP studies in an event of a discovery of economic minerals resources and possible development of a mining project within the EPL No. 8221:

(i) Groundwater studies including modelling as maybe applicable.

(ii) Field-based flora and fauna diversity.

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

(iv) Archaeological assessment.

(v) Socioeconomic assessment, and.

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

1. BACKGROUND

1.1 Introduction

Risk - Based Solutions cc, the Proponent, holds mineral rights under Exclusive Prospecting License (EPL) No. 8221, as per the following summary:

- **Type of License:** Exclusive Prospecting License (EPL) No. 8221.
- **EPL Holder and Proponent:** Risk- Based Solutions CC.
- **Application Date:** 29/06/2020.
- **Commodities:** Base and Rare Metals, Dimension Stone, Industrial Minerals, Non-Nuclear Fuels Minerals, Nuclear Fuels Minerals, Precious Metals and Precious Stones
- **Size of the EPL:** 97168.3241 Ha.

Risk - Based Solutions cc is a locally owned Namibian company focused on the acquisition and development of mining projects in Namibia.

1.2 Proposed Scope of Work

The Proponent intends undertake exploration activities covering desktop studies: the purchase and interpretation of the existing Government high resolution airborne geophysical data sets, regional reconnaissance assessment covering field-based activities such as regional mapping and sampling to identify and verify potential targeted areas as delineated during the desktop stage, 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 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-specific drilling, bulk sampling and laboratory testing / test mining will be undertaken on the identified site-specific area.

1.3 Regulatory Requirements

The proposed prospecting activities are listed in the Environmental Management Act, (No. 7 of 2007) and the EIA Regulations of 2012, and cannot be undertaken without an Environmental Clearance Certificate (ECC). The Proponent is required to have undertaken Environmental Assessment comprising this Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) reports for the proposed minerals prospecting activities.

In fulfilment of the environmental requirements, the Proponent appointed Earth Environmental Services (ECC) CC as the Environmental Consultants led by Ms Emerita Ashipala as the Environmental Assessment Practitioner in the preparation of the EIA and EMP Reports to support the application for ECC (Annex 1).

1.4 Location, Land Use, Infrastructure and Services

1.4.1 Location and Land Use

The EPL 8221 is located in the Rehoboth District, Hardap Region. The EPL 8221 has a total area of 97168.4954 Ha and covers the following commercial privately owned farmlands: Diergaard Aub, Groendraai, Nakaeis, Nakaeis Suid, Farm 682, Witkop Suid, Farm No. 673, Naris, Tsumis, Gous, Izaaksrus, Kurunap, Geluksoord, Te-Laat, Karagab, Jacobsdal, Waterval, Vredesrus, Vrede, Soutrivier, Vlakplaat, Langverwad, Moeilikheid, Goabgous, Gauchas, Steenkop, Samaubs, Oas, Vulkaan, Good Hope and Siverbron.

Commercial agriculture, including cattle, small stock, and game farming tied to tourist and trophy hunting enterprises, dominates the EPL region and adjacent general area. Despite limited water supply issues in the surrounding areas, irrigated agricultural growing operations are becoming more popular. In the overall area, bush thickening or invasion is seen as an economic problem.

1.4.2 Supporting Infrastructure and Services

The EPL area is accessible along the B1 Road from Rehoboth to Mariental via Kalkrand and the minor roads D1259, D1292 and D1262 that come off the B1 (
Figure 2). Within the EPL 8221 area, a network of local tracks and private farm roads linked to the D1259, D1292 and D1262 gravel roads may be used to access the EPL area. Private minor roads may require high clearance 4 x 4 vehicles and may only be used with permission from the land owners.

The following supporting infrastructures and services will be required if detailed field-based studies such as geological mapping, trenching, or drilling need 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.

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

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

(iv) Accommodation and other supporting facilities and services: The exploration team will utilise the existing 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 the permission of the land owner.

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

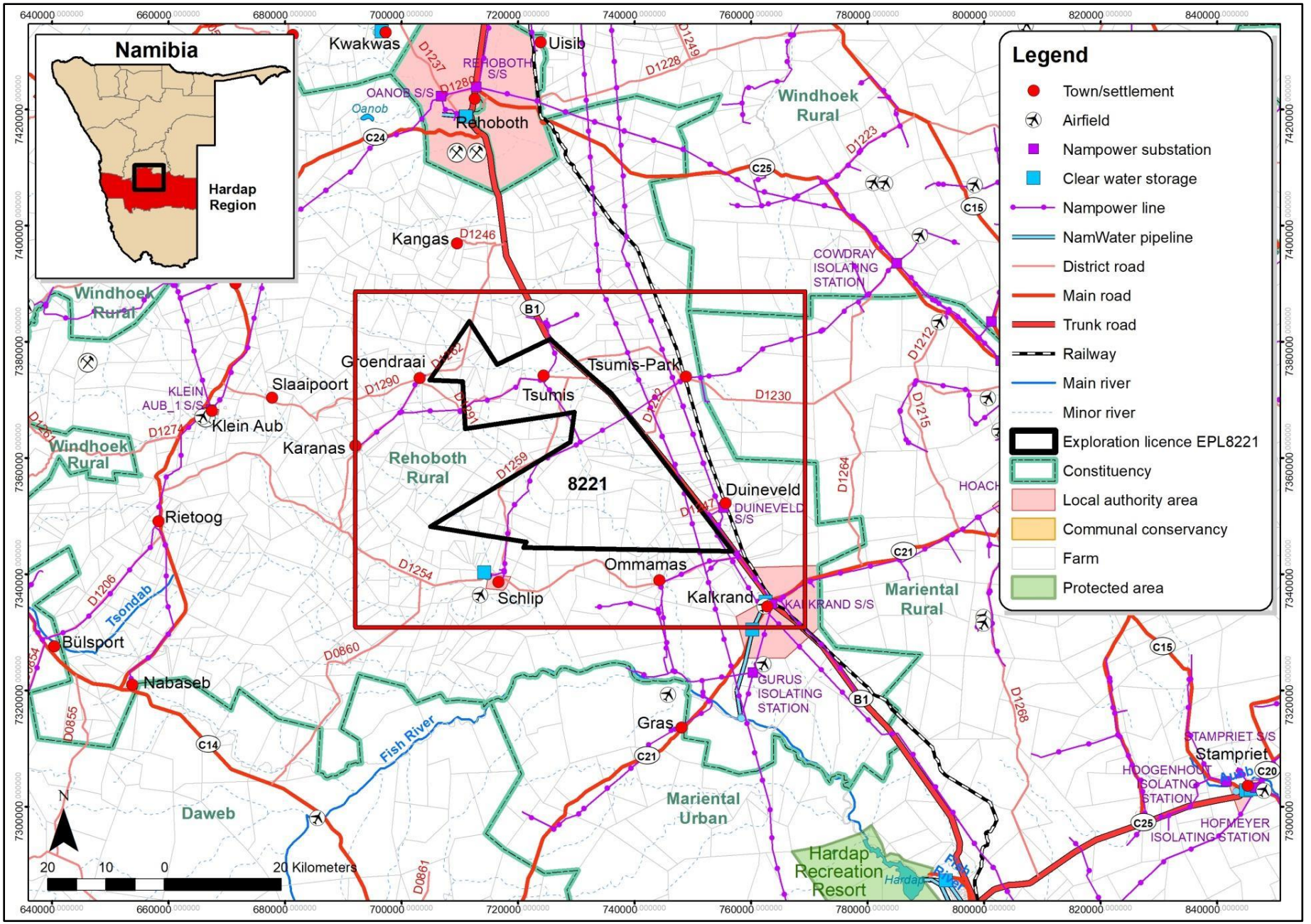

Figure 1: Locality map for EPL 8221, Rehoboth, Hardap Region (RBS Map Prepared by Katharina Dierkes, 2021).

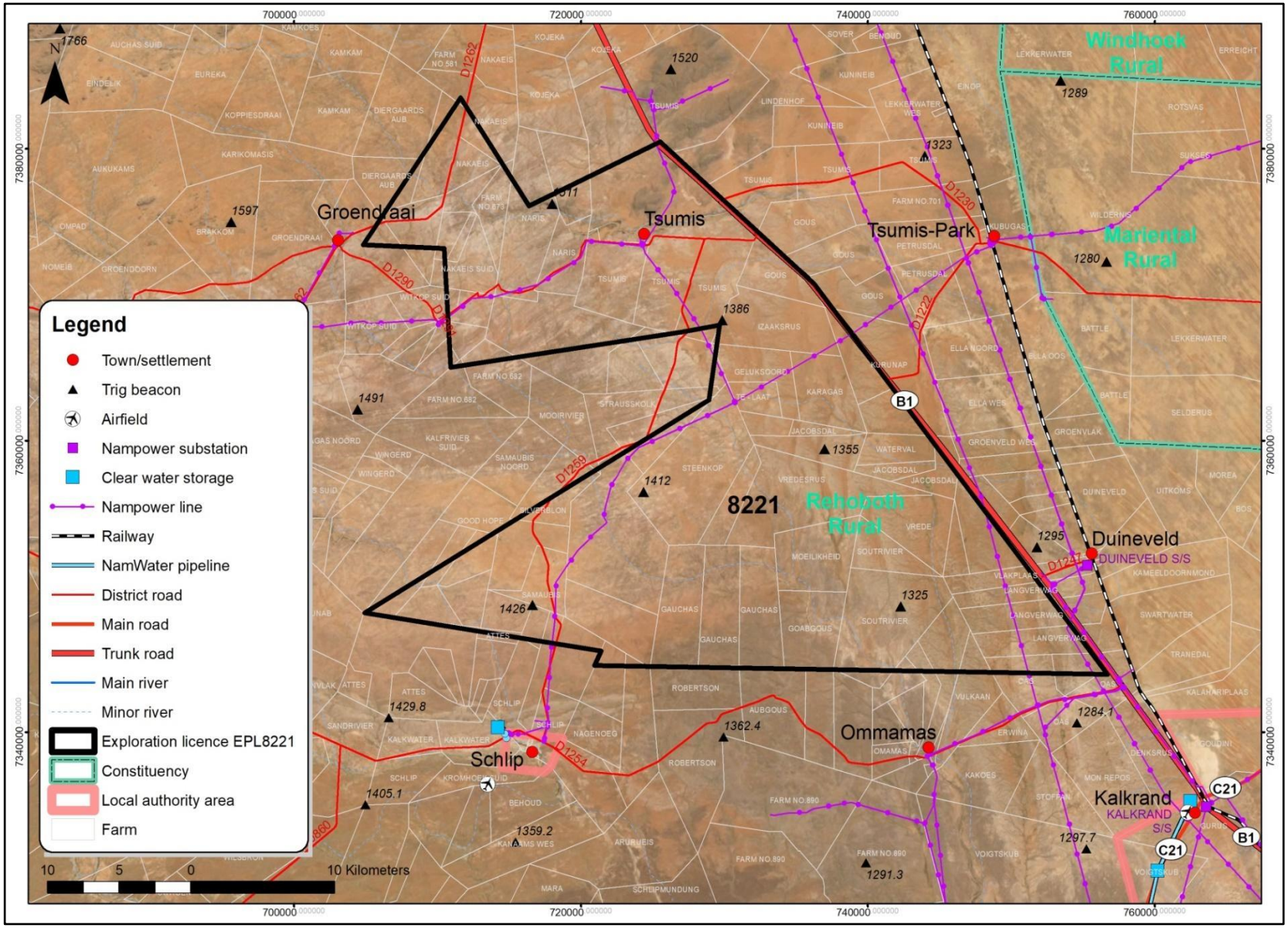

Figure 2: Commercial farmland covered by the EPL 8221 and access to the site and surrounding infrastructure (RBS Map Prepared by Katharina Dierkes, 2021).

1.5 Project Motivation

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 on the payment of the annual license rental fees to the central Government through the MME, payment of services and land access agreement.

The following is the summary of other likely proposed project benefits.

- Provisional contractual employment opportunities for specialist services companies involved in minerals explorations during the minerals prospecting process that could take many years and only 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 future subsurface resources such as minerals, water, geothermal and general geoscience research, and development.

- Contribution to the subsurface knowledge-base that will promote the coexistence of subsurface operations with surface activities where compatible, and.

- Contribution to the development of local infrastructures as may be applicable especially in event that potential minerals targets requiring field-based studies to be conducted are identified.

1.6 Approach, Alternatives, Key Issues and Methodology

1.6.1 Terms of Reference (ToR) and Approach

Earth Environmental Services (cc) was appointed by the Proponent to prepare the EIA and EMP Reports in order to support the application for renewal of the Environmental Clearance Certificate (ECC) for the EPL No. 8221 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).

The key deliverable comprised this EIA Report and a separate 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), MEFT through the MME (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: Summary of the proposed activities, alternatives and key issues considered during the Environmental Assessment (EA) process covering Scoping, EIA and EMP Processes

<table>
<tr><th colspan="2">PROJECT ACTIVITIES</th><th>ALTERNATIVES CONSIDERED</th><th colspan="2">KEY ISSUES TO BE EVALUATED AND ASSESSED WITH ENVIRONMENTAL MANAGEMENT PLAN (EMP) / MITIGATION MEASURES DEVELOPED</th></tr>
<tr><td>1. Project Implementation and Initial Desktop Exploration Activities</td><td>Review of existing information and all previous activities in order identify any potential target/s in within the EPL Area</td><td rowspan="6">(i) Location for Minerals Occurrence: A number of 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 as licensed. Minerals occurrence is linked to the geology or local rock outcrops and site-specific.

(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

(viii) Others to be identified during the public consultation process and preparation of the EIA and EMP Reports</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>2. Regional Reconnaissance Field-Based</td><td>Reginal mapping and sampling to identify and verify potential targeted areas based on the recommendations of the desktop work undertaken under (1) above</td><td rowspan="2">PHYSICAL ENVIRONMENT</td><td rowspan="2">● Water Quality
● Physical infrastructure and Resources
● Air quality,
● Noise and dust
● Landscape and topography value
● Soil quality
● Climate Change Influences</td></tr>
<tr><td>3. Initial Local Field-Based Activities</td><td>May include: Widely spaced geological mapping, sampling, surveying and possible trenching and drilling in order to determine the viability of any delineated local target/s</td></tr>
<tr><td>4. Detailed Local Field-Based Activities on Delineated Targets If Any</td><td>Following the delineation of potential target/s, conduct detailed mapping, trenching, sampling, surveying and drilling in order to determine the viability of the project.</td><td>BIOLOGICAL ENVIRONMENT</td><td>● Habitat Protected Areas
● Flora
● Fauna
● Ecosystem functions, services, use values and non-Use or passive use</td></tr>
<tr><td>5. Prefeasibility and Feasibility Studies</td><td>Assess the viability of any delineated local target/s and more detailed mapping, trenching, bulk sampling, drilling and test mining activities where applicable. If the project proves viable, a feasibility report and application for Mining License will be undertaken.</td><td>SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT</td><td>● Local, regional and national socioeconomic settings
● Commercial Agriculture
● Community Protected Areas
● Tourism and Recreation
● Cultural, Biological and Archaeological Resources</td></tr>
</table>

1.6.2 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 Figure **3**.

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

(i) Project screening process (**Undertaken in September 2021)**.

(ii) Preparation of the Background Information Document (BID) (**Undertaken in October 2021**).

(iii) Preparation of the Public Notice to be published in the local newspapers as part of required public consultation process (**Undertaken in October 2021**).

(iv) Opened the Stakeholder Register (**Undertaken on the 7th October 2021**).

(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 three (3) newspaper for three (3) weeks (21 days) public consultation period running from **Thursday 7th October 2021 to Friday 5th November 2021**.

(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 October 2021**).

(vii) Preparation of the Draft EIA/ Scoping and EMP Reports for client review, public and stakeholder inputs (**To be undertaken in October- November 2021**).

(viii) Comments and inputs from the client and I&APs consultations used to finalise the EIA / Scoping and EMP Reports (**To be undertaken in October- November 2021**).

(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 (**November 2021**).

(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 November 2021**).

