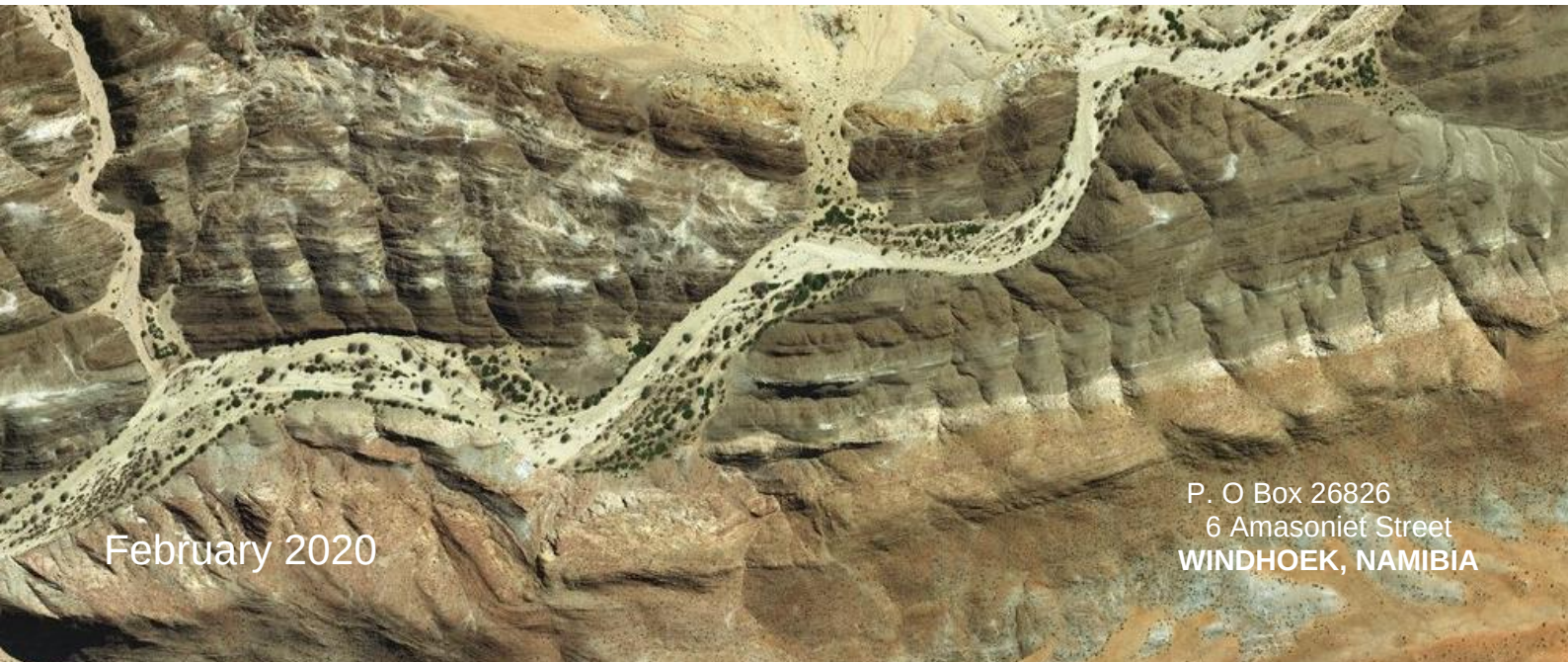
Farpoint investments (Pty Ltd

MET ECC Application No. APP-001147

Final Environmental Impact Assessment (EIA) Report to Support the Application for Environmental Clearance Certificate (ECC) for the Proposed Minerals Exploration / Prospecting in the Exclusive Prospecting License (EPL) No. (EPL) No. 7269,

KARIBIB DISTRICT, ERONGO REGION,



February 2020

P. O Box 26826
6 Amasoniet Street
WINDHOEK, NAMIBIA

PROPONENT, LISTED ACTIVITIES AND RELATED INFORMATION SUMMARY

TYPE OF AUTHORISATIONS REQUIRING ECC

Exclusive Prospecting License (EPL) No. 7269
for ECC for Exploration

NAME OF THE PROPONENT

Farpoint Investments (Pty) Ltd

COMPETENT AUTHORITY

Ministry of Mines and Energy (MME)

ADDRESS OF THE PROPONENT AND CONTACT PERSON

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WINDHOEK, NAMIBIA

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PROPOSED PROJECT

Proposed Minerals Exploration / Prospecting for Dimension Stone (Marble) in the Exclusive
Prospecting License (EPL) No. 7269, Karibib District,
Erongo Region, West-Central Namibia

PROJECT LOCATION

Karibib District, Erongo Region, West-Central Namibia
(Latitude: -22.179722, Longitude: 15.419444)

ENVIRONMENTAL CONSULTANTS

Risk-Based Solutions (RBS) CC
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ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Dr. Sindila Mwiya
PhD, PG Cert, MPhil, BEng (Hons), Pr Eng

Summary Profile and Qualification of the Environmental Assessment Practitioner (EAP) / International Consultant Projects Director – Dr Sindila Mwiya

Dr Sindila Mwiya has more than eighteen (18) years of practical field-based technical industry experience in Environmental Assessment (SEA, EIA, EMP, EMS), Energy (Renewable and Non-renewable energy sources), onshore and offshore resources (minerals, oil, gas and water) exploration / prospecting, operation and utilisation, covering general and specialist technical exploration and recovery support, Health, Safety and Environment (HSE) permitting for Geophysical Surveys such as 2D, 3D and 4D Seismic, Gravity and Electromagnetic Surveys for mining and petroleum (oil and gas) operations support, through to engineering planning, layout, designing, logistical support, recovery, production / operations, compliance monitoring, rehabilitation, closure and aftercare projects lifecycles. The great array of highly technical specialist knowledge and field-based practical experiences of Dr Sindila Mwiya has now been extended to supporting the development of Environmentally Sustainable, automated / smart and Climate Change resilient homes, towns and cities.

Through his companies, Risk-Based Solutions (RBS) CC and Foresight Group Namibia (FGN) (Pty) Ltd which he founded, he has undertaken more than 200 projects for Local (Namibian), Continental (Africa) and International (Global) based clients. He has worked and continue to work for Global, Continental and Namibian based reputable resources (petroleum and mining / minerals) and energy companies such as EMGS (UK/ Norway), CGG (UK/ France/Namibia), BW Offshore (Norway/Singapore /Namibia), Shell Namibia B. V. Limited (Namibia/ the Netherlands), Tullow Oil (UK/Namibia), Debmarine (DBMN) (Namibia), Reconnaissance Energy Africa Ltd (ReconAfrica) (UK/Canada/Namibia), Osino Resource Corporation (Canada/Germany/Namibia), Desert Lion Energy Corporation (Canada/ Australia/ Namibia), Petrobras Oil and Gas (Brazil) / BP (UK)/ Namibia, REPSOL (Spain/ Namibia), ACREP (Namibia/Angola), Preview Energy Resources (UK), HRT Africa (Brazil / USA/ Namibia), Chariot Oil and Gas Exploration (UK/ Namibia), NABIRM (USA/ Namibia), Serica Energy (UK/ Namibia), Eco (Atlantic) Oil and Gas (Canada / USA/ Namibia), ION GeoVentures (USA), PGS UK Exploration (UK), TGS-Nopec (UK), Maurel & Prom (France/ Namibia), GeoPartners (UK), PetroSA Equatorial Guinea (South Africa / Equatorial Guinea/ Namibia), Preview Energy Resources (Namibia / UK), Sintezneftegaz Namibia Ltd (Russia/ Namibia), INA Namibia (INA INDUSTRIJA NAFTE d.d) (Croatia/ Namibia), Namibia Underwater Technologies (NUTAM) (South Africa/Namibia), InnoSun Holdings (Pty) Ltd and all its subsidiary renewable energy companies and projects in Namibia (Namibia / France), HopSol (Namibia/Switzerland), Momentous Solar One (Pty) Ltd (Namibia / Canada), OLC Northern Sun Energy (Pty) Ltd (Namibia) and more than 100 local companies. Dr Sindila Mwiya is highly qualified with extensive practical field-based experience in petroleum, mining, renewable energy (Solar, Wind, Biomass, Geothermal and Hydropower), Non Renewable energy (Coal, Petroleum, and Natural Gas), applied environmental assessment, management and monitoring (Scoping, EIA, EMP, EMP, EMS) and overall industry specific HSE, cleaner production programmes, Geoenvironmental, geological and geotechnical engineering specialist fields.