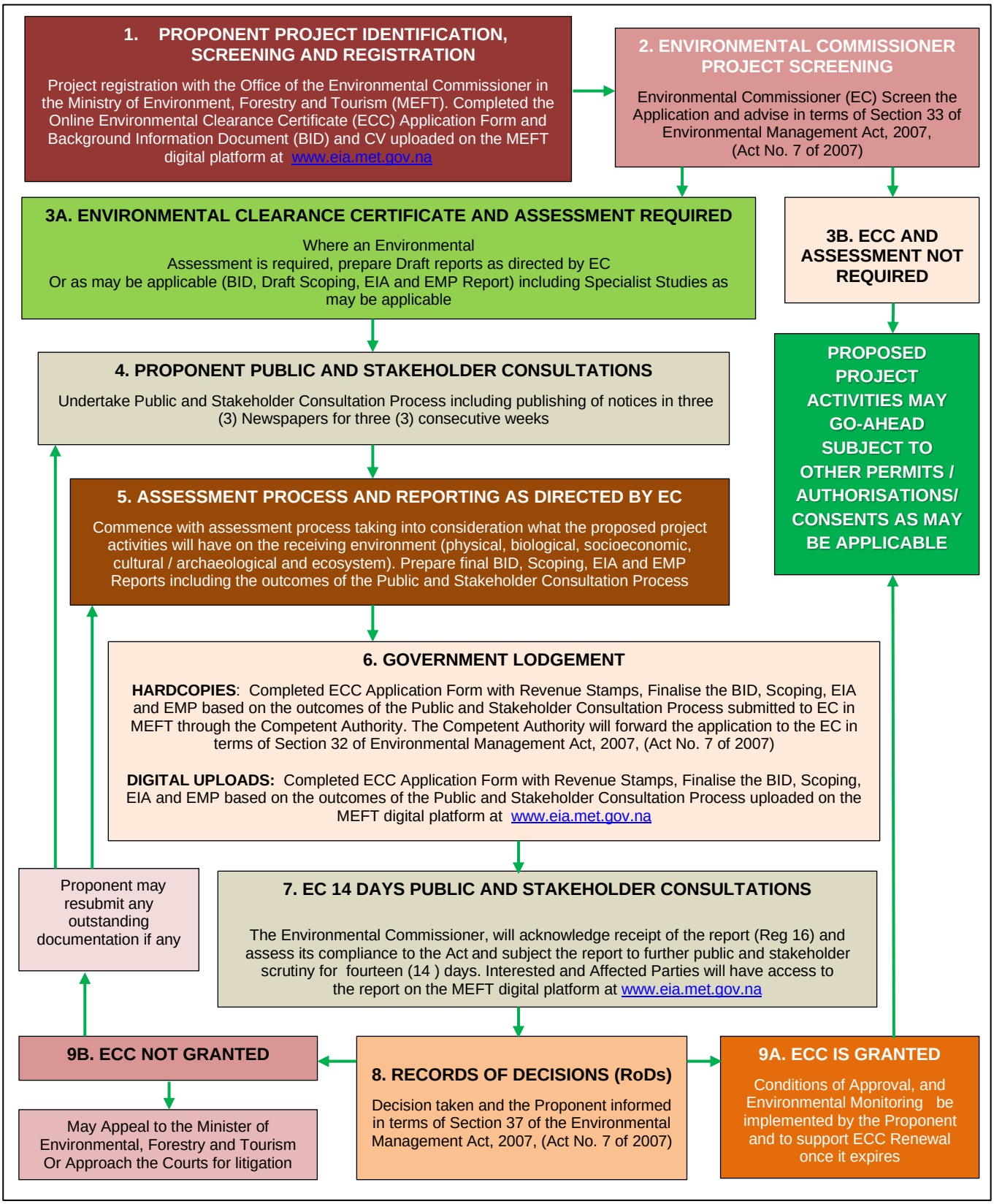

Figure 3: Schematic presentation of Namibia's Environmental Assessment Procedure.

1.6.3 Assumptions and Limitations

The following assumptions and limitations underpin the approach adopted, overall outcomes and recommendations of the environmental assessment process:

(i) The proposed activities as well as all the plans, maps, EPL area, line boundary / coordinates, and appropriate data sets received from the Proponent, project partners, regulators, Competent Authorities, and specialist consultants are assumed to be current and valid at the time of conducting the studies and preparation of this report.

(ii) In absence of any site-specific local minerals' target/s within the EPL area, no field-based assessments will be undertaken and the desktop impact assessment outcomes, mitigation measures and recommendations provided in the EIA/ Scoping and EMP Reports shall be valid for the lifecycle of the proposed prospecting activities only. If a potential minerals target/s is / are identified, site-specific field-based environmental studies shall be conducted as part of the site-specific exploration process leading to prefeasibility and feasibility studies to support the application for a Mining License (ML) and ECC for mining operations.

(iii) A precautionary approach has been adopted in instances where baseline information and impact assessment guidelines were insufficient or unavailable or site-specific project activities were not yet available, and.

(iv) Mandatory timeframes as provided for in the EIA Regulations No. 30 of 2012 and the EMA, 2007, (Act No. 7 of 2007) have been observed.

1.7 Structure of the Report

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

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

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

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

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

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

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

7. **Section 7: Annexes**

2. DESCRIPTION OF THE PROPOSED PROSPECTING ACTIVITIES

2.1 Initial Desktop Exploration Activities

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

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

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

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

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

2.2 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.

2.3 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 prospectively 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.

2.4 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 prospectively 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).

2.5 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. LEGISLATIVE FRAMEWORK

3.1 Overview

There are four sources of law in Namibia: (1) statutes (2) common law (3) customary law and (4) international law. These four kinds of law are explained in more detail in the other factsheets in this series. The constitution is the supreme law of Namibia. All other laws must be in line with it. The most important legislative instruments and associated permits\licenses\authorisations\concerts\ compliances applicable to the ongoing exploration activities and possible test mining include: Minerals exploration and mining, environmental management, land rights, water, atmospheric pollution prevention and labour as well as other indirect laws linked to the accessory services of exploration and possible test mining operations.

3.2 Key Applicable Legislation

3.2.1 Minerals Exploration and Mining Legislation

The national legislation governing minerals prospecting and mining activities in Namibia fall within the jurisdiction of the MME as the Competent Authority (CA) responsible for granting authorisations. The Minerals (Prospecting and Mining) Act (No 33 of 1992) is the most important legal instrument governing minerals prospecting and mining activities in Namibia. A new Bill, to replace the Minerals (Prospecting and Mining) Act (No 33 of 1992) is being prepared and puts more emphasis on good environmental management practices, local participation in the mining industry and promotes value addition as prescribed in the Minerals Policy of 2003.

The Minerals (Prospecting and Mining) Act (No 33 of 1992) regulates reconnaissance, prospecting (exploration) and mining activities. The Mining Commissioner, appointed by the Minister, is responsible for implementing the provisions of this Act including reporting requirements, environmental obligations as well as the associated regulations such as the Health and Safety Regulations.

3.2.2 Environmental Management Legislation

The 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) in the MEFT. The objectives of the Act and the Regulations are, among others, to promote the sustainable management of the environment and the use of natural resources to provide for a process of assessment and control of activities which may have significant effects on the environment. The MEFT is authorised to list activities which may only be undertaken if an environmental clearance certificate has been issued by the environmental commissioner, which activities include those relating to exploration and mining operations.

In addition to the requirements for undertaking Environmental Assessment prior to the project implementation, the EMA and the EIA Regulations also provide for obligations of a license holder to provide for project rehabilitation and closure plan. In the regulations, the definition of “rehabilitation and closure plan” is a plan which describes the process of rehabilitation of an activity at any stage of that activity up to and including closure stage.

3.2.3 Water Legislation

Water Act 54 of 1956 under the MAWLR 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 ongoing exploration must ensure that mechanisms are implemented to prevent water pollution. Certain permits will also be required to abstract groundwater 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). The Act requires the license holder to have a wastewater discharge permit for discharge of effluent.

The Water Act 54 of 1956 is due to be replaced by the Water Resources Management Act 24 of 2004 which is currently being revised. The Water Resource Management Act 2004 *provides for the management, development, protection, conservation and use of water resources.*

3.2.4 Atmospheric Pollution Prevention Legislation

The Atmospheric Pollution Prevention Ordinance, 11 of 1976 falling under the Ministry of Health and Social Services (MoHSS) and provides for the prevention of the pollution of the atmosphere, and for matters incidental thereto. Part III of the Atmospheric Pollution Prevention Ordinance, 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.

3.2.5 Labour, Health and Safety Legislations

The Labour Act, No. 6 of 1992, as amended to the Labour Act No. 11 of 2007), falling under the Ministry of Labour, Industrial Relations and Employment Creation (MLIREC) makes reference to severance allowances for employees on termination of a contract of employment in certain circumstances and health, safety and welfare of employees.

In terms of the Health Safety and Environment (HSE), the Labour Act, 2007 protects employees; every employer shall, among other things: provide a working environment that is safe, without risk to the health of employees, and that has adequate facilities and arrangements for the welfare of employees, provide and maintain plant, machinery and systems of work, and work processes, that are safe and without risk to the health of employees, and ensure that the use, handling, storage or transportation of hazardous materials or substances is safe and without risk to the health of employees. All hazardous substances shall have clear exposure limits and the employer shall provide medical surveillance, first-aid and emergency arrangements as fit for the operation.

3.2.6 Other Applicable National Legislations

Other Important legislative instruments applicable to the ongoing exploration operations in the EPL 8221 include the following:

- Explosives Act 26 of 1956 (as amended in SA to April 1978) – Ministry of Home Affairs, Immigration, Safety and Security (MHAISS).

- National Heritage Act 27 of 2004 – Ministry of Education, Arts and Culture (MEAC).

- ❖ Petroleum Products and Energy Act 13 of 1990 – Ministry of Mines and Energy (MME).
- ❖ Nature Conservation Ordinance, No. 4 of 1975 – Ministry of Environment, Forestry and Tourism (MEFT).
- ❖ Forest Act 12 of 2001 – Ministry of Environment, Forestry and Tourism (MEFT).
- ❖ Hazardous Substances Ordinance 14 of 1974 – Ministry of Health and Social Services (MHSS), and.
- ❖ Public Health Act 36 of 1919 – Ministry of Health and Social Services (MHSS).

Table 2 summarises key selected legislations relevant applicable to the ongoing exploration in the EPL 8221.

Table 2: Legislation relevant to the ongoing exploration operations in the EPL 8221

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 coordinated 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. Water 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.

LAW	SUMMARY DESCRIPTION
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 (MoHSS)***	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"*
Atmospheric Pollution Prevention Ordinance 11 of 1976. ***Ministry of Health and Social Services (MoHSS)***	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.
Agricultural (Commercial) Land Reform 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.
The Nature Conservation Ordinance 4 of 1975, ***Ministry of Environment, Forestry and Tourism*** **(MEFT)**	During the exploration 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, Forestry 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.
Petroleum Products and Energy Act 13 of 1990	Any consumer installation as envisaged in this Act must be licensed. Appropriate consumer installation certificate will need to be obtained from the Ministry for each fuel installation. The construction of the installation must be designed in such a manner as to prevent environmental contamination.

LAW	SUMMARY DESCRIPTION
Ministry of Mines and Energy (MME)	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 Key Regulators / Competent 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.

Table 3: 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.
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 Department of Water Affairs (DWA) within the Directorate of Water Resource Management at the MAWLR is currently responsible for management of surface and groundwater utilisation through the issuing of abstraction permits and wastewater disposal permits. DWA is also the accountable for water quality monitoring and reporting. The National Botanical Research Institute's (NBRI) mandate is to study the flora and vegetation of Namibia, in order to promote the understanding, conservation and sustainable use of Namibia's plants for 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.

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.
- 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 Standards and 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 (Annex 2.1) while the drinking water quality comparative guideline values are shown in Annex 2.2.

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 Annex 2.3).

Noise abatement measures must target to achieve either the levels shown in (Annex 2.4) or a maximum increase in background levels of 3 dB (A) at the nearest receptor location off-site (MIGA guidelines).

3.6 Recommendations on Permitting Requirements

It is hereby recommended that the Proponent must follow the provisions of all relevant national regulatory throughout the proposed project lifecycle and must obtain the following permits/ authorisations as maybe applicable / required as the proposed project develops:

(i) Valid EPL as may be applicable from Department of Mines in the MME.

(ii) Valid ECC from the Department of Environmental Affairs in the MEFT.

(iii) The Proponent shall apply for a fresh water abstraction and waste water discharge permits from the Department of Water Affairs (DWA) in the MAWLR before drilling a water borehole and discharge wastewater into the environment respectively, and.

(iv) All other permits as may be applicable for the proposed exploration operations and test mining activities.

4. SUMMARY OF NATURAL ENVIRONMENT

4.1 Climate

Hardap Region is located in a semi-arid area. Throughout the year there is almost no rainfall, however, could vary from 50mm to 300mm decreasing from the east towards the west. The region has vast differences in temperature, which can drop below freezing point in winter and increase to above 40^{o}C in summer. The average annual temperature is 21.8^{o}C. The warmest month of the year is December, with an average of 26.0 °C. The driest month is July and rainfall reaches its peak, with an average of 65mm in February (climate data.org).

In the absence of a weather station in the area climate data of which is the nearest town Tsumis, has been used. Tsumis has a desert climate and during the year, there is virtually no rainfall in a year, the rainfall is 242 mm. The average annual temperature is 20.9 °C where the warmest month of the year is December, with an average temperature of 26.0 °C. July is the coldest month of the year (Figure 4) (climate data.org).

The prevailing wind is in the southeastern direction, with the speed averaging to approximately 1.6 meters per second (mps) Figure 5.

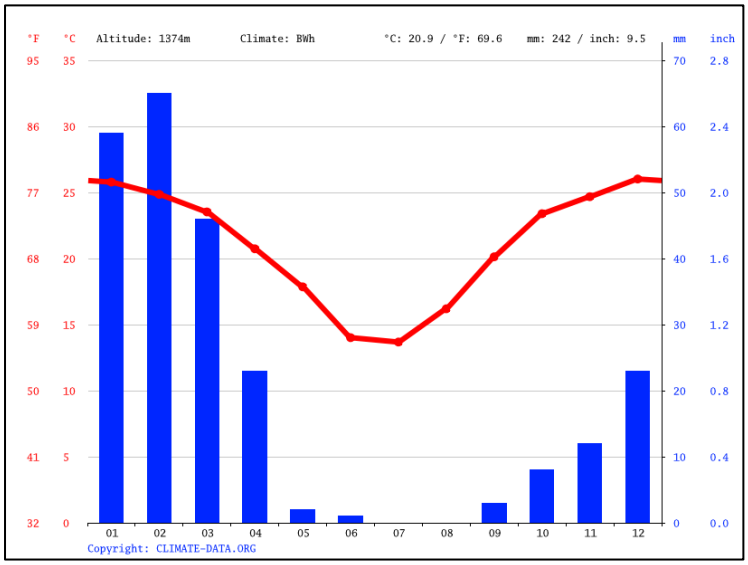

Figure 4: Average climate of Tsumis (Blue bars indicate the average rainfall patterns and red line indicates temperature variation over the year (climate data.org)

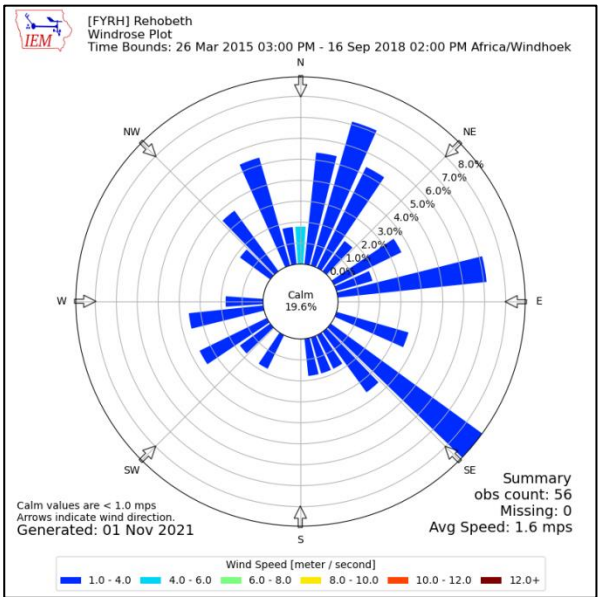

Figure 5: Average wind speed in Rehoboth (IEM, 2021)

4.2 Topography

Rehoboth lies on a high elevation plateau, with an elevation of approximately 1385m characterized by rugged, stony hills, mountainous areas and sand-filled valleys. The area is relatively flat with very moderate outcrops and riverbeds.

4.3 Likely Fauna Diversity

The general area is regarded as “low” in overall (all terrestrial species) terrestrial diversity. The central/eastern Namibia has between 40-120 endemic vertebrate. The overall diversity and abundance of large herbivorous mammals (big game) is viewed as “average to high” with 3-6 species while the overall diversity of large carnivorous mammals (large predators) is determined at 2-4 species with leopard and cheetah being the most important with “medium” (leopard) to “high” (cheetah) densities (Mendelsohn et al., 2002).

4.3.1 Mammals diversity

The area hosts a variety of large to small fauna, such as the duiker (*Sylvicapra grimmia*), springbok (Antidorcas marsupialis), steenbok (Raphicerus campestris), kudu (*Tragelaphus strepsiceros*), red hartebeest (*Alcelaphus buselaphus caama*), caracal (Caracal caracal damarensis), klipspringer (*Oreotragus oreotragus*), zebra (*Equus zebra hartmannae*), gemsbuck (*Oryx gazella*) and black-backed jackal (*Canis mesomelas*) (Barnard et.al., 1997). Some commonly found species particularly in the area of the Hardap Game Reserve are; kudu, oryx, springbok, steenbok, Hartmann's Mountain Zebra, red hartebeest and ostrich. There is also a small population of black rhino Black Rhino, Kudu, Oryx, Hartmann’s Mountain Zebra, Springbok, and Red Hartebeest.

4.3.2 Bird diversity

There are approximately 284-300 bird species recorded at the area of the Hardap dam this includes the Great White Pelican, Yellow Billed Stork, Osprey, Bradfield’s Swift and Stark’s Lark, Goliath heron, Bradfield's swift and Stark's lark. The dam has one of the three largest Great white pelican breeding colonies in Namibia (Mendelsohn et al., 2002); (Ministry of Environment and Tourism Namibia, 2021).

4.3.3 Reptile diversity

The overall reptile diversity and endemism in the general area is estimated at between 61-70 species and 1-8 species, respectively (Mendelsohn et al., 2002). Griffin (1998a) presents figures of between 1-10 and 1-2 for endemic lizards and snakes, respectively, from the general area. The closest protected areas – i.e., Daan Viljoen Game Reserve and Hardap Nature Reserve – have an estimated 79 and 62 reptiles, respectively (Griffin, 1998a).

4.4 Likely Flora Diversity

4.4.1 Trees/shrubs

The Region has scare vegetation consisting of isolated trees, shrubs and grass. Some part of the region has typical savannah vegetation which provides forage for small stock, while in the area with the red kalahari sandy soil. The soils in the region can be classified into three groups: Aeolian sands, Calereousus soils; and Lithosols.

The vegetation structure is classified as the Namib Desert, characterised by dwarf shrub savanna within the Nama-Karoo basin, offering a good mixture of grass and trees, with a rich variety of edible bush. Some dominated species including: *Acacia hereronsis, Combertum apicutatum, Acacia reficiens, Acacia hebeclada, Ziziphus mucronate* and *Rhus species.* The overall plant diversity/species coverage is estimated to 100-149 species (Mendelsohn et al., 2002).

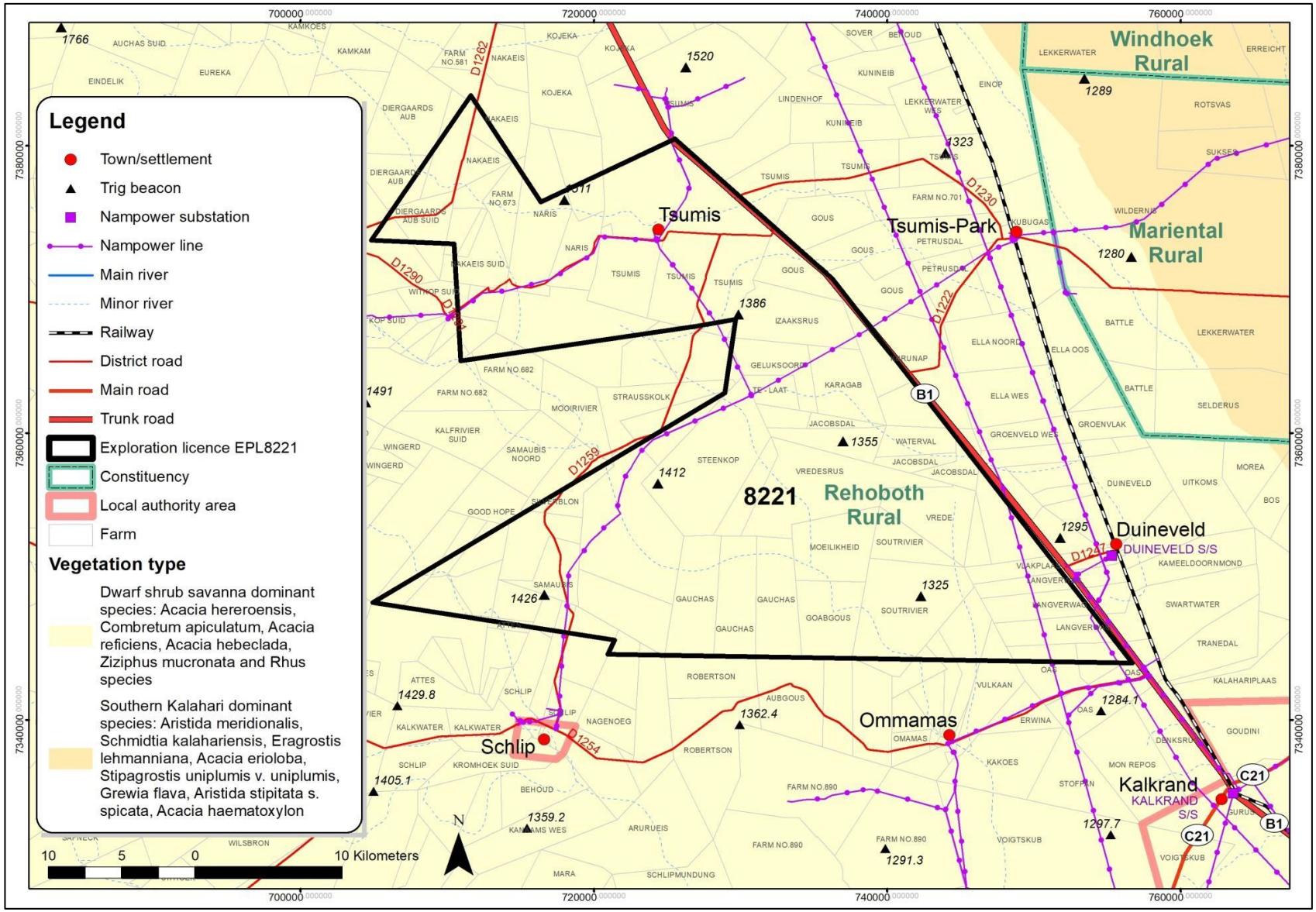

Figure 6: Vegetation map of the EPL 8221,(RBS Map Prepared by Katharina Dierkes, 2021).

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4.5 Summary of the Socioeconomic Settings

4.5.1 Regional Profiles

EPL 8221 itself falls under the Hardap Region; Hardap Region is approximately 260km south of Windhoek. The region is the third largest region in Namibia with the total area of 109 659 Km², occupying 13.3% of the country's total land surface, with the low population density of 0.6 persons per square kilometer. The region has a population of approximately 84,248 people, with 41,058 females and 43,190 males (Namibian Labour Force Survey, 2014). Approximately, 75% of the entire region forms part of commercial farms; 10 percent communal farmland and national parks claiming the almost 15 percent of the remaining area. The region is further divided into six political constituencies, namely: Rehoboth Urban West; Rehoboth Urban East; Rehoboth Rural; Mariental Urban; Mariental Rural and Gibeon (Hardap Regional Council , 2018).

EPL 8221 falls within the Hardap Region. According to the NSA, (2011), the following is the summary of the regional and local socioeconomic environment of the area:

- The Project area is situated in Hardarp Region with a population of 79 507 people, approximately half of the population lived in the urban compared to the 40% in rural areas.

- The Hardarp Region had one of the lowest population densities with approx. 0.7 people per one square kilometer, this was due to the region being inhabitable because of the partly desert climate, dry/arid.

- Hardarp Region had relatively young population with 33% of the population being less than 15 years of age.

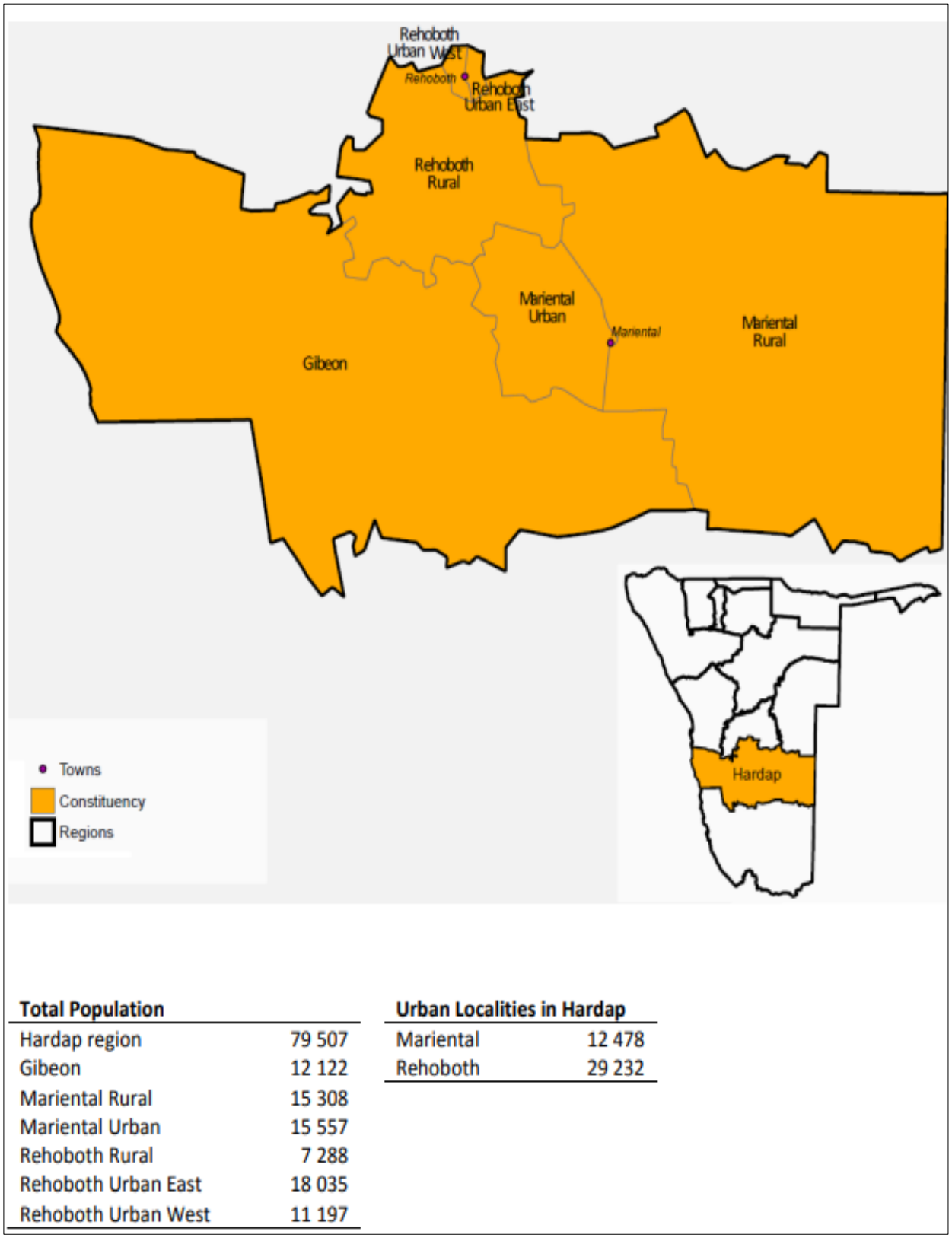
- The literacy rates were 91.1%, with 93.8% in Rehoboth urban compared to 86.8% in Rehoboth rural.

- The labour force participation rate for Hardap Region was 70.5 percent. The urban areas had (71.4%) higher rate than in rural areas (69%). At the constituency level, the labour force participation rate was highest in Mariental Rural (73%) and lowest in Rehoboth Rural (66%).

- Agriculture, Forestry and Fishing were the main industry (29.2%) of the work force followed by Construction (12.4%). Wholesale and retail trade employed about 8.1 percent of the workforce

4.5.2 Local Profile

Locally, the area falls with Rehoboth rural constituency with population of 7 288, and a population density of 25.3 /km^2 Figure 7. Some selected indicators are presents in Table **4**.



Total Population	
Hardap region	79 507
Gibeon	12 122
Mariental Rural	15 308
Mariental Urban	15 557
Rehoboth Rural	7 288
Rehoboth Urban East	18 035
Rehoboth Urban West	11 197

Urban Localities in Hardap	
Mariental	12 478
Rehoboth	29 232

Figure 7: Constituencies and population of Hardap Region (Source: National Statistics Agency (NSA), 2011).

Table 4: Indicators Rehoboth Rural Constituency

Rehoboth Rural Constituency – Census Indicators, 2011 and 2001

	2011	2001		2011	2001
Population Size			Labour force, 15+ years, %		
Total	7 288	7 524	In labour force	66	61
Females	3 221	3 514	Employed	68	63
Males	4 067	4 010	Unemployed	32	37
			Outside labour force	30	36
Sex ratio: Males per 100 females	126	114	Student	17	21
			Homemaker	30	40
Age composition, %			Retired, too old, etc.	33	39
Under 5 years	12	12			
5 – 14 years	21	23	Housing conditions, %		
15 – 59 years	55	52	Households with		
60+ years	12	12	Safe water	84	84
			No toilet facility	50	47
Marital status: 15+ years, %			Electricity for lighting	33	27
Never married	51	47	Wood/charcoal for cooking	72	80
Married with certificate	30	33			
Married traditionally	1	0	Main source of income, %		
Married consensually	13	13	Household main income		
Divorced/Separated	1	1	Farming	7	9
Widowed	5	5	Wages & Salaries	60	56
			Cash remittance	6	7
Private households			Business, non-farming	2	3
Number	2 174	1 975	Pension	20	23
Average size	3.3	3.7			
			Disability, %		
Head of household, %			With disability	6	6
Females	25	28			
Males	75	72			
Literacy rate, 15+ years, %	83	76			
Education, 15+ years, %					
Never attended school	17	23			
Currently at school	22	8			
Left school	59	67			

4.5.3 Socioeconomic Conclusions

The proposed exploration activities in the EPL 8221 are likely to coexists with the current and future land uses such as the commercial agriculture. Socioeconomic impacts at the exploration stage are likely to be minimal and tend to be positive in an event of a discovery of economic minerals resources. A clear understanding of these impacts may help communities understand and anticipate the effects of the proposed exploration.

4.6 Ground Components

4.6.1 Regional and Local Geology

Regionally, the EPL area is located in the Southern Foreland basin of the Damara Orogenic Belt. To the east of the EPL is the conglomerate grit of the Weissrand partially covered by Quaternary sediments. Kalkrand Basalts occur mostly in the central south part of the EPL, with a minor occurrence in the south eastern corner of the EPL. Karoo Age Dwyka Tillite occurs in the south-central area of the EPL. A succession of clastic sedimentary units and bimodal volcanic of the Mesoproterozoic Sinclair Sequence dominate the west and North West part of the EPL. These consists sediments ranging from shale to conglomerates (Figure 8).