Dr Sindila Mwiya has undertaken and continue to undertake and manage high value projects on behalf of global and local resources and energy companies. Currently, (2020-2023) Dr Sindila Mwiya is responsible for permitting planning through to operational and completion compliance monitoring, HSE and engineering technical support for multiple major upstream onshore and offshore petroleum, minerals and mining projects, Solar and Wind Energy Projects, manufacturing and environmentally sustainable, automated / smart and Climate Change resilient homes developments in different parts of the World including Namibia. Currently, Dr Sindila Mwiya is developing a 16 Ha commercial and residential Mwale Mwiya Park in the Town of Katima Mulilo, Zambezi Region, Namibia as one of first advanced Environmentally Sustainable, automated / smart and Climate Change resilient development in Namibia. He continue to worked as an International Resources Consultant, national Environmental Assessment Practitioner (EAP) / Environmentally Sustainable, automated / smart and Climate Change resilient homes developer, Engineering / Technical Consultant (RBS / FGN), Project Manager, Programme Advisor for the Department of Natural and Applied Sciences, Namibia University of Science and Technology (NUST) and has worked as a Lecturer, University of Namibia (UNAM), External Examiner/ Moderator, NUST, National (Namibia) Technical Advisor (Directorate of Environmental Affairs, Ministry of Environment and Tourism / DANIDA – Cleaner Production Component) and Chief Geologist for Engineering and Environment Division, Geological Survey of Namibia, Ministry of Mines and Energy and a Field-Based Geotechnician (Specialised in Magnetics, Seismic, Gravity and Electromagnetics Exploration and Survey Methods) under the Federal Institute for Geoscience and Natural Resources (BGR) German Mineral Exploration Promotion Project to Namibia, Geophysics Division, Geological Survey of Namibia, Ministry of Mines and Energy.

He has supervised and continue to support a number of MScs and PhDs research programmes and has been a reviewer on international, national and regional researches, plans, programmes and projects with the objective to ensure substantial local skills development, pivotal to the national socioeconomic development through the promotion of sustainable natural resources coexistence, management, development, recovery, utilisation and for development policies, plans, programmes and projects financed by governments, private investors and donor organisations. Since 2006 until 2017, he has provided extensive technical support to the Department of Environmental Affairs (DEA), Ministry of Environment and Tourism (MET) through GIZ in the preparation and amendments of the Namibian Environmental Management Act, 2007, (Act No. 7 of 2007), new Strategic Environmental Assessment (SEA) Regulations, preparation of the updated Environmental Impact Assessment (EIA) Regulations as well as the preparation of the new SEA and EIA Guidelines and Procedures all aimed at promoting effective environmental assessment and management practices in Namibia.

Among his academic achievements, Dr Sindila Mwiya is a holder of a PhD (Engineering Geology/Geotechnical / Geoenvironmental / Environmental Engineering and Artificial Intelligence) – Research Thesis: Development of a Knowledge-Based System Methodology (KBSM) for the Design of Solid Waste Disposal Sites in Arid and Semiarid Environments, MPhil/PG Cert and BEng (Hons) (Engineering Geology and Geotechnics) qualifications from the University of Portsmouth, School of Earth and Environmental Sciences, United Kingdom. During the 2004 Namibia National Science Awards, organised by the Namibian Ministry of Education, and held in Windhoek, Dr Sindila Mwiya was awarded the Geologist of the Year for 2004, in the professional category. Furthermore, as part of his professional career recognition, Dr Sindila Mwiya is a life member of the Geological Society of Namibia, Consulting member of the Hydrogeological Society of Namibia and a Professional Engineer registered with the Engineering Council of Namibia.

Windhoek, Namibia February 2020

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NON-TECHNICAL EXECUTIVE SUMMARY

Farpoint Investments (Pty) Ltd (**the Proponent**) has applied to the Competent Authority, the Ministry of Mines and Energy (MME) for the transfer of the Exclusive Prospecting License (EPL) No. 7269 currently held by Risk-Based Solutions (RBS) CC. RBS has given consent for transfer hence the application for the Environmental Clearance Certificate (ECC) in the name of Farpoint Investment (Pty) Ltd. The EPL 7269 was granted on the 08/08/2019 for dimension stone and will expire on the 07/08/2022.

The EPL No. 7269 is located in the Karibib District of the Erongo Region, in the west-central Namibia. The town of Usakos is situated to the north of the EPL and is about 28 km and 16 km from the centre and edge of the license area respectively. The EPL area totalling 4988.8087 Ha and covers portions of the following privately owned Farms: Gross-aukas, Naob, Tsawisis, Bergrus, Safier, Namibfontein and Wolfkoppe.

The Proponent intends to conduct exploration / prospecting activities starting with desktop studies and aerial surveys, followed by regional field-based reconnaissance work and if the results are positive, implement detailed site-specific field-based activities over key site-specific localities using techniques such as geological mapping, geophysical surveys, trenching, drilling and sampling for laboratory tests.

The proposed / ongoing minerals exploration activities are listed in the Environmental Impact Assessment (EIA) Regulations, 2012 and the Environmental Management Act, 2007, (Act No. 7 of 2007) and cannot be undertaken without an Environmental Clearance Certificate (ECC).

This Environmental Impact Assessment (EIA) report has been prepared by Risk-Based Solutions (RBS) CC in order to support the application for ECC. Pubic consultation process was undertaken during the month of October 2019. In line with the provisions of the regulations, the public notices were published in the Windhoek Observer Weekly Newspapers dated Friday 4th October 2019, the Confidente Weekly Newspaper dated 10th- 16th October 2019 and the Namibian Daily Newspaper dated 23rd October 2019.

The closing date for registration and submission of written objections, comments, inputs to the environmental assessment process was Friday, 25th October 2019. During the public / stakeholder consultation process, two (2) written comments / objections / inputs with respect to the proposed minerals prospecting activities in the EPL No. 7269 were received from the landowners and their concerns on the environmental damage likely to be assisted with the proposed activities were addressed with details provided in Annex 2.

The impacts that the proposed / ongoing exploration activities will have on the receiving environment (physical, biological, socioeconomic environments and ecosystem functions, services, use and non-use values or passive uses) will depend on the extent of the proposed / ongoing activities over the development area, management of the area and how the mitigations as detailed in the EMP report are eventually implemented and monitored by the Proponent to the satisfaction of the landowners and the Government regulators.

Based on the findings of this EIA Report, it's hereby recommended that the proposed / ongoing 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) The Proponent shall negotiate Access Agreements with the land owner/s as may be applicable;

(ii) 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;

(iii) Before entering any private or protected property/ area such as a private farm, the Proponent must give advance notices and obtain permission from the land owners to access the EPL area at all times, and;

(iv) Where possible, and if water is found during the detailed exploration boreholes drilling operations, the Proponent shall support other land uses in the area in terms of access to freshwater supply for both human consumption, wildlife and agricultural support as may be requested by the local community / land owner/s. The abstraction of fresh groundwater resources shall include water levels monitoring, sampling and quality testing on a bi-annual basis, and that the affected landowners 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 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 including the pit area/s, waste rock, access, office blocks and all 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 considered in the TOR for the EIA and EMP for possible test mining or mining operations in an event of a discovery of economic marble resources and possible development of a mining project within the EPL No. 7269:

(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) Socioeconomic assessment, and;

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

1. BACKGROUND

1.1 Introduction

Farpoint Investments (Pty) Ltd (the **Proponent)** hold mineral rights under the Exclusive Prospecting License (EPL) No. 7269. The following is the summary of the EPL 7269:

- **Type of License:** Exclusive Prospecting License (EPL) No. 7269;
- **EPL Holder:** Farpoint Investments (Pty) Ltd;
- **Granted Date:** 08/08/2019;
- **Expiry Date:** 07/08/2022;
- **Commodities:** Dimension stones, and;
- **Size of the EPL:** 4988.8087Ha.

With the consent of Risk-Based Solutions (RBS) CC the current license holder, Farpoint Investments (Pty) Ltd (the Proponent) has applied to the Competent Authority, the Ministry of Mines and Energy (MME) for the transfer of the Exclusive Prospecting License (EPL) No. 7269.