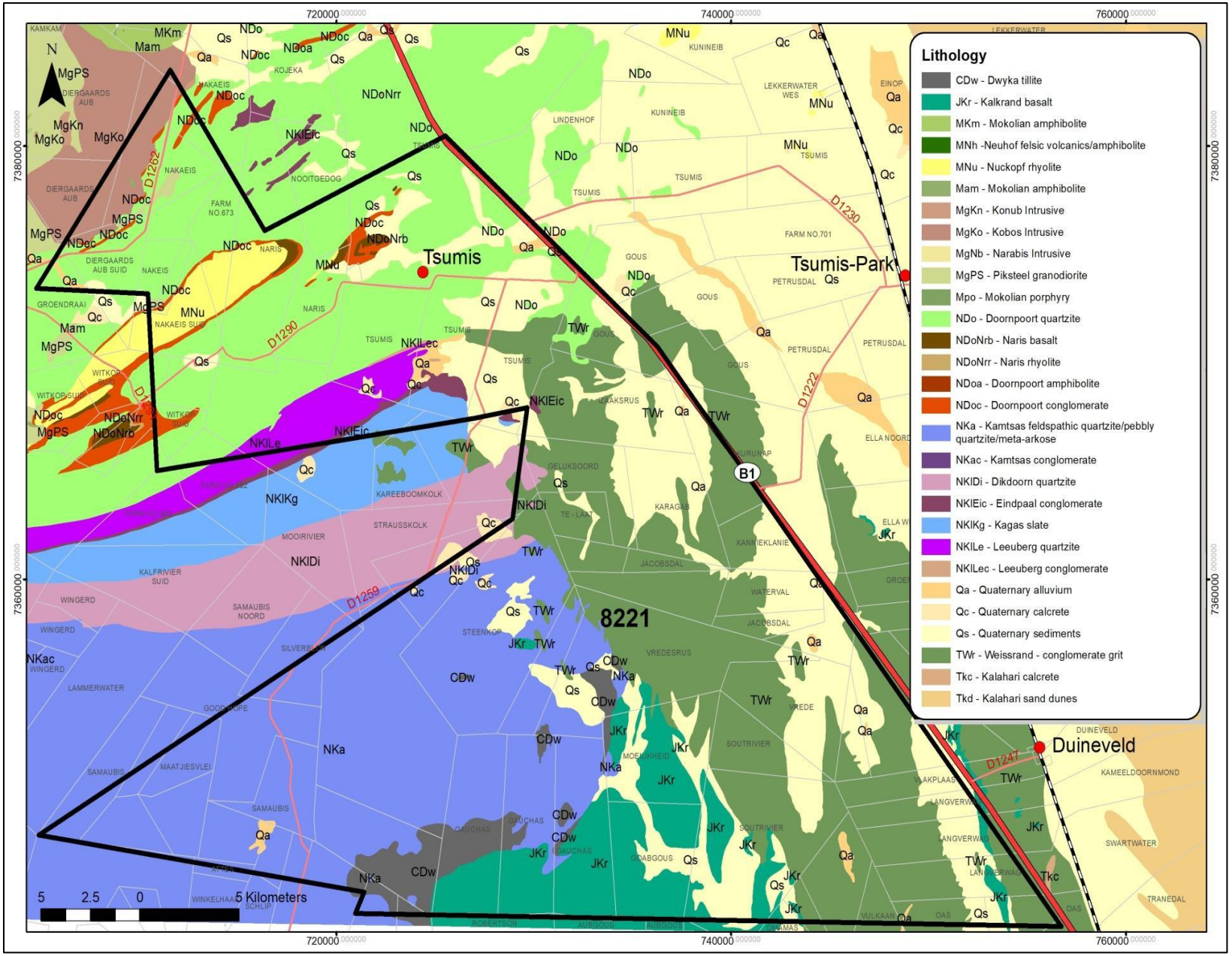


Figure 8: Simplified hydrogeological map of the EPL 8221 (RBS Map Prepared by Katharina Dierkes, 2021)

4.7 Water

4.7.1 Overview

According to Hardap Regional Council (2018), the Hardap Region has generally low water levels, shallow in the east, close to the Fish River watercourse, but become progressively deeper towards the escarpment in the west, where water levels deeper than 200m are recorded.

In the Stampriet Basin of the Maltahöhe area, groundwater tapped in deep wells should not be pumped because the water flows out freely from the borehole due to the high-pressure head, thus forming an artesian well (Groundwater of Namibia, 2011).

The groundwater of the proposed EPL area is dominated by local fractured, fissured, karstified and porous rocks with moderate groundwater potential; the western part of the EPL is covered in rock bodies with little groundwater potential (Figure 9).

4.7.2 Sources of Water Supply

Clean water supply to the town is managed by Namwater and the distribution is done by the Municipality which sells to residents. Water supplied to the town is extracted from Hardap dam by NamWater.

For The proposed project activities (exploration programme), local groundwater resources will be utilised. No site-specific hydrogeological specialist study, groundwater modelling or water sampling and testing activities have been undertaken for this study. Should the need arise, for the proposed exploration and in particular the proposed drilling of exploration boreholes will be from existing groundwater resources and permission from the land owner shall be obtained as appropriate. Should there be a need to drill a water borehole to support the proposed exploration programme; the Proponent shall obtain permission from the land owner and Department of Water Affairs in the MAWLR.

4.7.3. Waste management

Discharge of liquid or solid wastes including wastewater, chemical, fuels or oils into any public stream is prohibited. Similarly, domestic waste will be managed appropriately and the Proponent must implement the provisions of the EMP on water and waste management as detailed in EMP Report.

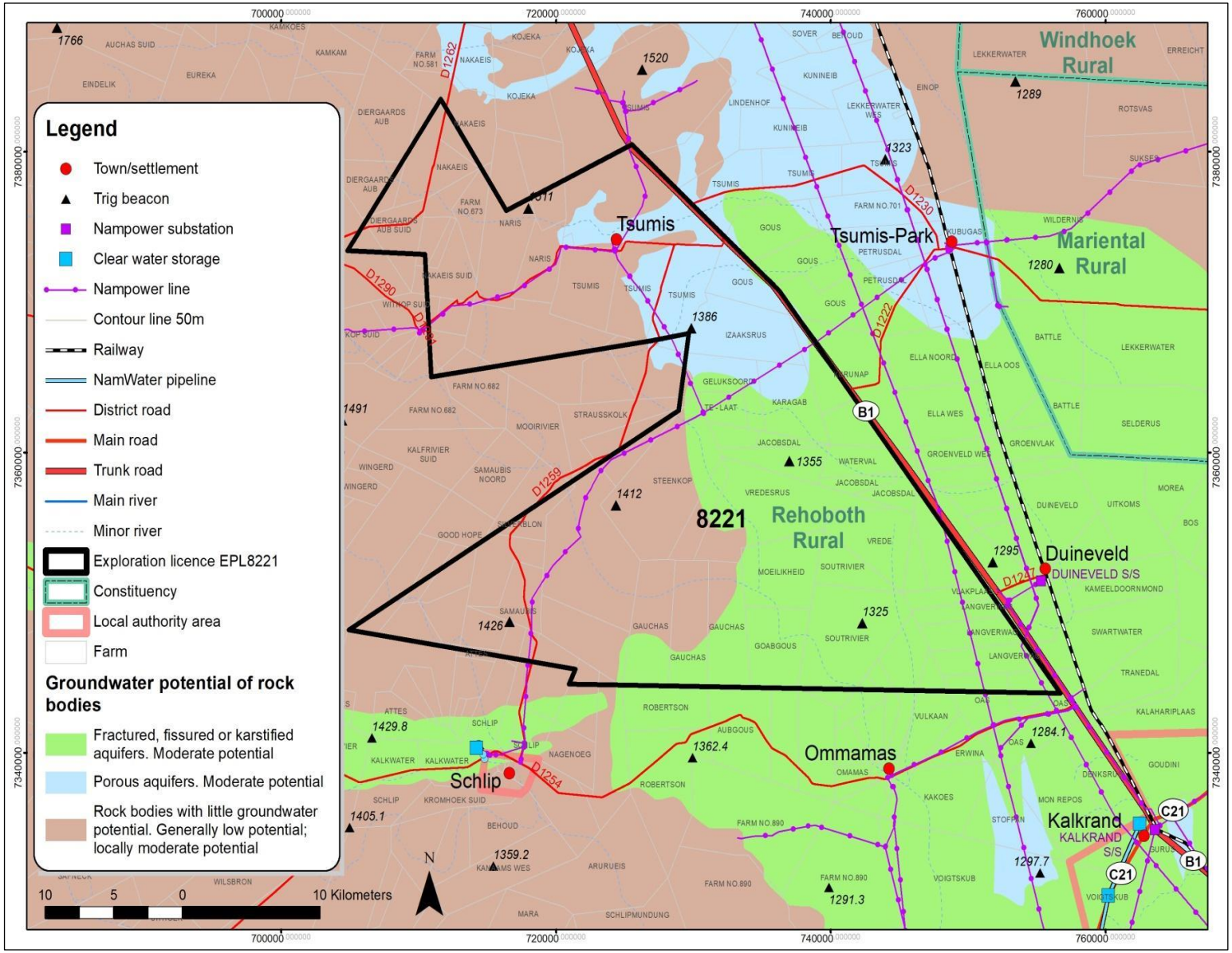


Figure 9: Simplified hydrogeological map of the EPL 8221 (RBS Map Prepared by Katharina Dierkes, 2021)

4.8 Archaeology

4.8.1 Regional Archaeological Setting

In the absence of a field-based assessment being undertaken, the EPL area does not have a known heritage site (https://maps.landfolio.com/Namibia). However, in accordance to a Heritage Sites in Southern Namibia (Declared National Monuments, according to Vogt, 2004) only two (2) declared national monuments are located in the Hardap Region, although sites of Historical, political and memorial values are of likely encounter.

The Proponent must not disturb major natural shelters or cavities that may be unearthed because they could hold some highly significant historical or cultural sites that would require detailed documentation and possibly mitigation measures to be adopted in the event of encroachment by the proposed exploration activities.

4.8.4 Archaeological Conclusions and Recommendations

The area of interest for the proposed exploration probably has archaeological potential, although no archaeological sites have been recorded so far from within the area itself. The following are the key recommended actions related to archaeology in the EPL Area:

(i) Contractors working on the site 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 in the course of development should be reported to the National Heritage Council.

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

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

4.9 Public Consultations

4.9.1 Overview

Public consultation and engagement process have been part of the environmental assessment process for this project. Opportunity for stakeholders and the public to submit written comments / inputs / objections with respect to the proposed exploration activities in the EPL 8221 were provided from the Thursday 7th October 2021 to Friday 5th November 2021 (Annex 3).

4.9.2 Public Consultation Process

Public consultation process was undertaken through emails contact and the newspaper advertisements as shown in Annex 3. The project was extensively advertised as follows:

- The Sun newspaper dated 7th October 2021, Figure 10.
- Allgemiene Zuitung newspaper dated 7th October 2021,Figure 11.
- Windhoek observer newspapers dated 22nd October 2021,Figure 12.
- Windhoek observer newspapers dated 25th October 2021, Figure 13.
- Windhoek observer newspapers dated 26th October 2021, Figure 14.
- Windhoek observer newspapers dated 27th October 2021, Figure 15.
- Confidante newspaper dated 22nd to 29th October 2021, Figure 16.

- ❖ Windhoek observer newspapers dated 28th October 2021, Figure 17.
- ❖ Republikein newspaper dated 7th October 2021, Figure 18.

Public notices were published in the local newspapers from the 7th October 2021 to Friday 5th November (Annex 3). A stakeholder register was opened and the following objections have been received.

4.9.3 Stakeholders and Public Discussions

The following is a summary of the general concerns, comments/objections. The full tray of comments is presented in Annex 2.

General concerns of the farms include:

- No prior meetings conducted and formal permission of the landowners to conduct prospective activities on the respective farms.
- Possible impacts on commercial farming, underground water and vegetation.
- Low rainfall/drought impact.
- Lack of foresight and outdated mining policies that are perpetuated since the earliest times of Namibia and which do not contribute to poverty alleviation of Namibians.
- Environmental and economic impacts on farm.
- Water is not readily available which makes crop farming a challenge.
- Erosion which will damage pastures.
- Pressure on the carrying capacity of the farm on small pastures.

4.9.4 Stakeholders and Public Consolations Recommendations

The impacts identified have been assessed in the tables below and mitigation measures thereof in the EMP.

Impacts on commercial farming, underground water and vegetation will be highly localized, temporary and low impacts the mentioned aspects. The proponent will adhere to the mitigation measures as addressed in the EMP and conditions of the ECC.

Overall, this EIA has recommended that the Proponent shall notify the land owners on the implementation of the proposed project once the ECC has been granted and negotiate access agreements as may be applicable. Such communications shall be maintained throughout the lifecycle of the proposed project. This recommendation may be included as condition on the ECC to be issued.

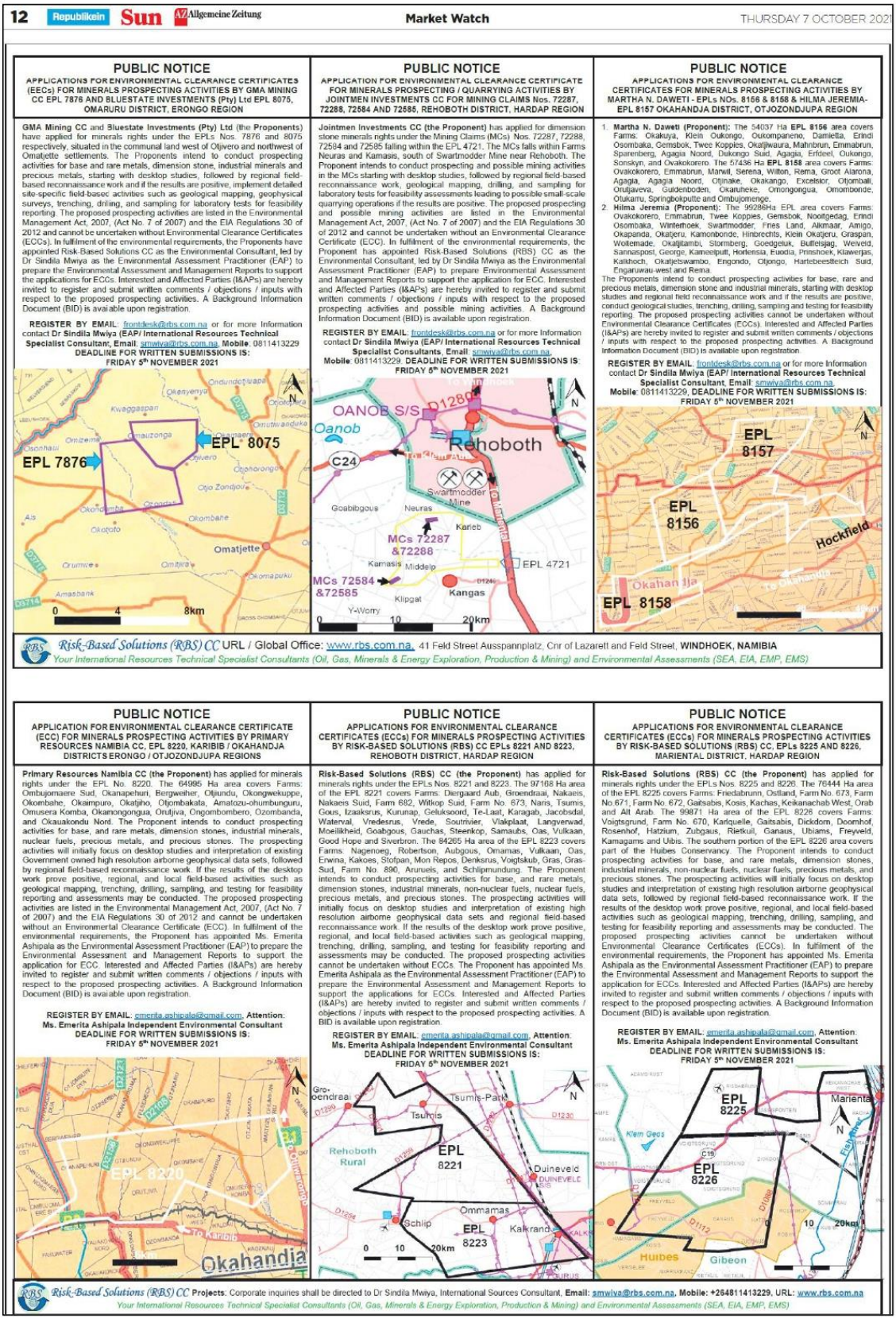


Figure 10: Copy of the public notice that was published in the MarketWatch Namibian Sun Newspaper dated 7th October 2021

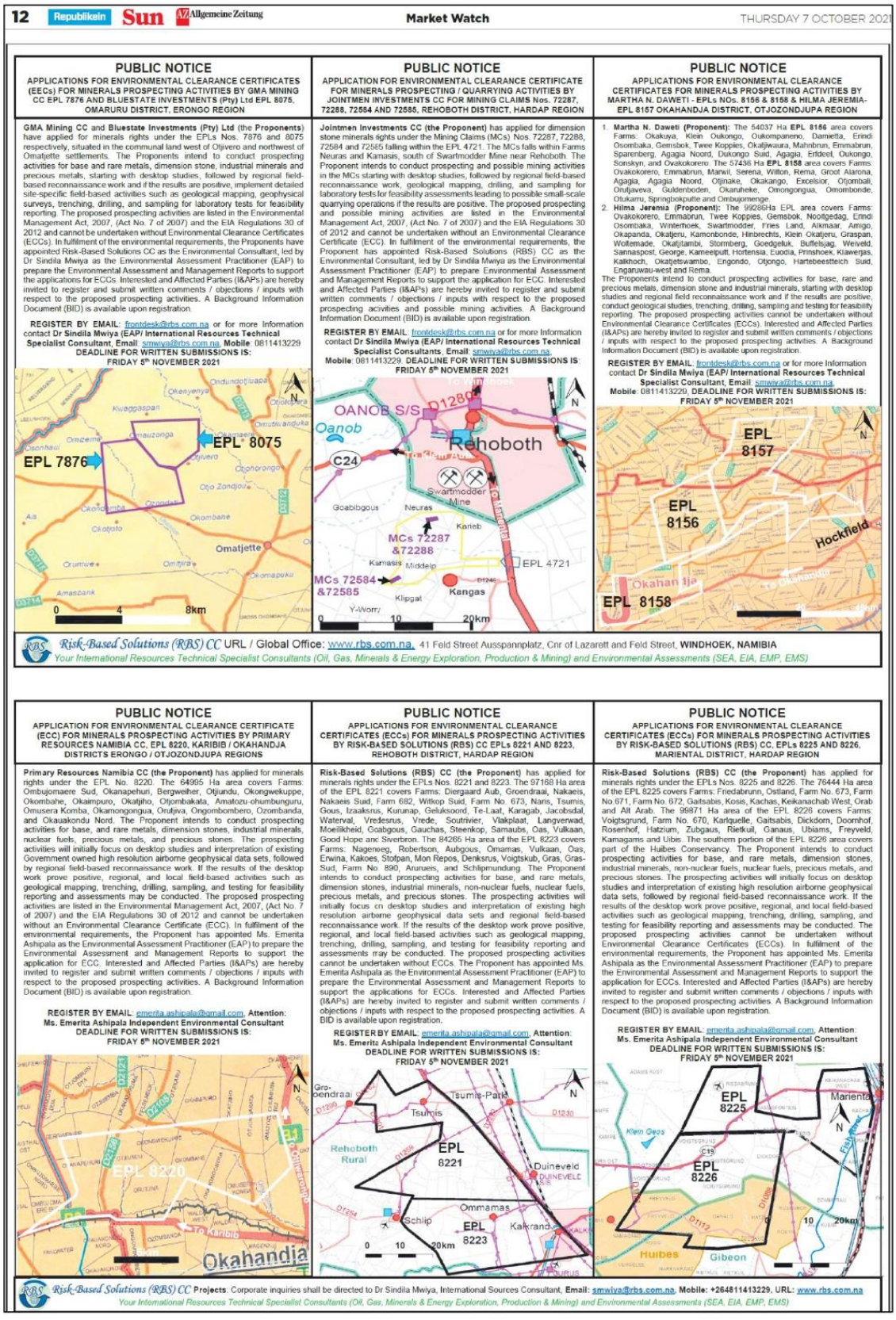


Figure 11: Copy of the public notice that was published in the MarketWatch Allgemeine Zeitung Newspaper dated 7th October 2021

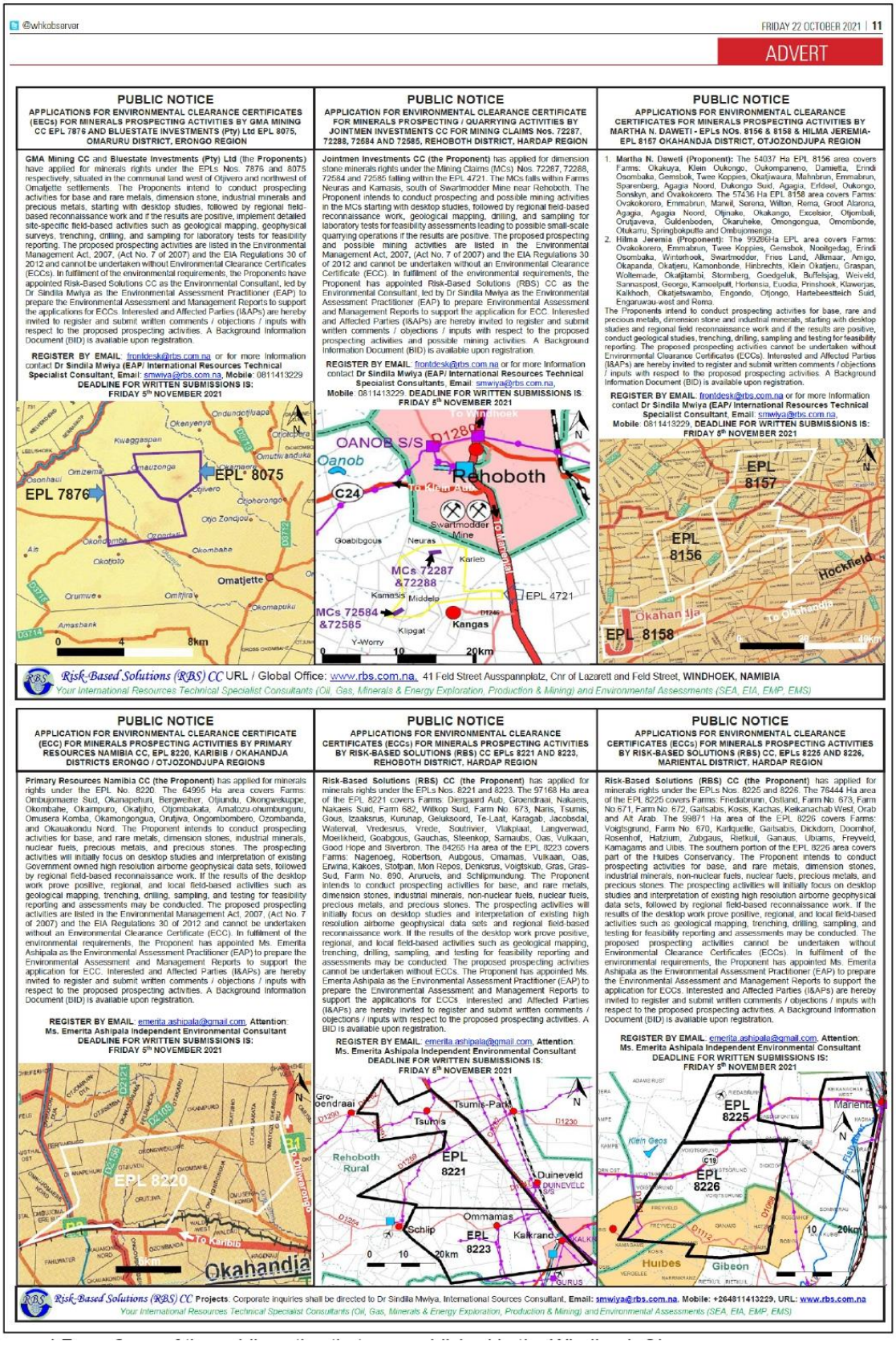


Figure 12: Copy of the public notice that was published in the Windhoek Observer Newspaper dated 22nd October 2021.

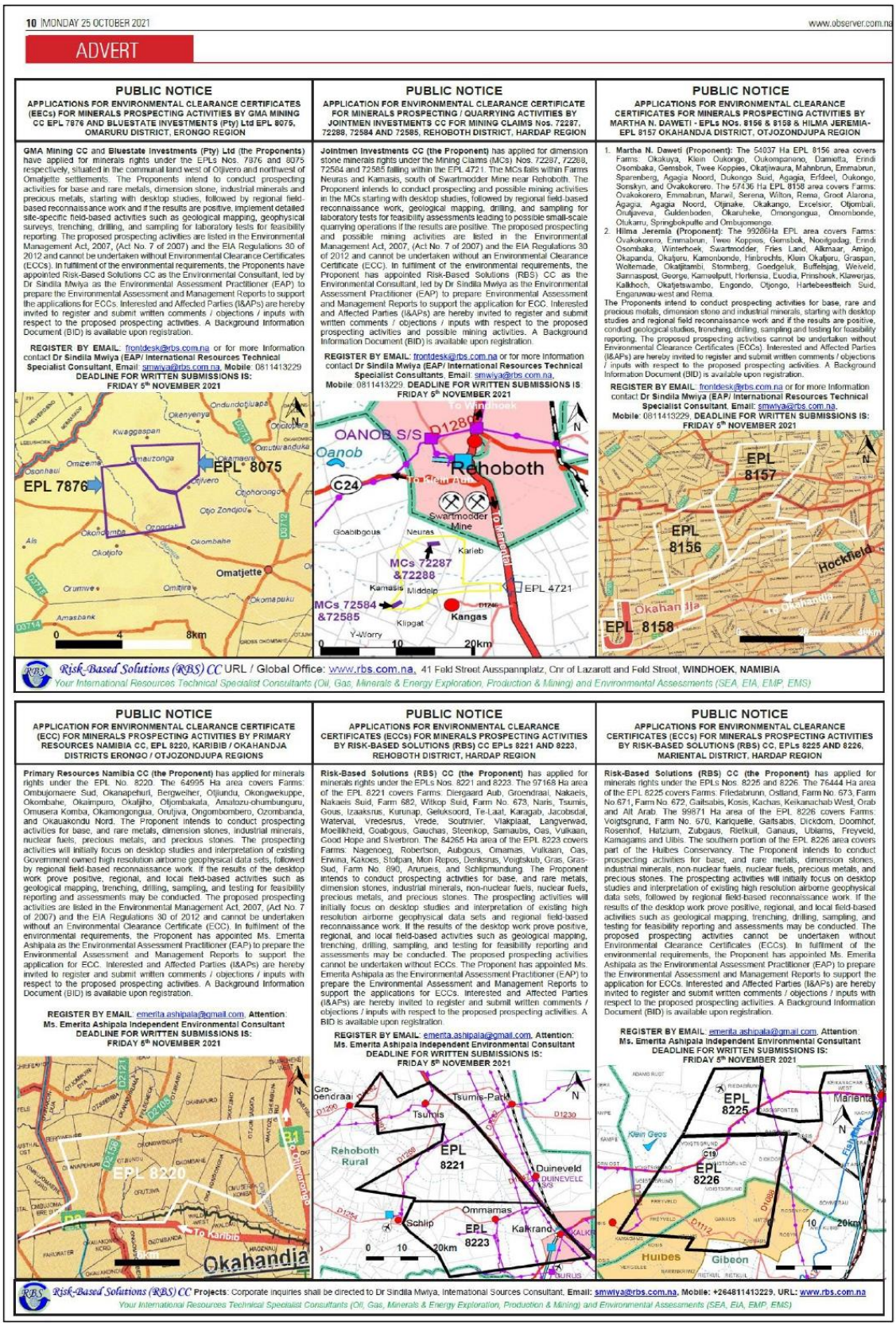


Figure 13: Copy of the public notice that was published in the Windhoek Observer Newspaper dated 25th October 2021

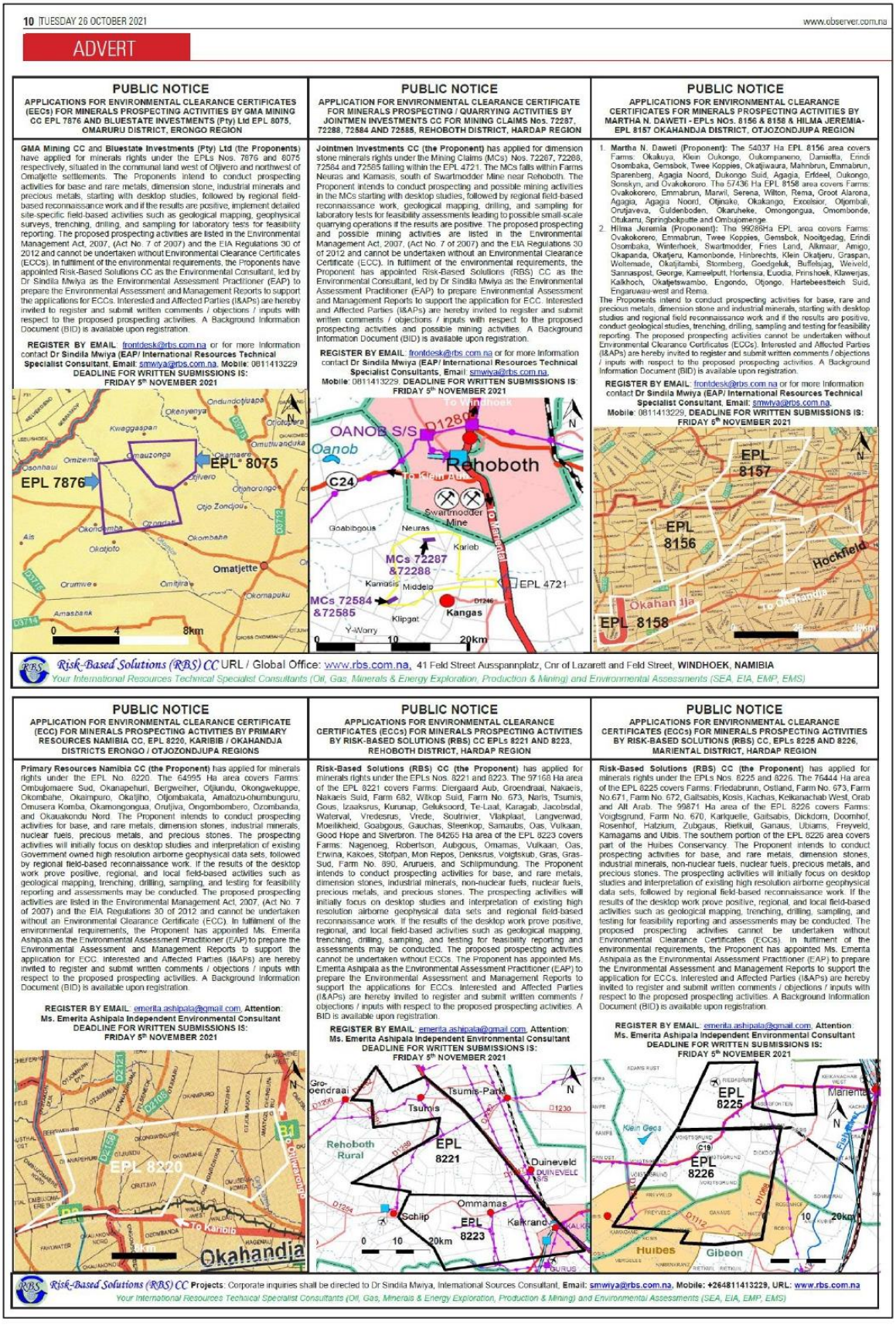


Figure 14: Copy of the public notice that was published Windhoek Newspaper dated 26th October 2021