The Proponent intends to undertake exploration activities covering desktop studies, followed by site-specific activities using techniques such as geophysical surveys, geological mapping, trenching, drilling and bulk sampling.

1.2 Regulatory Requirements

The proposed prospecting activities are listed in the Environmental Management Act, 2007, (Act No. 7 of 2007) and the EIA Regulations, 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 order to support the application for ECC.

In fulfilment of the environmental requirements, the Proponent appointed Risk-Based Solutions (RBS) CC as the Environmental Consultants led by Dr Sindila Mwiya as the Environmental Assessment Practitioner in the preparation of the EIA and EMP Reports in order to support the application for ECC (Annex 1).

1.3 Location, Land Use, Infrastructure and Services

1.3.1 Location and Land Use

The EPL No. 7269 is located in the Karibib District of the Erongo Region, in the west-central Namibia (Figs 1.1 -1.3). The EPL 7269 area is located to the southwest of the Town of Usakos. The License area is about 28 km and 16 km from the centre and edge of the license area respectively to the town of Usakos (Fig. 1.2). The EPL area totalling 4988.8087 Ha and covers portions of the following privately owned Farms: Gross-aukas, Naob, Tsawisis, Bergrus, Safier, Namibfontein and Wolfkoppe (Fig. 1.3).

The general topography is very rugged and comprises topographic high areas characterised by dendritic ephemeral rivers network linked to the Khan Ephemeral River and its tributaries.

The local area is extremally dry and has seen prolonged drought and therefore cannot be used for commercial farming. Local farmers are mainly involved in limited framing coupled with conservation and eco-tourism.

The general surrounding area of Usakos and Karibib however, is mainly dominated by agriculture (cattle and small stock), minerals prospecting and small-scale mining operations with game (wildlife) farming, tourism and hospitality.

1.3.2 Supporting Infrastructure and Services

Access to the Project Area is through the gravel roads D1989 and D1914 cutting across the license area and linking the EPL 7269 Area to the town of Usakos (Figs. 1.2 and 1.3). The D1914 comes off the B2 Trans Kalahari Highway at the Town of Usakos. The B2 national highway links the project area to the capital city of Windhoek located approximately 180 km to the south east, with the deep-water port of Walvis Bay located 210 km to the south west of the EPL 7269 (Figs. 1.1 -1.3).

A number of minor gravel farm roads cut across the EPL area and with permission from the land owners will be used to access areas of interest that may be delineated within the license area (Fig. 1.4). The creation of new access if really required shall be done only with permission from the land owner/s and shall be undertaken in accordance with the provisions of the EMP in terms of environmental protection.

The EPL area has limited to no mobile services with no national or local water and electricity infrastructure network. However, the proposed exploration activities will not require major water and energy supplies. Sources of water supply for exploration especially drilling will be obtained from local boreholes or supplied by a water tanker truck collecting water from the Town of Usakos. Electricity supply will be provided by diesel generators and solar as may be required.

Figure 1.1: Regional location of the EPL No 7269 Area.

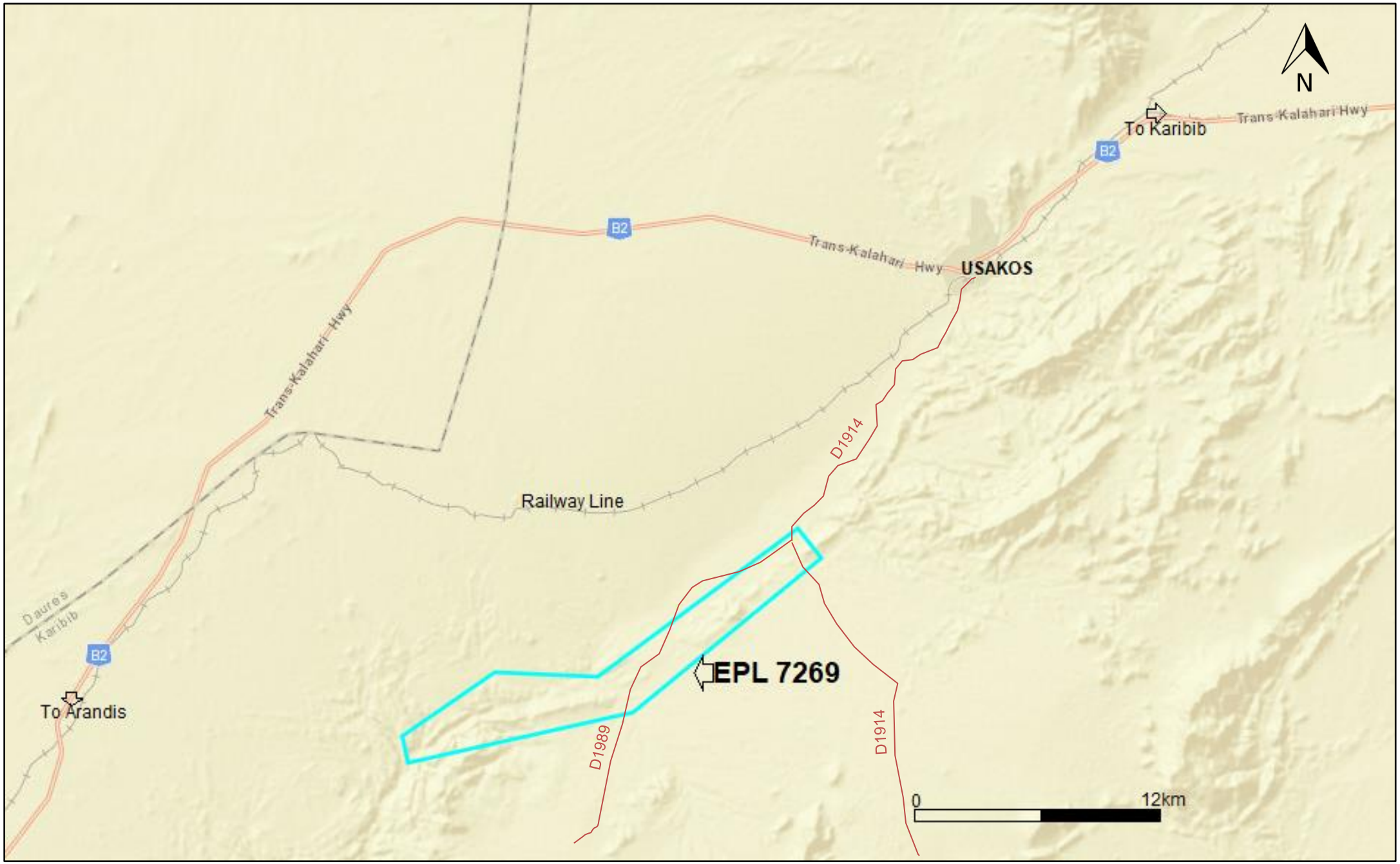


Figure 1.2: Detailed regional location of the EPL 7269 Area (Source: http://portals.flexicadastre.com/Namibia).