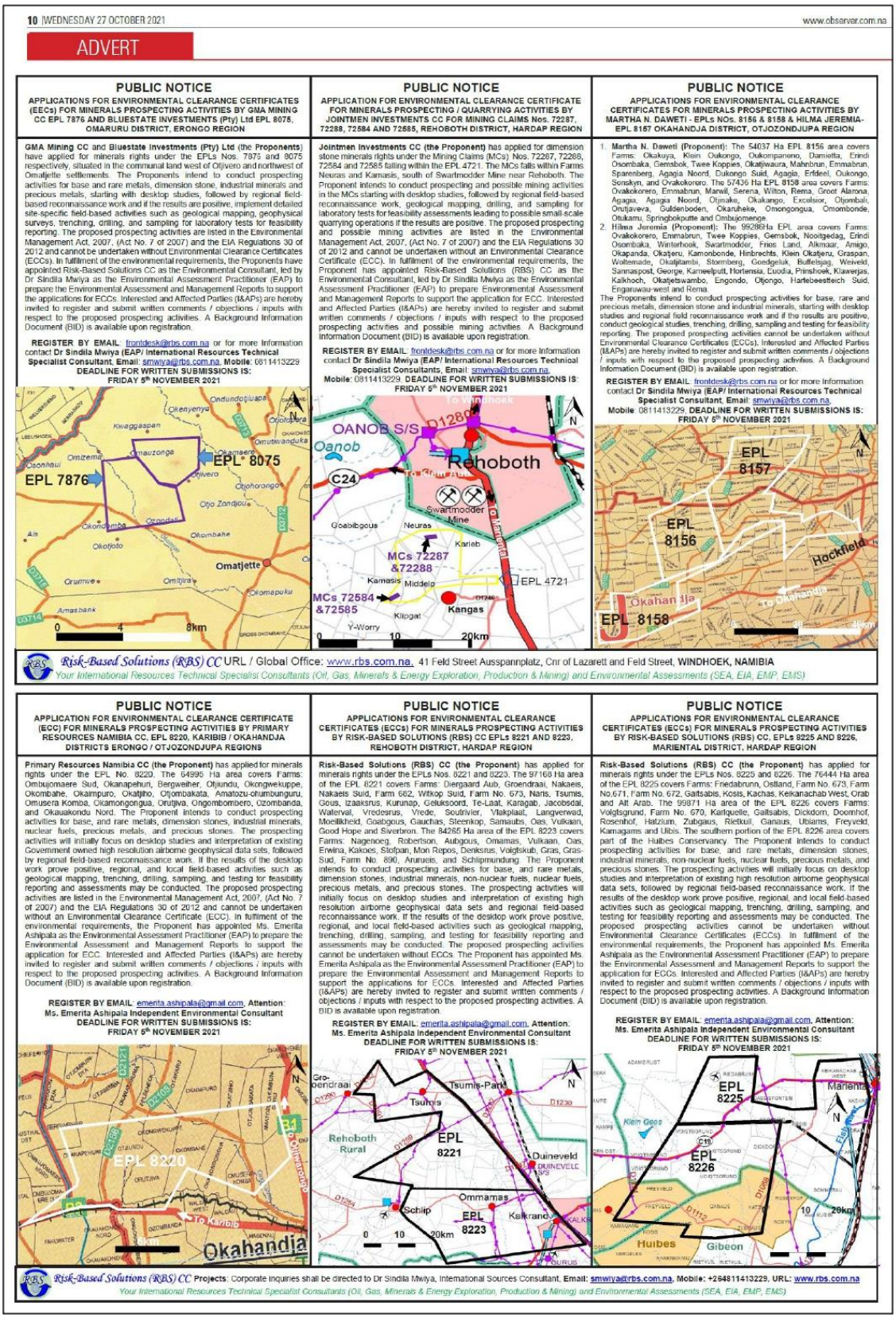
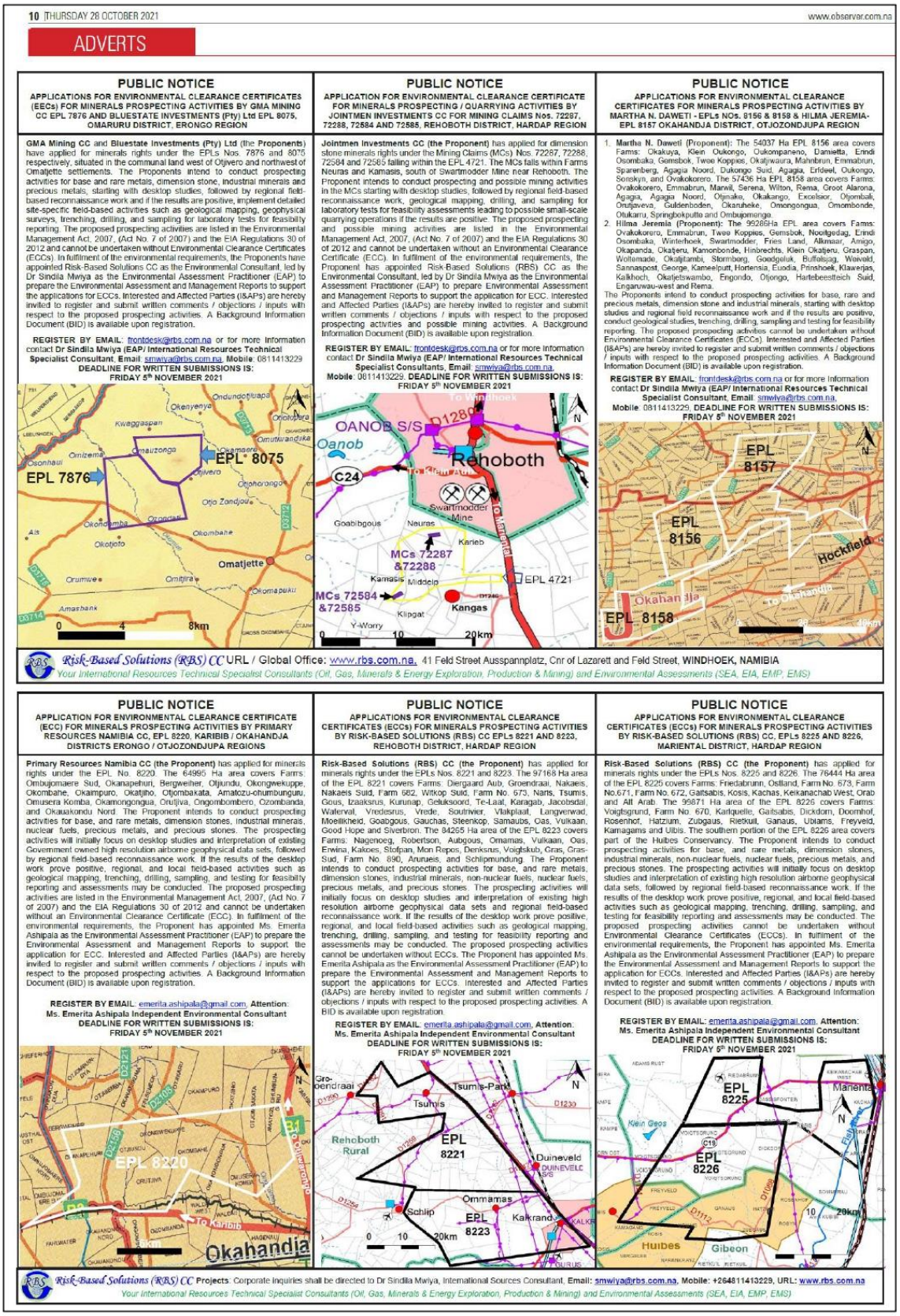


Figure 15: Copy of the public notice that was published Windhoek Newspaper dated 27th October 2021



10 THURSDAY 28 OCTOBER 2021 www.observer.com.na

ADVERTS

PUBLIC NOTICE

APPLICATIONS FOR ENVIRONMENTAL CLEARANCE CERTIFICATES (EECs) FOR MINERALS PROSPECTING ACTIVITIES BY GMA MINING CC EPL 7876 AND BLUESTATE INVESTMENTS (Pty) Ltd EPL 8075, OMARURU DISTRICT, ERONGO REGION

GMA Mining CC and **Bluestate Investments (Pty) Ltd** (the **Proponents**) have applied for minerals rights under the EPLs Nos. 7876 and 8075 respectively, situated in the communal land west of Otjivero and northwest of Omatjette settlements. The Proponents intend to conduct prospecting activities for base and rare metals, dimension stone, industrial minerals and precious metals, starting with desktop studies, followed by regional field-based reconnaissance work and if the results are positive, implement detailed site-specific field-based activities such as geological mapping, geophysical surveys, trenching, drilling, and sampling for laboratory tests for feasibility reporting. 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 Environmental Clearance Certificates (ECCs). In fulfilment of the environmental requirements, the Proponents have appointed Risk-Based Solutions CC as the Environmental Consultant, led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the Environmental Assessment and Management Reports to support the applications for ECCs. Interested and Affected Parties (I&APs) 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 upon registration.

REGISTER BY EMAIL: frontdesk@rbs.com.na or for more information contact **Dr Sindila Mwiya (EAP/ International Resources Technical Specialist Consultant**, **Email**: smwiya@rbs.com.na, **Mobile**: 0811413229
DEADLINE FOR WRITTEN SUBMISSIONS IS: FRIDAY 5th NOVEMBER 2021

PUBLIC NOTICE

APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE FOR MINERALS PROSPECTING / QUARRYING ACTIVITIES BY JOINTMEN INVESTMENTS CC FOR MINING CLAIMS Nos. 72287, 72288, 72584 AND 72585, REHOBOTH DISTRICT, HARDAP REGION

Jointmen Investments CC (the Proponent) has applied for dimension stone minerals rights under the Mining Claims (MCs) Nos. 72287, 72288, 72584 and 72585 falling within the EPL 4721. The MCs falls within Farms Neuras and Kamasis, south of Swartmodder Mine near Rehoboth. The Proponent intends to conduct prospecting and possible mining activities in the MCs starting with desktop studies, followed by regional field-based reconnaissance work, geological mapping, drilling, and sampling for laboratory tests for feasibility assessments leading to possible small-scale quarrying operations if the results are positive. The proposed prospecting and possible mining 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 the environmental requirements, the Proponent has appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant, led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare Environmental Assessment and Management Reports to support the application for ECC. Interested and Affected Parties (I&APs) are hereby invited to register and submit written comments / objections / inputs with respect to the proposed prospecting activities and possible mining activities. A Background Information Document (BID) is available upon registration.

REGISTER BY EMAIL: frontdesk@rbs.com.na or for more information contact **Dr Sindila Mwiya (EAP/ International Resources Technical Specialist Consultants, Email**: smwiya@rbs.com.na,
Mobile: 0811413229. **DEADLINE FOR WRITTEN SUBMISSIONS IS: FRIDAY 5th NOVEMBER 2021**

PUBLIC NOTICE

APPLICATIONS FOR ENVIRONMENTAL CLEARANCE CERTIFICATES FOR MINERALS PROSPECTING ACTIVITIES BY MARTHA N. DAWETI - EPLs NOS. 8156 & 8158 & HILMA JEREMIA- EPL 8157 OKAHANDJA DISTRICT, OTJOZONDJUPA REGION

1. **Martha N. Daweti (Proponent)**: The 54037 Ha EPL 8156 area covers Farms: Okakuya, Klein Oukongo, Oukompaneno, Damietta, Erindi Osombaka, Gemsbok, Twee Koppies, Okatjiwaura, Mahnbrun, Emmabrun, Sparenberg, Agagia Noord, Oukongo Suid, Agagia, Erfdeel, Oukongo, Soriskyn, and Ovakokorero. The 57436 Ha EPL 8158 area covers Farms: Ovakokorero, Emmabrun, Marwil, Serena, Wilton, Rema, Groot Alarona, Agagia, Agagia Noord, Otjmake, Okakango, Excelsior, Otjombali, Orutjaveva, Guldenboden, Okaruheke, Omongongua, Omombonde, Otukaru, Springbokputte and Ombujomonga.
2. **Hilma Jeremia (Proponent)**: The 95266Ha EPL area covers Farms: Ovakokorero, Emmabrun, Twee Koppies, Gemsbok, Noortgedag, Erindi Osombaka, Winterhoek, Swartmodder, Fries Land, Alkmaar, Amigo, Okapanda, Okatjeru, Kamonbonde, Hinbrechts, Klein Okatjeru, Graspan, Woltemade, Okaljtambi, Stormberg, Goedgeluk, Buffalsjag, Waiveld, Sannaspost, George, Kameelputt, Hortensia, Eudia, Prinshoek, Klaverjas, Kalkhoch, Okatjetswambo, Engondo, Otjongo, Hartebeestfeich Suid, Engaruwau-west and Rema.

The Proponents intend to conduct prospecting activities for base, rare and precious metals, dimension stone and industrial minerals, starting with desktop studies and regional field reconnaissance work and if the results are positive, conduct geological studies, trenching, drilling, sampling and testing for feasibility reporting. The proposed prospecting activities cannot be undertaken without Environmental Clearance Certificates (ECCs). Interested and Affected Parties (I&APs) 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 upon registration.

REGISTER BY EMAIL: frontdesk@rbs.com.na or for more information contact **Dr Sindila Mwiya (EAP/ International Resources Technical Specialist Consultant**, **Email**: smwiya@rbs.com.na,
Mobile: 0811413229. **DEADLINE FOR WRITTEN SUBMISSIONS IS: FRIDAY 5th NOVEMBER 2021**

Risk-Based Solutions (RBS) CC URL / Global Office: www.rbs.com.na, 41 Feld Street Ausspannplatz, Cnr of Lazarett and Feld Street, **WINDHOEK, NAMIBIA**
Your International Resources Technical Specialist Consultants (Oil, Gas, Minerals & Energy Exploration, Production & Mining) and Environmental Assessments (SEA, EIA, EMP, EMS)

PUBLIC NOTICE

APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) FOR MINERALS PROSPECTING ACTIVITIES BY PRIMARY RESOURCES NAMIBIA CC, EPL 8220, KARIBIB / OKAHANDJA DISTRICTS ERONGO / OTJOZONDJUPA REGIONS

Primary Resources Namibia CC (the Proponent) has applied for minerals rights under the EPL No. 8220. The 64995 Ha area covers Farms: Ombujomaere Sud, Okanapehuri, Bergweiher, Otjiundu, Okongwekuppe, Okombahe, Okaimpuro, Okatjiho, Otjombakata, Amatozu-ohumbunguru, Omusera Komba, Okamongongua, Orutjiva, Ongombombero, Ozombanda, and Okauakondu Nord. The Proponent intends to conduct prospecting activities for base, and rare metals, dimension stones, industrial minerals, nuclear fuels, precious metals, and precious stones. The prospecting activities will initially focus on desktop studies and interpretation of existing Government owned high resolution airborne geophysical data sets, followed by regional field-based reconnaissance work. If the results of the desktop work prove positive, regional, and local field-based activities such as geological mapping, trenching, drilling, sampling, and testing for feasibility reporting and assessments may be conducted. 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 the environmental requirements, the Proponent has appointed Ms. Emerita Ashipala as the Environmental Assessment Practitioner (EAP) to prepare the Environmental Assessment and Management Reports to support the application for ECC. Interested and Affected Parties (I&APs) 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 upon registration.

REGISTER BY EMAIL: emerita.ashipala@gmail.com, **Attention**: **Ms. Emerita Ashipala Independent Environmental Consultant**
DEADLINE FOR WRITTEN SUBMISSIONS IS: FRIDAY 5th NOVEMBER 2021

PUBLIC NOTICE

APPLICATIONS FOR ENVIRONMENTAL CLEARANCE CERTIFICATES (ECCs) FOR MINERALS PROSPECTING ACTIVITIES BY RISK-BASED SOLUTIONS (RBS) CC EPLs 8221 AND 8223, REHOBOTH DISTRICT, HARDAP REGION

Risk-Based Solutions (RBS) CC (the Proponent) has applied for minerals rights under the EPLs Nos. 8221 and 8223. The 97168 Ha area of the EPL 8221 covers Farms: Diergaard Aub, Groendraai, Nakaeis, Nakaeis Suid, Farm 682, Witkop Suid, Farm No. 673, Naris, Tsumis, Gous, Izaaksrus, Kurunap, Geluksoord, Te-Laai, Karagab, Jacobsdal, Waterval, Vredesrus, Vrede, Soutrivier, Vlakplaat, Langverwad, Moeilikheid, Goabgous, Gauchas, Steenkop, Samaubs, Gas, Vulkaan, Good Hope and Siverboron. The 94265 Ha area of the EPL 8223 covers Farms: Nagenoeg, Robertson, Aubgous, Omamas, Vulkaan, Oas, Erwina, Kakoes, Stofpan, Mon Repos, Denksrus, Voigtskub, Gras, Gras-Sud, Farm No. 890, Arurueis, and Schlipmundung. The Proponent intends to conduct prospecting activities for base, and rare metals, dimension stones, industrial minerals, non-nuclear fuels, nuclear fuels, precious metals, and precious stones. The prospecting activities will initially focus on desktop studies and interpretation of existing high resolution airborne geophysical data sets and regional field-based reconnaissance work. If the results of the desktop work prove positive, regional, and local field-based activities such as geological mapping, trenching, drilling, sampling, and testing for feasibility reporting and assessments may be conducted. The proposed prospecting activities cannot be undertaken without ECCs. The Proponent has appointed Ms. Emerita Ashipala as the Environmental Assessment Practitioner (EAP) to prepare the Environmental Assessment and Management Reports to support the applications for ECCs. Interested and Affected Parties (I&APs) are hereby invited to register and submit written comments / objections / inputs with respect to the proposed prospecting activities. A BID is available upon registration.

REGISTER BY EMAIL: emerita.ashipala@gmail.com, **Attention**: **Ms. Emerita Ashipala Independent Environmental Consultant**
DEADLINE FOR WRITTEN SUBMISSIONS IS: FRIDAY 5th NOVEMBER 2021

PUBLIC NOTICE

APPLICATIONS FOR ENVIRONMENTAL CLEARANCE CERTIFICATES (ECCs) FOR MINERALS PROSPECTING ACTIVITIES BY RISK-BASED SOLUTIONS (RBS) CC, EPLs 8225 AND 8226, MARIENTAL DISTRICT, HARDAP REGION

Risk-Based Solutions (RBS) CC (the Proponent) has applied for minerals rights under the EPLs Nos. 8225 and 8226. The 76444 Ha area of the EPL 8225 covers Farms: Friedabrunn, Ostland, Farm No. 673, Farm No.671, Farm No. 672, Gaitsabis, Kosis, Kachas, Keikanachab West, Orab and Alt Arab. The 95871 Ha area of the EPL 8226 covers Farms: Voigtsgrund, Farm No. 670, Karlquelle, Gaitsabis, Dickdorn, Doornhof, Rosenhof, Hatzium, Zubgaus, Rietkuil, Ganaus, Ubams, Freyveld, Kamagams and Ubis. The southern portion of the EPL 8226 area covers part of the Huibes Conservancy. The Proponent intends to conduct prospecting activities for base, and rare metals, dimension stones, industrial minerals, non-nuclear fuels, nuclear fuels, precious metals, and precious stones. The prospecting activities will initially focus on desktop studies and interpretation of existing high resolution airborne geophysical data sets, followed by regional field-based reconnaissance work. If the results of the desktop work prove positive, regional, and local field-based activities such as geological mapping, trenching, drilling, sampling, and testing for feasibility reporting and assessments may be conducted. The proposed prospecting activities cannot be undertaken without Environmental Clearance Certificates (ECCs). In fulfilment of the environmental requirements, the Proponent has appointed Ms. Emerita Ashipala as the Environmental Assessment Practitioner (EAP) to prepare the Environmental Assessment and Management Reports to support the application for ECCs. Interested and Affected Parties (I&APs) 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 upon registration.

REGISTER BY EMAIL: emerita.ashipala@gmail.com, **Attention**: **Ms. Emerita Ashipala Independent Environmental Consultant**
DEADLINE FOR WRITTEN SUBMISSIONS IS: FRIDAY 5th NOVEMBER 2021

Risk-Based Solutions (RBS) CC **Projects**: Corporate inquiries shall be directed to Dr Sindila Mwiya, International Sources Consultant, **Email:** smwiya@rbs.com.na, **Mobile: +264811413229, URL:** www.rbs.com.na
Your International Resources Technical Specialist Consultants (Oil, Gas, Minerals & Energy Exploration, Production & Mining) and Environmental Assessments (SEA, EIA, EMP, EMS)

Figure 16: Copy of the public notice that was published Windhoek Observer Newspaper dated 28th October 2021

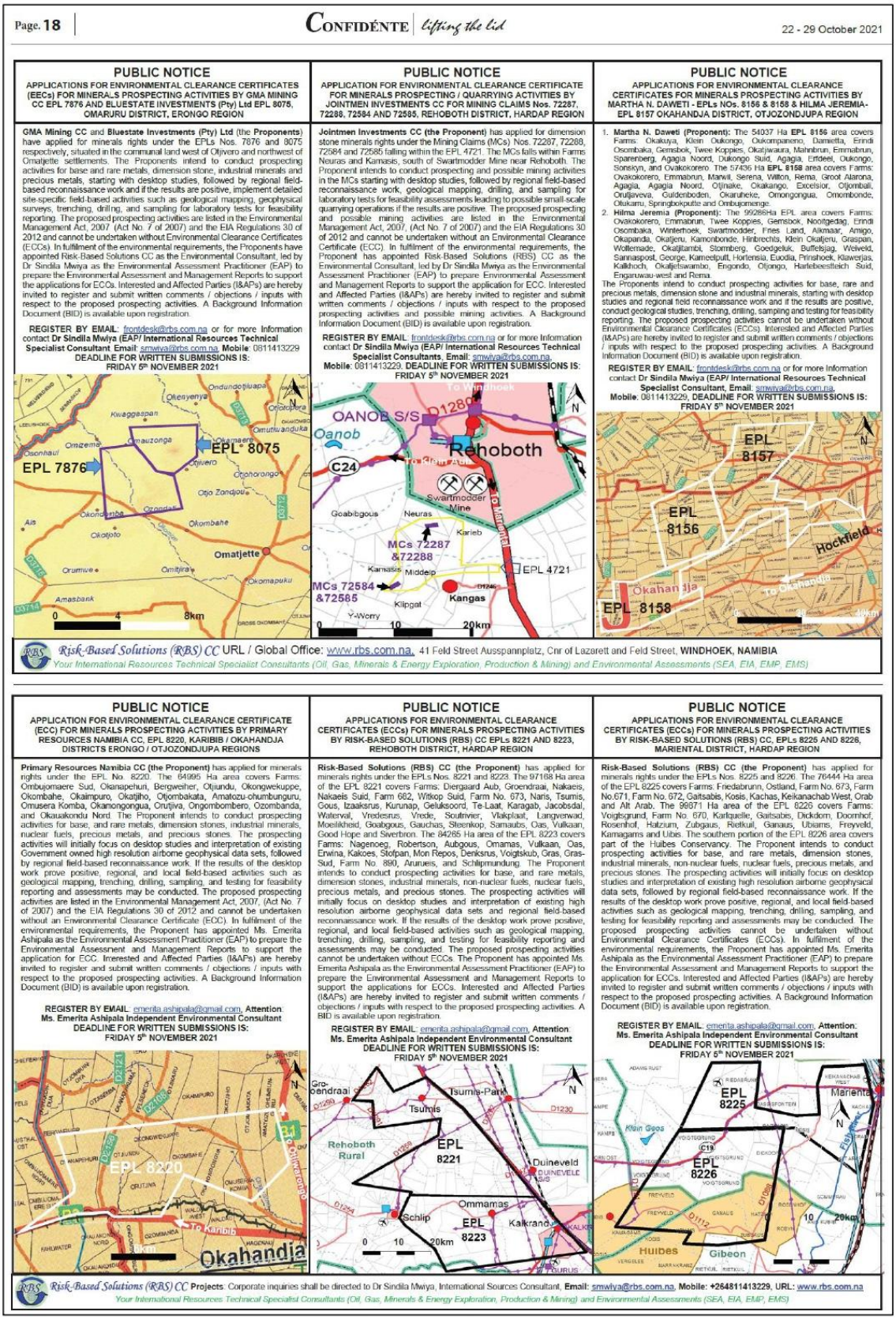


Figure 17: Copy of the public notice that was published in the Confidente Newspaper dated 22nd -29th October 2021

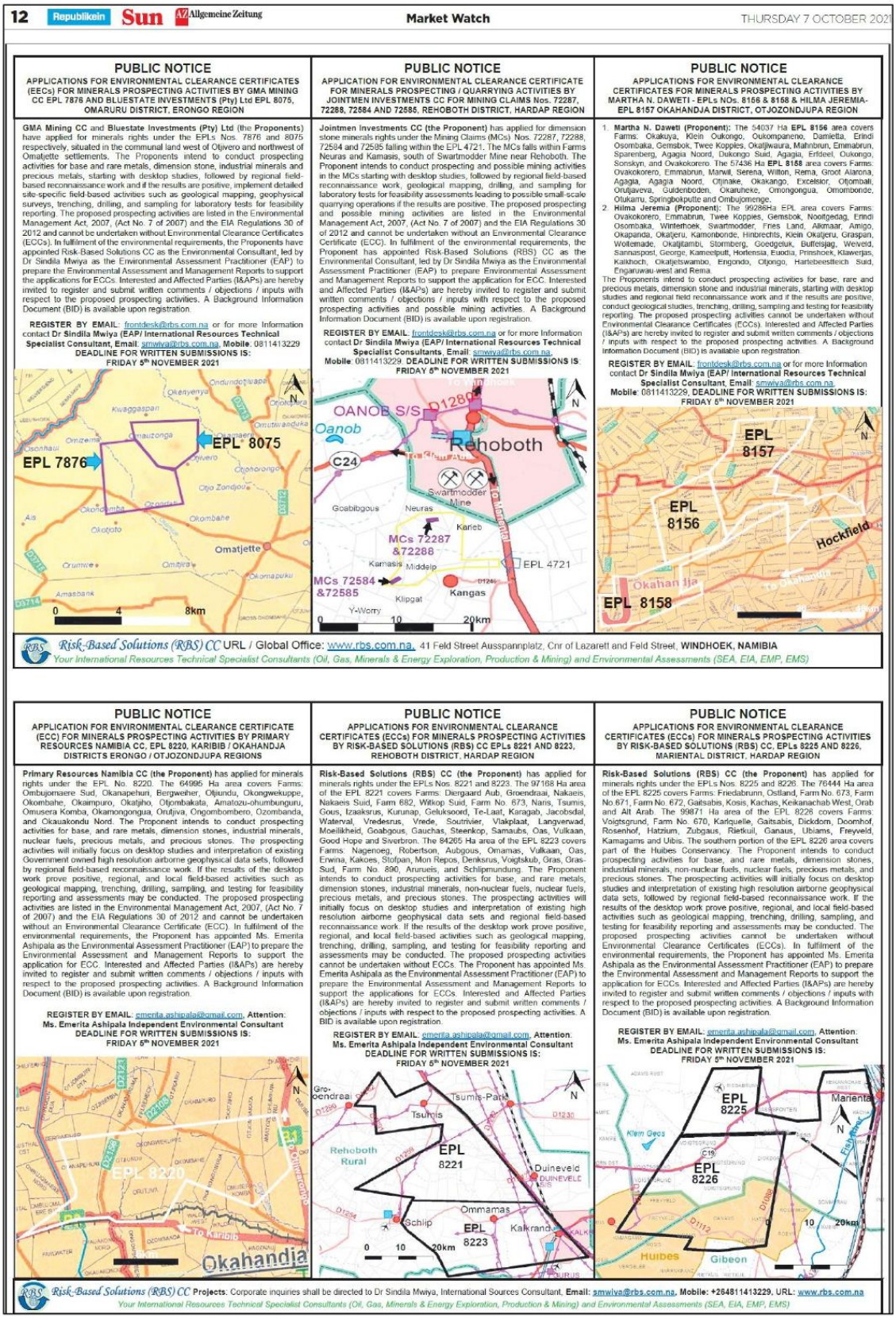


Figure 18: Copy of the public notice that was published in the MarketWatch Republikein Newspaper dated 25th October 2021

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. 8221 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), No. 7 of 2007).

5.2 Alternatives and Ecosystem Assessments

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 alternatives 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's also 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. 8221, 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's 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's 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 include: 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 Chapter 6 of this 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 ongoing exploration activities being undertaken in the EPL 8221 and as assessed in this EIA Report with mitigation measures provided in the EMP Report are as follows:

(i) Initial desktop exploration activities (no field-work undertaken).

(ii) Regional reconnaissance field-based mapping and sampling activities.
(iii) Initial local field-based mapping and sampling activities.

(iv) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling, and.

(v) Prefeasibility and feasibility studies leading to test mining and mining if proves positive.

5.3.2 Summary of Receptors Likely to be Negative Impacted

Based on the finding 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 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).

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 focused on the measures aimed at preventing the occurrence of an impact as well as mitigation measures that may be employed.

Table 5: 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.
	Local	Affects locally important environmental resources or is restricted to a single habitat/biotope, a single community.

Scale of Impact	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 6 for sensitivity of receptors,
Table **7** for magnitude, Table 8 for duration, Table 9 for extent and Table 9 showing probability.

Table 6: 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 7: 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 8: Scored time period (duration) over which the impact is expected to last.

SCALE (-) or (+)		DESCRIPTION
T		Temporary

P		Permanent

Table 9: 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

5.4.3 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 10. 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 10: 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)

5.4.4 Project Activities Summary of Impacts Results

The results of the impacts assessment and evaluation have 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 Table 11 - Table 14.

The overall severity of potential environmental impacts of the proposed project activities on the receiving environment will be of low magnitude (Table 11), temporally duration (Table 12), localised extent (Table 13) and low probability of occurrence (Table 14) due to the limited scope of the proposed activities and the use of step progression approach in advancing exploration.

The step progression approach will allow the Proponent to the results of exploration success and the implementation of the next stage of exploration will be subject to the positive outcomes of previous activities as graded (Table 11 - Table 14).

It is important to note that the assessment of the likely impacts as shown in Table 11 - Table 14, have been considered without the implementation of mitigation measures detailed in Section 6 of this Report.

The need for implementation of the appropriate mitigation measures as presented in the Section 6 of this report have be determined on the results of the impact assessment (Table 11 - Table 14) and the significant impacts as detailed in Table 15 - Table 16.

Table 11: 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	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.

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
		undertaken																
	(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
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)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	(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	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

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.

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
		the results and delineating of potential targets																
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	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
		(iii) Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
		(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

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 12: 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				
		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	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T

SCALE		DESCRIPTION
T		Temporary
P		Permanent

RECEPTOR SENSITIVITY		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																
	exploration camp site lasting between one (1) to two (2) days																
	(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
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**	(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	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T

RECEPTOR SENSITIVITY		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																
Field-Based Activities	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	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 13: 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	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

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																
	exploration camp site lasting between one (1) to two (2) days																
	(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
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
	(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	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

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																
4. Detailed Local Field-Based Activities	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	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. Detailed Local Field-Based Activities	(v) Access preparation and related logistics to support activities	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
	(vi) 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
	(vii) 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
	(viii) 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
6. 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

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
	(vi) Preparation of feasibility report and application for Mining License	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L

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

Table 14: Results of the qualitative scale of probability occurrence.

IMPACT PROBABILITY OCCURRENCE		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
		Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
1. Initial Desktop Exploration Activities	(i) General evaluation of satellite, topographic, land tenure, accessibility, supporting infrastructures and socioeconomic environment data	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	(ii) Purchase and analysis of existing Government high resolution	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)

IMPACT PROBABILITY OCCURRENCE			PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
SCALE		DESCRIPTION	Water Quality	Physical infrastructure and Resources	Air Quality, Noise and Dust	Landscape Topography	Soil Quality	Climate Change Influences	Habitat	Protected Areas	Flora	Fauna	Ecosystem functions, services, use values and non-Use or passive use	Local, regional and national socioeconomic settings	Commercial Agriculture	Community Protected Areas	Tourism and Recreation	Cultural, Biological and Archaeological Resources
A		Extremely unlikely (e.g. never heard of in the industry)																
B		Unlikely (e.g. heard of in the industry but considered unlikely)																
C		Low likelihood (egg such incidents/impacts have occurred but are uncommon)																
D		Medium likelihood (e.g. such incidents/impacts occur several times per year within the industry)																
E		High likelihood (e.g. such incidents/impacts occurs several times per year at each location where such works are undertaken)																
		magnetics and radiometric geophysical data																
	(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	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	(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
	(i)	Local geochemical sampling aimed at verifying the prospectivity of	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A

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
	the target/s delineated during regional reconnaissance field activities																
3. Initial Local Field-Based Activities	(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	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	(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	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

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
		(Subject to the positive outcomes of i and ii above).																
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 15.

5.5.2 Significance Criteria

Significance criteria for negative/adverse impacts (i.e., relative ranking of importance) are defined in Table 15. It is important to note that impacts have been considered without the implementation of mitigation measures. The need for and appropriate mitigation measures as presented in the EMP report have been determined on the basis of the impact assessment presented in this report.

Table 15: 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] None None
Low (2)	Moderate [5/2]	Moderate[4/2]	Minor[3/2]	None[2/2] None	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 16). 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 Table 16.