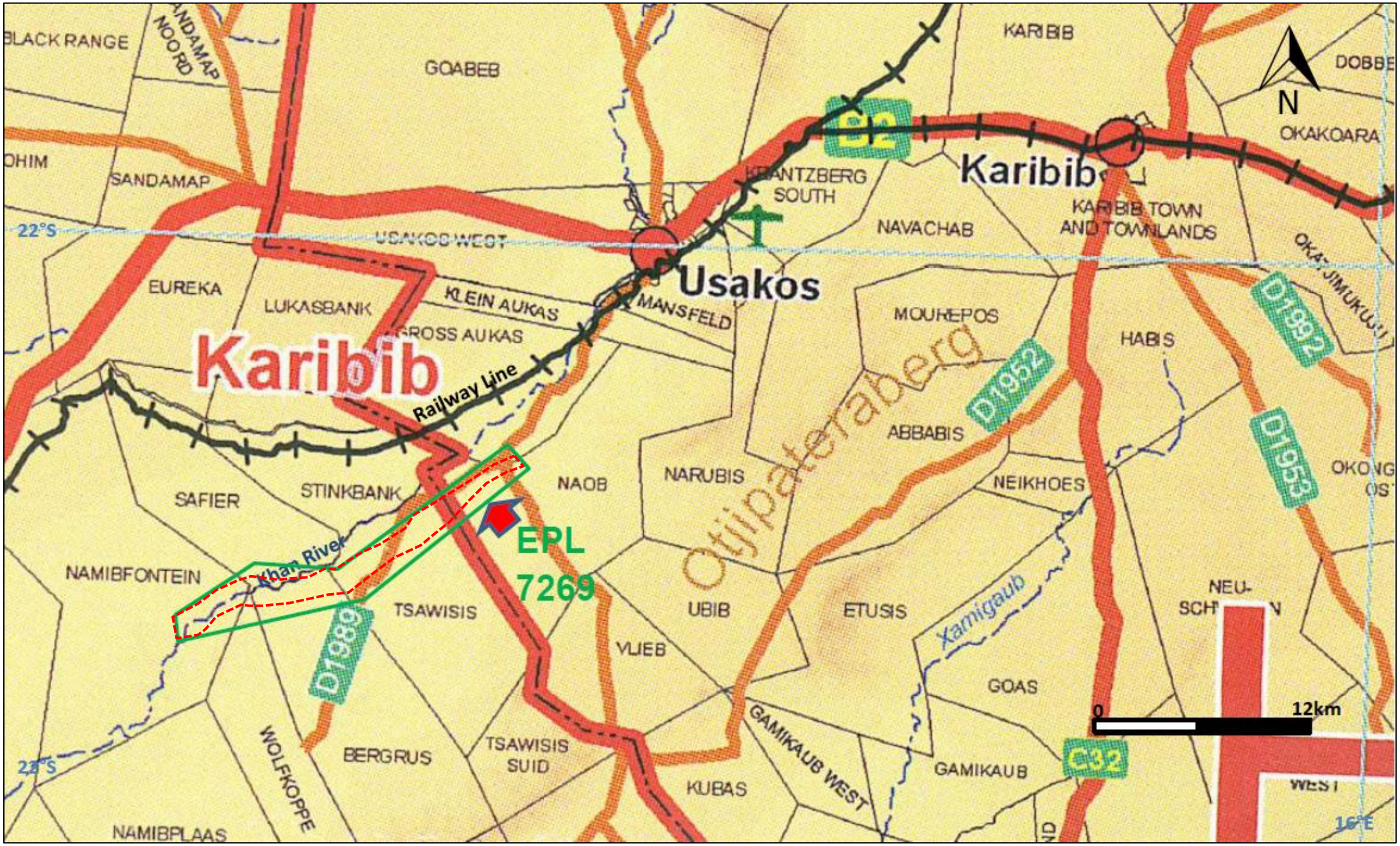


Figure 1.3: Commercial farmland covered by the EPL 7269 (green line), marble outcrop area of interest (broken red line) and existing access (Source: Namibia 1:1000000 Registration Divisions Extract).

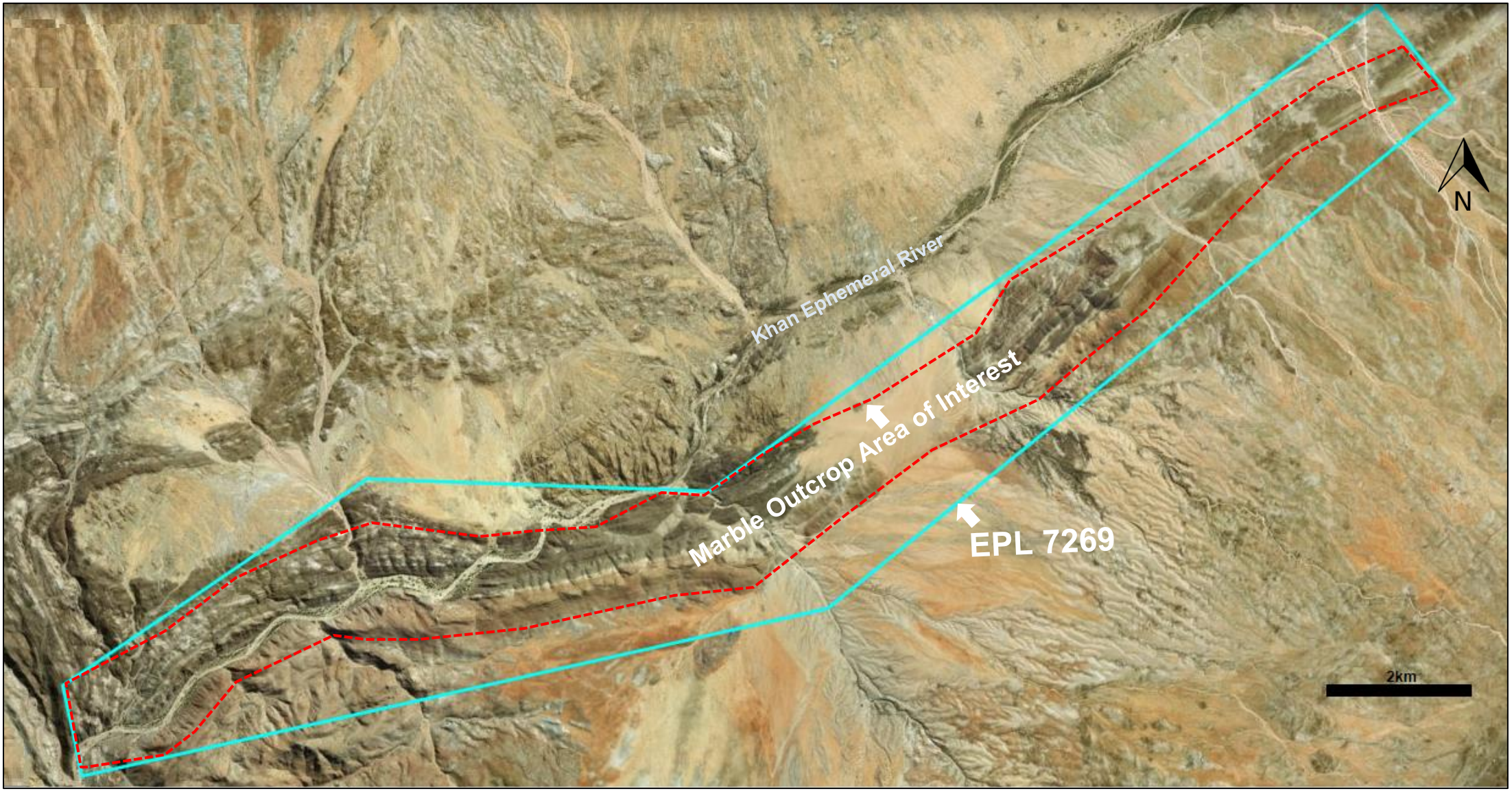


Figure 1.4: Topographic setting of the EPL area showing the area of marble outcrop area of interest for exploration for marble (broken red line) within the EPL 7269 (Source: http://portals.flexicadastre.com/Namibia).

1.4 Project Motivation

The EPL 7269 falls within the central Damara Belt which is regarded one of the highly prospective areas for dimension stone especially marble associated with the Karibib Formation. The EPL area is located near to a number of well-established stones quarries and metal mines around Karibib with the stone processing facility already operational in the Town of Karibib.

The proposed / ongoing exploration activities has very limited socioeconomic benefits which are mainly centred around the payment of the annual license rental fees to the Central Government through the Ministry of Mines and Energy (MME) and value addition to the potential underground minerals resources in the area which otherwise would not have been known if the exploration in the EPL 7269 did not take place.

Despite the likely land use conflicts with current commercial farming and conservation activities, the discovery mineable dimension stones reserve with special focus on marble and the development of new mining project in the area may be linked to some positive socioeconomic benefits to the local Usakos area and regional communities as well as Namibia as a whole in term of export earnings. During the feasibility study process opportunities for coexistence between the possible mining operations and current commercial farming and conservation activities shall be explored in order to identify any win-win scenarios.

Additional socioeconomic benefits will also be realised at regional and national levels in terms of capital investments, value addition opportunities, license rental fees, royalty taxes payable to Government, direct and indirect contracts and employment opportunities, export earnings, foreign direct investments and various taxes payable to the Government.

1.5 Approach, Alternatives, Key Issues and Methodology

1.5.1 Terms of Reference (ToR) and Approach

Risk-Based Solutions (RBS) was appointed by the Proponent to prepare the EIA and EMP Reports in order to support the application for Environmental Clearance Certificate (ECC) for the EPL No. 7269 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 / ongoing exploration activities, identified the impacts and then assessed the likely impacts (positive and negative) on the receiving environment (Table 1.1).

The key deliverable comprised this EIA Report and a separate Environmental Management Plan (EMP) report detailing appropriate mitigation measures that will enhance the positive impacts and reduce the likely negative impacts identified.

The EIA and EMP report and the completed Application for Environmental Clearance Certificate (ECC) shall be submitted to the client (Proponent) and the Office of the Environmental Commissioner, Department of Environmental Affairs (DEA), Ministry of Environment and Tourism (MET) through the Ministry of Mines and Energy (the Competent Authority) for review and issue of the Records of Decisions (RDs).

The EIA and EMP processes have been performed with reasonable skill, care and diligence in accordance with professional standards and practices existing at the date of performance of the assessment and that the guidelines, methods and techniques that have been applied are all in conformity to the national regulatory requirements, process and specifications in Namibia as required by Ministry of Mines and Energy (MME), Ministry of Environment and Tourism (MET) and the client (Proponent).

Both the EIA and EMP Reports have been prepared in line with the January 2015 MET Environmental Assessment Reporting Guideline.

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

PROPOSED / ONGOING PROJECT ACTIVITIES	ALTERNATIVES TO BE CONSIDERED	KEY ISSUES TO BE EVALUATED AND ASSESSED WITH ENVIRONMENTAL MANAGEMENT PLAN (EMP) / MITIGATION MEASURES DEVELOPED	
(i) Initial desktop exploration activities (review of existing information and all previous activities in order identify any potential target/s) (ii) Regional reconnaissance field-based activities such mapping and sampling to identify areas with potential targets (iii) Initial local field-based activities such as widely spaced mapping, sampling, surveying and possible drilling in order to determine the viability of any delineated targets (iv) Detailed local field-based activities such very detailed mapping, sampling, surveying and possible drilling in order to determine the feasibility of any delineated local target (v) Prefeasibility and feasibility studies to be implemented on a site-specific area if the local field-based studies prove positive	(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; (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	Potential land use conflicts / opportunities for coexistence between proposed / ongoing exploration and other existing land uses such as conservation, tourism and agriculture	
		Impacts on the Physical Environment	Natural Environment such as air, noise, water, dust etc.
			Built Environment such as existing houses, roads, transport systems, Buildings, energy and water and other supporting infrastructure
			Socioeconomic, archaeological and Cultural impacts on the local societies and communities
		Impacts on the Biological Environment	Flora
			Fauna
			Habitat
			Ecosystem functions, services, use values and non-Use or passive use

1.5.2 Environmental Assessment Process and Steps

The EIA and EMP process used for this project took into considerations the provisions of the Environmental Impact Assessment (EIA) Regulations, 2012 and the Environmental Management Act (EMA), 2007, (Act No. 7 of 2007) as outlined in Fig. 1.5. The environmental assessment steps undertaken are summarised as follows:

(i) Project screening process was undertaken in September 2019;

(ii) A Draft BID / Scoping Report prepared in October 2019;

(iii) Public / stakeholders notices issued in the local newspapers advertisements as well as via direct emails communications to key stakeholders as applicable undertake from the 4th – 25th October 2019;

(iv) Final BID / Scoping Report prepared in February 2020;

(v) Prepared the Draft EIA and EMP Reports in October – December 2019;

(vi) Comments and inputs from the public and stakeholder consultations used to finalise the EIA and EMP Reports in October 2019 – February 2020, and;

(vii) The Final EIA and EMP reports used to support the application for Environmental Clearance Certificate (ECC) for the proposed minerals exploration activities in the EPL 7269 area. The

formal application for ECC is planned to be submitted to the Environmental Commissioner through the Ministry of Mines and Energy (Competent Authority) during the week starting **24th February 2020**.

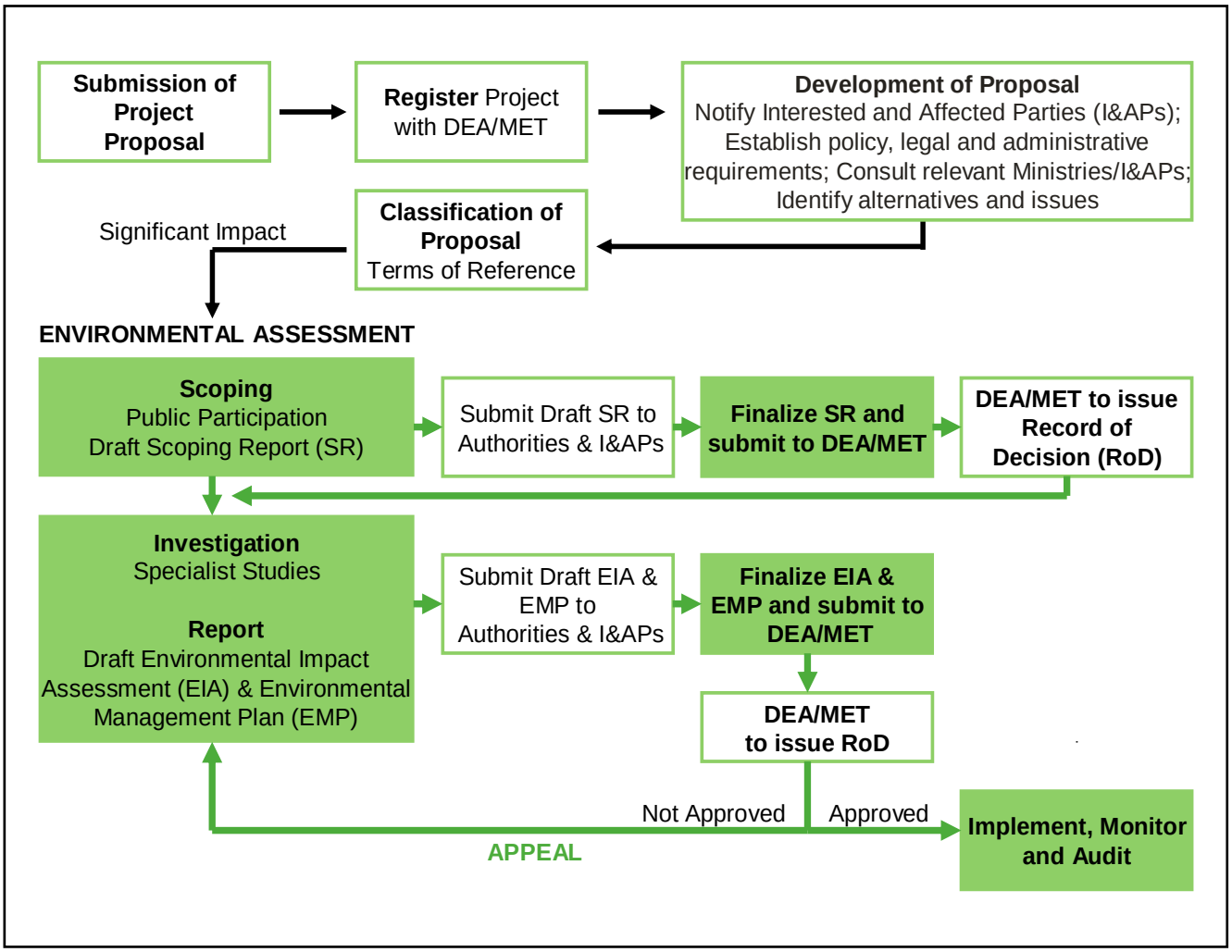


Figure 1.5: Schematic presentation of Namibia's Environmental Assessment procedure.

1.5.3 Assumptions and Limitations

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

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

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

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

- Mandatory timeframes as provided for in the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 and the Environmental Management Act, (EMA), 2007, (Act No. 7

of 2007) have been observed and will apply to the review and decision of this report by the Competent Authority and the Environmental Commissioner.

1.6 Structure of the Report

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

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

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

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

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

5. **Section 5: Impact Assessment** covering the likely positive and negative impacts the proposed / ongoing 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 EXPLORATION

2.1 General Overview

The overall aim of the proposed / ongoing project activities (exploration / prospecting programme) is to search for potential economic minerals resources (dimension stones with special focus on marble) within the EPL area. The exploration activities to be undertaken as assessed in this environmental assessment are as follows:

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

(ii) Regional reconnaissance field-based mapping and sampling activities (Subject to the positive results of (i);

(iii) Initial local field-based mapping and sampling activities (Subject to the positive results of (i) and (ii) above),

(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 (Subject to the positive results of (i) - (iii) above), and;

(v) Prefeasibility and feasibility studies (Subject to the positive results of (i) - (iv) above).