Table 16: 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	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]

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
	camp site lasting between one (1) to two (2) days																
	(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
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
	(i) Access preparation and related logistics to support activities	2\2	2\2	2\2	2\2	2\2	2\2	3/2	1/1	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	2\2	2\2	2\2	2\2	2\2	2\2	3/2	1/1	3/2	3/2	3/2	2\2	2\2	2\2	2\2	2\2

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]

SIGNIFICANT IMPACT		PHYSICAL ENVIRONMENT						BIOLOGICAL ENVIRONMENT					SOCIOECONOMIC, CULTURAL AND ARCHAEOLOGICAL ENVIRONMENT				
IMPACT SEVERITY (Magnitude, Duration, Extent, Probability)	RECEPTOR CHARACTERISTICS (SENSITIVITY)	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
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]																
4. Detailed Local Field-Based Activities	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	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	3\2	3\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

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5.6 Assessment of Overall Impacts

5.6.1 Summary of the Results of the Impact Assessment

In accordance with Table 11 - Table 16, the following is the 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 16). 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 16). 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 16). 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 moderate 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 16). Except for the socioeconomic components which carries 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 high **[3/3]** without mitigations and low with mitigations for bulk sampling, test mining and field logistics (Table 16). Except for the socioeconomic components which carry a **(+)**, all the other likely impacts are negative **(-)**.

6. CONCLUSION AND RECOMMENDATION

6.1 Conclusions

Risk – Based Solutions cc (**the Proponent**) intends to undertake exploration activities in the Exclusive Prospecting Licence (EPL) No. 8221 covering Base and Rare Metals, Dimension Stone, Industrial Minerals, Non-Nuclear Fuels Minerals, Precious Metals and 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, temporal 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 land owner/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 land owner/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 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.

6.3 Summary ToR for Test Mining and Mining Stages

In an even that economic minerals resources are discovered within the EPL 8221 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/ land owners/ Environmental Commissioner or specialists.

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

(i) To assess all the likely positive and negative short- and long-term impacts on the receiving environment (physical, biological and socioeconomic environments) at local (EPL Area), regional, national (Namibia) and Global levels using appropriate assessment guidelines, methods and techniques covering the complete project lifecycle. The EIA and EMP to be

undertaken shall be performed with reasonable skill, care and diligence in accordance with professional standards and practices existing at the date of performance of the assessment and that the guidelines, methods and techniques shall conform to the national regulatory requirements, process and specifications in Namibia and in particular as required by the MME, MEFT and MAWLR, and.

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

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8. ANNEXES

Annex 1 - BID / Scoping Report

Annex 2 - Standards and Guidelines

Annex 2.1. 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

Annex 2.2 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	-	-	-	-

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
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 in pipe	Zn	µ g/l	R	3000	-	100	-	S	5000	1000	5000	10000	>10000
		µ g/l		-	-	5000	-		-	-	-	-	-
			P: Provisional R: May give reason to complaints from consumers					C: Current. P: Proposed. S: Secondary. T#: Treatment technique in lieu of numeric MCL. TT##: treatment technique triggered at action level of 1300 µ g/l					

Annex 2.3 - 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

Annex 2.4. 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

Annex 3 – Adverts and notices

Annex 4 – Detailed stakeholder list and communications

NO.	STAKEHOLDER DETAILS
1	earthl@iway.na to me, Bertchen Dear Emerita Ashipala, Herewith I kindly ask you to register Earthlife Namibia as I&AP for the following EPLs and regions • 8220 Otjozondupa Region • 8221 & 8225 Hardap Region Kindly respond to this I&AP and forward the BIDs. Kind regards, Bertchen Kohrs Earthlife Namibia
2	Tanja Dahl <nau@nau.com.na> to me Dear Madam, With reference to your Public Notice in a local newspaper, I herewith would like to register as an Interested Party to the following EPL's: 8220, 8221, 8223 8225, 8226 Thank you and best regards
3	senobia claase <senobia.claasen@gmail.com> Attachments Tue, Oct 12, 5:53 PM to me Dear Emerica our farm omomas and Gras are ont he attachment. What is this all about? Regards Senobia Attachments area Emerita Ashipala <emerita.ashipala@gmail.com> Attachments Wed, Oct 13, 3:29 PM

	to senobia Dear Sir/Madam Thank you for your interest in our projects. You have been registered as an Interested and Affected Party (I&AP) for the proposed exploration activities on EPL 8221,and 8223 Kindly receive the Background Information Document (BID) attached hereto for your review and commentary. Should you require any further information, please do not hesitate to contact us. Many Thanks 2 Attachments senobia claase Wed, Oct 13, 7:11 PM to me I still do not understand. senobia claase Wed, Oct 13, 7:27 PM to me Dear emerita I am not interested in your projects. I just want to know what is all about. Please remove me from your list. Kind regards Emerita Ashipala <emerita.ashipala@gmail.com> Thu, Oct 14, 11:52 AM to senobia Dear Ms Sebonia The project entails exploration for minerals in the area highlighted in the BID documents. Being part of the list will mean, you will be notified on all details/activities related to the project. Should you require more clarity, kindly provide me with your contact details and I will give you a call. Regards

4	de Waal, Leste <deWaall@ra.org.na> Thu, Oct 14, 2:37 PM to me Good day Att: Ms Emerita Ashipala I would hereby like to register myself as an Interested and Affected party as Farm Silverbron is also listed under EPL 8221. Regards de Waal, Leste Engineer Maintenance Telephone: +26461 284 7056 Fax: +26461 284 7146 Mobile: +264 81 162 0638
5	Andre private <barn.fam91@gmail.com> Fri, Oct 15, 1:24 PM to Pa, me Good day I am the owner of Portion 2, Farm Witkop Suid. I object to the proposed exploration activities following the proposed desktop studies on my farm (I.e, geological mapping, trenching, drilling, sampling or any exploration and/or mining related activities.) The reason to my objection is the fact that said property is privately owned and commercial farming activities is conducted on said property. Such activities could negatively impact my commercial farming, underground water and vegetation. Regards André Barnard
	Frederico <fredericovw@gmail.com> Tue, Oct 26, 7:34 AM to me Dear Emerita, How are you? I'd like to register as an affected party. The neighboring farmer has also asked that I reach out to you. They are elderly gentlemen and do not have access to electronic mail and therefore I'll most likely be communicating on behalf of them as well. Our properties are Goabgous and Aubgous respectively. Please let me know how the registration process works and what you are allowed to share with us and what not. Best wishes, Frederico

6	Axel Stritter - Engling, Stritter and Partners astritter@englinglaw.com.na to me, Daneale Dear Ms Ashipala, 1. The notice concerning an "Application for Environmental Clearance Certificate for Minerals Prospecting Activities by Risk-Based Solution (RBS) CC EPLs 8221 and 8223, Rehoboth District, Hardap Region", refers. 2. We confirm acting for the following owners of farm Soutrivier No. 435: 2.1. Piet and Ingrid Beukes; 2.2. Johanna Olga Beukes; 2.3. Andrew and Rosie Bezuidenhoudt; 2.4. Frans Cloete. 3. To enable our clients to consider the proposed prospecting activities and the impact these may have, the following particulars and documents are requested from you: 3.1. a copy of the applications for EPL 8221 and EPL 8223, including the work programme and schedule that would have accompanied such applications; 3.2. please confirm the status of these applications and if "Notices of Preparedness to Grant Applications" have been issued in respect of these applications, a copy thereof is requested; 3.3. kindly confirm whether RBS has the required technical resources to carry on the prospecting operations to which the applications relate, and provide particulars of such technical resources. 4. Please explain how the environmental impacts will be assessed where the extent of the prospecting activities are still to be determined and there being progressive and different stages of prospective operations. i.e. will there be further applications for environmental clearances and/or an environmental management plan which will be updated prior to any next stage of the prospecting operations ? 5. Our instructions are to submit the following preliminary grounds of objection with regard to the application for environmental clearance certificates: 5.1. The size of the farm is measured at approximately 5 600 ha, in respect of which each owner owns approximately 1 400ha. These portions are fenced off and each owner operates their portion as a farm; 5.2. The current carrying capacity of the whole area (not the Farm) is at Large Stock 1to 30ha and Small Stock 1 to 4,5; 5.3. This allows for 47 large stocks on 1400ha or 282 Small Stock on 1400ha. 5.4. The drought over the years has even worsen the whole situation, and the numbers mentioned above cannot be maintained on the 1400ha farms. 5.5. The water is also not readily available which makes crop farming a challenge. Currently crop farming is done at a very small scale just for own use. The intended prospecting operations would negatively impact on the already scarce water resources which hardly are sufficient for the current activities on the farm; 5.7The intended prospecting operations may result in erosion which will damage pastures even more severely;

	5.8. The 4 portions provide employment to 9 households. 5.9. It is expected that the intended prospecting activities would result in more pressure on the carrying capacity of the farm which would lead to smaller grass pastures, which will make the current small scale farming not possible. 5. Our client's rights to supplement the above-mentioned grounds for objections and to raise further grounds for objection and to submit comments once provided with further particulars as requested herein and as will be required to be give in the environmental assessment process, are hereby reserved. 6. Please confirm that our client's objection and comments have been received and that they have been registered as interested and affected parties. Yours faithfully
7	T Izaaks <sdizaaks@gmail.com> Attachments Mon, Nov 1, 1:23 PM (9 days ago) to me Good day, As per the attached Public Notice, we herewith would dlike to register as an affected party as owner of Farm Moeilikheid. Kindly send documents as per Public Notice for further perusal. Kind Regards SD Izaaks
	Koesha Martin <koeshamartin@gmail.com> Attachments Fri, Nov 5, 8:48 AM (5 days ago) to me Good morning Madam Attached, please find an objection letter for your attention. Best regards, Mrs. A Martin **As attached in annexure 4.1**
8	**GH <norton@ghsafaris.com>** to me, emeritaashipala, Reggy Dear Ms. Ashipala, Trust you doing well.

	Please see attached letter in which I raised my concerns with respect to the proposed prospecting activities. Kindly confirm receipt hereof and if any additional info is needed, feel free to contact me directly. Norton Izaks Cell: +264 81 129 4020 http://www.ghsafaris.com https://www.facebook.com/Goodhope-Hunting-Safaris-547617608658580 **As attached in annexure 4.2**
9	**Blom, Jacobus P. <blomj@telecom.na>** to me Dear Ms Emerita Ashipala, Appended hereto our registration and submission of objections for EPL 8223. Trust it is in order. Regards Jacobus Blom Senior Regional Commercial Manager: Central Tel : 061 - 201 2379 • Fax : 061 238987 or 088 619732 • Mobile : 0851226889 • E-Mail : blomj@telecom.na • www.telecom.na **As attached in annexure 4.3**
10	**pbeukes16@gmail.com** to me Dear Madam I Piet P Beukes I.D. 63071201982 who is also co-owner of a porshen of Farm 445 Kakoes give hereby my notification of objection to the proposed environmental clearance certificates, to do some exploration activities on that farm area which includes farm Kakoes and Ommomas. I would be very grateful if you can register me also as one of the concern parties for that specific area and give me some info so to familirse myself of what is going to happen there,please. Thank you very much. Piet Patrick Beukes
11	**Blom, Jacobus P. <blomj@telecom.na>**

	to me Dear Ms Emerita Ashipala, Appended hereto our registration and submission of objections for EPL 8223. Trust it is in order. Regards Jacobus Blom Senior Regional Commercial Manager: Central Tel : 061 - 201 2379 • Fax : 061 238987 or 088 619732 • Mobile : 0851226889 • E-Mail : blomj@telecom.na • www.telecom.na **As attached in annexure 4.1**
12	**Mildred Feris <mildredferis66@gmail.com>** to me Dear Emerita Receive the attached letter for your attention. Regards. Mildred Feris **As attached in annexure 4.1**

Annex 4: Stakeholder comments

Annex 4.1

P.O Box 70
Kalkrand
Namibia
03 November 2021

Environmental Assessment
Risk-based Solutions cc8221 & 8223
Rehoboth District
Hardap Region

Attention: Ms. Emerita Ashipala

Dear Ms. Ashipala

RE: WRITTEN OBJECTION TO THE APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATES (ECCs) WITH REGARDS TO PROPOSED MINING ACTIVITIES: FARM LANGVERWAG No. 442

This writing serves to object the proposes environmental assessment on Farm Langverwag No. 442 Portion B, and the ultimate prospecting activities that may be forthcoming as a result of the outcome of this assessment for the following reasons:

- Weak/under-developed research-based evidence in terms of Lithium mining in drought-stricken countries such as Namibia.
- Short and long-term effects on the environment in low rainfall areas.
- Deny foreign opportunistic/capitalist invasion of any kind on private property.
- Lack of foresight and outdated mining policies that are perpetuated since the earliest times of Namibia and which do not contribute to poverty alleviation of Namibians.

I am strongly objecting to this application due to the potential environmental and economic impacts on my farm aside the consequential social impacts that would also befall our broader community with any mining action.

Yours sincerely,

Ms. A. Martin

P.O Box 70
Kalkrand
Namibia
03 November 2021

Environmental Assessment
Risk-based Solutions cc8221 & 8223
Rehoboth District
Hardap Region

Attention: Ms. Emerita Ashipala

Dear Ms. Ashipala

RE: WRITTEN OBJECTION TO THE APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATES (ECCs) WITH REGARDS TO PROPOSED MINING ACTIVITIES: FARM LANGVERWAG No. 442

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- Weak/under-developed research-based evidence in terms of Lithium mining in drought-stricken countries such as Namibia.
- Short and long-term effects on the environment in low rainfall areas.
- Deny foreign opportunistic/capitalist invasion of any kind on private property.
- Lack of foresight and outdated mining policies that are perpetuated since the earliest times of Namibia and which do not contribute to poverty alleviation of Namibians.

I am strongly objecting to this application due to the potential environmental and economic impacts on my farm aside the consequential social impacts that would also befall our broader community with any mining action.

Yours sincerely,

MFeris
.....
Ms. MILDRED FERIS

Annex 4.2

Cell: +264 81 129 4020 / +264 81 128 3466 Email: norton@ghsafaris.com
www.ghsafaris.com

03 November 2021

Ms. Emerita Ashipala
Independent Environmental Consultant
Email: emerita.ashipala@gmail.com
Windhoek, Namibia

RE: Interested and Affected Party

Dear Esteemed Ms. Ashipala

Kindly allow me to introduce myself to you. I am Mr. N P Izaks, owner of the Farm Good Hope No: 649 in the Rehoboth District, operating as a livestock farmer and operating as a Trophy Hunting Farm under the name Good Hope Hunting Safaris, also known as GH Safaris.

I would hereby like to respond to the Public Notice in the newspaper specifically referenced:

Applications for Environmental Clearance Certificates (ECCs) for Minerals prospecting activities by risk based solutions (RBS) cc EPLs 8221 and 8223, Rehoboth District, Hardap Region.

In the Government Gazette of the Republic of Namibia, no 2083, dated 15 April 1999, the following farms in the Rehoboth District namely, Farm Good Hope 649 and Farm Lammerwater 461, were declared as private nature reserves.

Further to this, in 2013, Good Hope Safaris was officially registered with the Ministry of Environment and Tourism, registration no TPH 00643.

Since 1999, we managed to re-introduce a variety of plains game that according to our records to date, have adapted and survived very well in our area. The plains game which were introduced were specifically chosen to fit in and boost the ecosystem, as well as to re-establish such to its previous glory. Wildlife in general were in abundance throughout this area, but has been nearly driven to extinction in this area over the last millennium.

It is with deep concern and belief that with all our time, effort and financial investment over the past 20 years in building this to a sustainable area for our wildlife, it is now under threat and will affect the wildlife and ecosystem in a negative way.

It has taken us quite a few decades to re-introduce plains game like Hartman Zebras, Red Hartebeest, Impala, Eland, Oryx, Springbuck and specifically Giraffes back into this area.

As we are located in the very dry and arid western areas of the Rehoboth District "M", we are inundated with long extended periods of drought. During the past drought cycle we already experienced lower underground water tables. Severely depleted underground water levels have already led to certain bore holes being dried up completely or delivering less cubic meter of water per hour.

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www.ghsafaris.com

However, the severe droughts over the past 9 years have not hampered these animals as they showed resilience and survived, with our first baby Giraffe being born in 2021. This is true testament that our wildlife is well adapted for this area and ecosystem.

Further to this, we have evidence all over our land of petroglyphs that easily dates back 7000 to 9000 years. This has been a major attraction for tourists over the years, and we as landowners have done our utmost to protect these for future generations to see.

We urgently and humbly urge all relevant parties involved to refrain from conducting any exploration and mining activities in order to help us protect our heritage, history and wildlife.

Your consideration and understanding not to allow mining explorations in this sensitive area is highly valued and appreciated.

Yours sincerely,

.....

Mr. Norton P Izaks
Good Hope No 649
Rehoboth
PO Box 3477