The scope of the required field-based support and logistical activities will depend on the scale of proposed exploration activities to be undertaken.

The proposed exploration activities will be supported by existing tracks and campsites / farmstead as well as existing accommodation in in the area. In the absences of existing tracks, the field team will create such new tracks with the permission of the land owner/s and depending on the scale of exploration.

In the absences of existing suitable campsite / farmstead, temporary camp will be setup at suitable locations within the EPL area in line with the EMP provisions. The size of the exploration camp will be of very limited footprints during the exploration phase but may be expanded for the test mining and mine development phases in an event of a discovery of economic minerals resources.

2.2 Initial Desktop Exploration Activities

The following is description of the proposed initial desktop exploration activities to be implemented by the Proponent as assessed in the EIA Report:

(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.

No field work is envisaged at this stage of the proposed exploration activities which can last between six (6) to twelve (12) months.

2.3 Regional Reconnaissance Field-Based Activities

The following is detailed outline of the proposed regional reconnaissance field-based exploration activities to be implemented by the Proponent as assessed in the EIA Report:

(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.

Scope and scale of the possible field work is very limited to visiting specific delineated localities in order to validated the recommendations of the initial desktop activities.

2.4 Initial Local Field-Based Activities

The following is detailed outline of the proposed initial local field-based exploration activities to be implemented by the Proponent as assessed in the EIA Report:

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

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

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

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

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

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

Scope and scale of the possible field work is very limited working on specific delineated localities in order to assess the economic viable of the target/s.

2.5 Detailed Local Field-Based Activities

The following is detailed outline of the proposed detailed local field-based exploration activities to be implemented by the Proponent as assessed in the EIA Report if economic and viable targets are delineated within the EPL area:

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

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

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

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

Scope and scale of the possible field work is likely to be extensive over a localised specific delineated locality in order to assess the economic viable of the target/s.

2.6 Prefeasibility and Feasibility Studies

The following is detailed outline of the proposed prefeasibility and feasibility studies related exploration activities to be implemented by the Proponent as assessed in the EIA Report if economic and viable targets are delineated within the EPL area:

(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

Field-based support and logistical activities will be very extensive because the local field-based activities will be undertaken on a specific area for a very long time (up to one year or more in some instances). The activities will be supported by existing tracks and campsites / lodging facilities available in the area.

3. REGULATORY FRAMEWORK

3.1 Minerals Exploration Legislation and Regulations

The Ministry of Mines and Energy (MME) is the competent authority with respect to minerals prospecting and mining activities in Namibia. The Minerals (Prospecting and Mining) Act (No 33 of 1992) is the most important legal instrument governing minerals prospecting / exploration and mining activities.

Several explicit references to the environment and its protection are contained in the Minerals Act, which provides for environmental impact assessments, rehabilitation of prospecting and mining areas and minimising or preventing pollution.

3.2 Environmental Regulations

3.2.1 Environmental Assessment Requirements and Procedures

Environmental Assessment (EA) process in Namibia is governed by the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 gazetted under the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007).

The proposed / ongoing field–based exploration activities falls within the categories of listed activities that cannot be undertaken without an Environmental Clearance.

3.2.2 Competent Authorities

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

Table 3.1: Government agencies regulating environmental protection in Namibia.

AGENCY	RESPONSIBILITY
Ministry of Environment and Tourism (MET)	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 Forestry (MAWF)	The Directorate of Resource Management within the Department of Water Affairs (DWA) at the MAWF is currently the lead agency responsible for management of surface and groundwater utilisation through the issuing of abstraction permits and waste water disposal permits. DWA is also the Government agency responsible for water quality monitoring and reporting. 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.

3.3 Recommendations on Permitting Requirements

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

(i) Valid Exclusive Prospecting License (EPL) as maybe applicable from Department of Mines in the Ministry of Mines and Energy (MME);

(ii) Valid Environmental Clearance Certificate (ECC) from the Department of Environmental Affairs in the Ministry of Environment and Tourism (MET);

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

(iv) All other permits as maybe become applicable during the proposed exploration operations.

3.4 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 (Table 3.2) while the drinking water quality comparative guideline values are shown in Table 3.3.

Table 3.2: R553 Regional Standards for Industrial Effluent, in Government Gazette No 217 dated 5 April 1962.

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

Table 3.3: Comparison of selected guideline values for drinking water quality (after Department of Water Affairs, 2001).

Parameter and Expression of the results			**WHO** Guidelines for Drinking-Water Quality 2nd edition 1993		**Proposed Council Directive** of 28 April 1995 (95/C/13-1/03) EEC	**Council Directive of 15 July 1980** relating to the quality intended for human consumption 80/778/EEC		**U.S. EPA** Drinking water Standards and Health Advisories Table December 1995		**Namibia, Department of Water Affairs** Guidelines for the evaluation of drinking-water for human consumption with reference to chemical, physical and bacteriological quality July 1991			
			Guideline Value (GV)		**Proposed Parameter Value**	**Guide Level (GL)**	**Maximum Admissible Concentration (MAC)**	**Maximum Contaminant Level (MCL)**		**Group A Excellent Quality**	**Group B Good Quality**	**Group C Low Health Risk**	**Group D Unsuitable**
Temperature	t	°C		-	-	12	25		-	-	-	-	-
Hydrogen ion concentration	pH, 25° C	-	R	<8.0	6.5 to 9.5	6.5 to 8.5	10		-	6.0 to 9.0	5.5 to 9.5	4.0 to 11.0	<4.0 to >11.0
Electronic conductivity	EC, 25° C	mS/m		-	280	45	-		-	150	300	400	>400
Total dissolved solids	TDS	mg/l	R	1000	-	-	1500		-	-	-	-	-
Total Hardness	$CaCO_3$	mg/l		-	-	-	-		-	300	650	1300	>1300
Aluminium	Al	µ g/l	R	200	200	50	200	S	50-200	150	500	1000	>1000
Ammonia	NH_4^+	mg/l	R	1.5	0.5	0.05	0.5		-	1.5	2.5	5.0	>5.0
	N	mg/l		1.0		0.04	0.4		-	1.0	2.0	4.0	>4.0
Antimony	Sb	µ g/l	P	5	3	-	10	C	6	50	100	200	>200
Arsenic	As	µ g/l		10	10	-	50	C	50	100	300	600	>600
Barium	Ba	µ g/l	P	700	-	100	-	C	2000	500	1000	2000	>2000
Berylium	Be	µ g/l		-	-	-	-	C	4	2	5	10	>10
Bismuth	Bi	µ g/l		-	-	-	-		-	250	500	1000	>1000
Boron	B	µ g/l		300	300	1000	-		-	500	2000	4000	>4000
Bromate	BrO_3^-	µ g/l		-	10	-	-	P	10	-	-	-	-
Bromine	Br	µ g/l		-	-	-	-		-	1000	3000	6000	>6000
Cadmium	Cd	µ g/l		3	5	-	5	C	5	10	20	40	>40
Calcium	Ca	mg/l		-	-	100	-		-	150	200	400	>400
	$CaCO_3$	mg/l		-	-	250	-		-	375	500	1000	>1000
Cerium	Ce	µ g/l		-	-	-	-		-	1000	2000	4000	>4000
Chloride	Cl^-	mg/l	R	250	-	25	-	S	250	250	600	1200	>1200
Chromium	Cr	µ g/l	P	50	50	-	50	C	100	100	200	400	>400
Cobalt		µ g/l		-	-	-	-		-	250	500	1000	>1000
Copper after 12 hours in pipe	Cu	µ g/l	P	2000	2	100	-	C	TT##	500	1000	2000	>2000
		µ g/l		-	-	3000[1]	-	S	1000	-	-	-	-
Cyanide	CN^-	µ g/l		70	50	-	50	C	200	200	300	600	>600
Fluoride	F^-	mg/l		1.5	1.5	-	at 8 to 12 °C: 1.5	C	4	1.5	2.0	3.0	>3.0
		mg/l		-	-	-	at 25 to 30 °C: 0.7	P,S	2	-	-	-	-
Gold	Au	µ g/l		-	-	-	-		-	2	5	10	>10
Hydrogen sulphide	H_2S	µ g/l	R	50	-	-	undetectable		-	100	300	600	>600
Iodine	I	µ g/l		-	-	-	-		-	500	1000	2000	>2000
Iron	Fe	µ g/l	R	300	200	50	200	S	300	100	1000	2000	>2000
Lead	Pb	µ g/l		10	10	-	50	C	TT#	50	100	200	>200
Lithium	Li	µ g/l		-	-	-	-		-	2500	5000	10000	>10000
Magnesium	Mg	mg/l		-	-	30	50		-	70	100	200	>200
	$CaCO_3$	mg/l		-	-	7	12		-	290	420	840	>840
Manganese	Mn	µ g/l	P	500	50	20	50	S	50	50	1000	2000	>2000
Mercury	Hg	µ g/l		1	1	-	1	C	2	5	10	20	>20
Molybdenum	Mo	µ g/l		70	-	-	-		-	50	100	200	>200
Nickel	Ni	µ g/l		20	20	-	50		-	250	500	1000	>1000
Nitrate*	NO_3^-	mg/l	P	50	50	25	50		45	45	90	180	>180
	N	mg/l		-	-	5	11	C	10	10	20	40	>40
Nitrite*	NO_2^-	mg/l		3	0.1	-	0.1		3	-	-	-	-
	N	mg/l		-	-	-		C	1	-	-	-	-
Oxygen, dissolved	O_2	% sat.		-	50	-	-		-	-	-	-	-
Phosphorus	P_2O_5	µ g/l		-	-	400	5000		-	-	-	-	-
	PO_4^{3-}	µ g/l		-	-	300	3350		-	-	-	-	-
Potassium	K	mg/l		-	-	10	12		-	200	400	800	>800
Selenium	Se	µ g/l		10	10	-	10	C	50	20	50	100	>100
Silver	Ag	µ g/l		-	-	-	10	S	100	20	50	100	>100
Sodium	Na	mg/l	R	200	-	20	175		-	100	400	800	>800
Sulphate	SO_4^{2-}	mg/l	R	250	250	25	250	S	250	200	600	1200	>1200
Tellurium	Te	µ g/l		-	-	-	-		-	2	5	10	>10
Thallium	Tl	µ g/l		-	-	-	-	C	2	5	10	20	>20
Tin	Sn	µ g/l		-	-	-	-		-	100	200	400	>400
Titanum	Ti	µ g/l		-	-	-	-		-	100	500	1000	>1000
Tungsten	W	µ g/l		-	-	-	-		-	100	500	1000	>1000
Uranium	U	µ g/l		-	-	-	-	P	20	1000	4000	8000	>8000
Vanadium	V	µ g/l		-	-	-	-		-	250	500	1000	>1000
Zinc after 12 hours in pipe	Zn	µ g/l	R	3000	-	100	-	S	5000	1000	5000	10000	>10000
		µ g/l		-	-	5000	-		-	-	-	-	-
			P: Provisional R: May give reason to complaints from consumers					C: Current; P: Proposed; S: Secondary; T#: Treatment technique in lieu of numeric MCL; TT##: treatment technique triggered at action level of 1300 µ g/l					

4. SUMMARY OF NATURAL ENVIRONMENT

4.1 Climate

The EPL 7269 is located in the Karibib District, Erongo Region in central Namibia with daytime warm to hot temperatures throughout the year, while the nights are mild to cool in winter. The mean annual rainfall is highly variable and may range between 200 - 300 mm in some parts of the EPL Area. The distribution of rainfall is extremely seasonal with almost all the rain falling in summer - from November to April with occasional with mean annual gross evaporation of about 3300 mm. The local project area has the following three distinct seasons:

- A dry and relatively cool season from April to August with average daytime highs of 23°C and virtually no rainfall during this period;
- A hot and dry season from September to December with minimal and variable rainfall falling (<20 mm per month) and average daytime highs of 30°C, which regularly exceed 40°C, and;
- A hot and rainy season from January through to March with >50 mm per month falling during this period (although this is extremely variable) and average high temperatures of 29°C.

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

4.2 Topography

The terrain around the EPL 7269 is rocky and rugged in nature with steep slopes characterising the mountainous sections whilst the foothills of the mountains are flat and gently undulating The drainage of the area is dendritic in nature with ephemeral streams, often steeply incised, forming small early stage tributaries of the Khan Ephemeral River and a tributary of the Swakop River which one of the major ephemeral rivers of western Namibia.

4.3 Vertebrate Fauna and Flora Diversity

4.3.1 Reptiles

The high percentage of endemic reptile species (43%) associated with the rocky escarpment region of central western Namibia underscores the importance of this area without formal state protection. The most important species expected to occur in the general area are viewed as the tortoise Stigmochelys pardalis; pythons – P. anchietae and P. natalensis – Varanus albigularis and some of the endemic and little-known gecko species – e.g. Pachydactylus species. Tortoises, snakes and monitor lizards are routinely killed for food or as perceived threats. Other important species are those viewed as “rare” – i.e. Rhinotyphlops lalandei, Mehelya vernayi & Afroedura africana – although very little is known about these species. An important, albeit little known and understudied species occurring in the Usakos area, is the Namibian Wolf Snake (Lycophidion namibianum) (Haacke and Branch pers. com.). Indiscriminate killing of snakes is a threat to little known species. The most important habitat is the rocky outcrops.

4.3.2 Amphibians

Of the seven species of amphibians that potentially could occur in the general area, 2 species are endemic species (Poyntonophrynus hoeschi and Phrynomantis annectens) (Griffin 1998b) and 1 species is classified as “near threatened” (Pyxicephalus adspersus) (Du Preez and Carruthers 2009) – i.e. high level (42.9%) of amphibians of conservation value from the general area. Pyxicephalus adspersus is also more common in northern Namibia where it faces severe anthropomorphic pressure (Griffin pers. com). With the exception of these important species and due to the fact that there is no open permanent surface water in the general area, amphibians are not viewed as very important in the

dry western part of Namibia. The most important amphibian habitats are probably the ephemeral Khan and associated tributaries; fountains; farm reservoirs; ground dams and sewage work.

4.3.3 Mammals

Of the at least 88 species of mammals known and/or expected to occur in the general areas, 10 species (11.4%) as endemic while the Namibian legislation further classifies 5 species as vulnerable, 2 species as rare, 3 species as specially protected game, 9 species as protected game and 5 species as insufficiently known. The most important species from the general area are probably those classified as rare (e.g. Cistugo seabrai & Atelerix frontalis angolae) and vulnerable (e.g. Galago moholi, Proteles cristatus, Hyaena brunnea, Acinonyx jubatus, Felis silvestris, Otocyon megalotis, Vulpes chama & Giraffa camelopardalis) under the Namibian legislation and near threatened (e.g. Eidolon helvum, Hipposideros commersoni, Hipposideros vittatus, Hyaena brunnea & Panthera pardus) and vulnerable (e.g. Acinonyx jubatus, Equus zebra hartmannae) by the IUCN (IUCN 2016). The most important habitat is the rocky outcrops and Khan River and associated tributaries habitats.

4.3.4 Avifauna

At least 216 bird species [mainly terrestrial “breeding residents”] occur and/or could occur in the general Karibib/Usakos/Omaruru areas at any time and include 12 of the 14 Namibian endemics (85.7% of all Namibian endemic species or 5.6% of all the species expected to occur in the area). The most important endemic species known/expected to occur in the general area are viewed as Monteiro’s Hornbill (Tockus monteiri), Damara Hornbill (Tockus damarensis), Ammomanopsis grayi (Gray’s Lark), Namibornis herero (Herero Chat), Eupodotis rueppellii (Rüppell’s Korhaan) and Poicephalus rueppellii (Rüppell’s Parrot). All the birds listed as endangered, vulnerable and near threatened are also viewed as important. The most important habitat is the rocky outcrops and Khan River and associated tributaries riparian vegetation.

4.3.5 Trees and Shrubs

At least 79 to 109 larger species of trees and shrubs are known and/or expected to occur in the general area of which of these 5 species are classified as endemic (4.6%) and 4 species as near endemic (3.7%), 24 species (22%) protected by Forestry laws, 5 species (4.6%) protected by the Nature Conservation Ordinance No. 4 of 1975 and 4 species (3.7%) classified as CITES Appendix II species. The most important species are viewed as Cyphostemma bainesii (endemic, Forestry#, NC), Cyphostemma currorii (Forestry#, NC), Cyphostemma juttae (endemic, Forestry#, NC), Erythrina decora (endemic, Forestry#), Heteromorpha papillosa (endemic) and Manuleopsis dinteri (endemic). These species are often associated with rocky outcrops indicating the importance of such geological features in the Usakos areas. The endemic grass – Eragrostis omahekensis – is viewed as the most important species potentially occurring in the general area. The most important habitat is the rocky outcrops, grassy plains and Khan River and associated tributaries habitats.

4.3.6 Other Flora Species

Aloes are protected throughout Namibia with 5 other aloe species, but which potentially occur in the general area, and also viewed as important are Aloe asperifolia, A. dinteri, A. hereroensis, A. namibensis and A. zebrina (Rothmann 2004).

Many endemic Commiphora species are found throughout Namibia with Steyn (2003) indicating that Commiphora crenato-serrata potentially also occurring in the general area.

Other species with commercial potential that could occur in the general area include Harpagophytum procumbens (Devil’s claw) – harvested for medicinal purposes and often over-exploited – and Citrullus lanatus (Tsamma melon) which potentially has a huge economic benefit (Mendelsohn et al. 2002).

Lithops species – all protected (See Nature Conservation Ordinance No. 4 of 1975) – are also known to occur in the general area and often difficult to observe, especially during the dry season when their aboveground structures wither. At least two species of Lithops are known to occur in the Usakos area

– Lithops gracilidelineata var. gracilidelineata and L. werneri – and are viewed as important (Cole and Cole 2005).

At least 64 species of ferns, of which 13 species being endemic, occur throughout Namibia. Ferns in the general area include at least 15 indigenous species (Actiniopteris radiata, Asplenium cordatum, Cheilanthes dinteri, C. eckloniana, C. marlothii, C. parviloba, Marselia aegyptiaca, M. ephippiocarpa, M. farinosa, M. macrocarpa, M. nubica, M. unicornis, M. vera, Ophioglossum polyphyllum & Pellaea calomelanos) (Crouch et al. 2011). The general area is under collected with more species probably occurring in the general area than presented above.

The overall diversity of lichens is poorly known from Namibia, especially the coastal areas and statistics on endemicity is even sparser (Craven 1998). More than 100 species are expected to occur in the Namib Desert with the majority being uniquely related to the coastal fog belt. Lichen diversity is related to air humidity and generally decreases inland form the Namibian coast (Schults and Rambold 2007). Off road driving is the biggest threat to these lichens which are often rare and unique to Namibia. To indicate how poorly known lichens are from Namibia, the recent publication by Schultz et al. (2009) indicating that 37 of the 39 lichen species collected during BIOTA surveys in the early/mid 2000's was new to science (i.e. new species), is a case in point. The most important lichen habitats are viewed as the Erongo Mountains; granite domes, other surrounding mountainous and rocky areas.

4.3.7 Fauna and Flora Conclusions

Species most likely to be adversely affected by the proposed exploration and possible mining operations within the EPL 7269 would be the variety of reptiles and birds specifically associated with the proposed development site(s) as well as the potential effect such development may have on carnivores as well as the protected and unique flora. As all development have potential negative environmental consequences, identifying the most important fauna and flora species including high risk habitats beforehand, coupled with environmentally acceptable mitigating factors, lessens the overall impact of such development. The following is the summary of the most important fauna and flora (habitat) areas within the EPL area:

(i) Erongo Mountains [botanical richness and endemic vertebrates];

(ii) Granite domes and other rocky outcrops [biotic richness and endemism];

(iii) Local Ephemeral Rivers – Tributaries and the main Khan Ephemeral River network [biotic richness, large desert-dwelling mammals, high value for human subsistence and tourism].

The following is summary of the key aspect of the proposed exploration programme likely to have some negative impacts on the receiving environment:

(i) Access routes - Localised disruption/destruction of the habitat and thus consequently fauna associated directly with the actual routes. This however, would be a relatively small area with localised implications because the Proponent will utilise the already existing extensive access routes;

(ii) Excavation, trenching/ drilling sites - Localised disruption/destruction of the habitat and thus consequently fauna associated directly with the actual sites. This however, would be a relatively small area and will depend on scale of the operations resulting in localised implications, and;

(iii) Supporting Infrastructure including campsite - Localised disruption/destruction of the habitat and thus consequently fauna associated directly with the actual sites. This however, would be a relatively small area – especially if the existing (albeit ruins) infrastructure areas are used rather than affecting new sites – with localised implications.

4.4 Socioeconomic Setting

4.4.1 Overview

The nearest Town to the EPL 7269 is the mining Town of Usakos. The development of this project will have some limited socioeconomic contributions to the Town of Usakos or Karibib. There will be no employment created during the exploration phase. However, if there is a discovery of economic marble resources that could led to the development of a viable mining project in area this could create limited job opportunities and bring added local benefits and contribute to the national economy through taxes, royalty and direct investment. Workers from the project area will be staying in the Town of Usakos.

4.4.2 Agriculture

The area surrounding EPL 7269 area falls within the long established private commercial farming communities. The surrounding area is extremally dry cannot be used for commercial farming, as rainfall is simply too low, and the recovery rate of the plants and veld cannot sustain such commercial farming activities. According to Dr Johan Venter who is one of the local farmers and owner of Farm Bergrus, due to the high aridity nature of the area, the owners of the surrounding farms in this area focus on preservation of nature, as this is the only possible way to act environmentally and economically responsible, whilst attempting to also protect the investment made in the land.

The carrying capacity for the general area is 10-20kg/ha (Mendelsohn et al. 2002) or 12-15LAU/ha (van der Merwe 1983) and the risk of farming is viewed as very high. Despite aridity nature of this area there are still some small stock farmers in the general area with between 70-80% of stock farmed with being sheep and 20-30% goats and cattle, respectively (van der Merwe 1983). The stock density is estimated at <3sheep/km² (1.5% of total sheep in Namibia) and <1cattle/km² (1.3% of total cattle in Namibia) (van der Merwe 1983).

4.4.3 Conservation and Tourism

Despite the high aridity nature of the local area, local farmers are heavily involved in conservation initiatives linked to tourism opportunities in complimenting their commercial farming operations. The local area is extremely arid and vegetation often take a long-time to recover if disturbed. There are numerous existing tourism ventures in the area with the tourism potential viewed as relatively high (Mendelsohn *et al*. 2002). According to one of the local farmers, Dr Johan Venter of Farm Bergrus. Farm Bergrus and Wolfkoppe are intended as eco-tourism destinations for a limited number of visitors due to the fragile state of the natural environment.

However, the area does not fall within a formal Conservancy or area excluded from minerals exploration and mining. The closest being ǂGaingu located in the Spitskoppe area to the west of Usakos, neither within a Freehold (i.e. commercial) Conservancy with Okawi Conservancy to east (Mendelsohn et al. 2002, NACSO 2006, 2010). The area is not well known for tourism and it does not have major tourism products such as unique natural landscapes, cultural resources or nature parks. However, local farmers are trying their best in creating tourism products and facilities all centred on environmental conservation.

4.4.4 Safety, Security and Obstructions

Current safety issues include steep slopes / gullies / valleys, excavations and minor scattered scrap metals linked to old fences. Generally, there will be a need to ensure that all employees and the general public and visitors to the EPL area are safe. The entire proposed development will not cause any obstruction to human or fauna.

4.5 Ground Components

4.5.1 Geology

The EPL 7269 falls within the Central Zone of the Damara Sequence which underlies most of Namibia. The oldest rocks within the Central Zone are the pre-Damaran basement that consists of gneiss and

granite lithologies found in different parts of the zone (Miller, 1992). According to Miller, (1983a), the sequence was deposited during successive phases of rifting, spreading, subduction and continental collision. Much of the basal succession (Nosib Group), laid down in or marginal to intracontinental rifts, consists of quartzite, arkose, conglomerate, phyllite, calc-silicate, subordinate, limestone and evaporitic rocks. Local alkaline ignimbrites with associated subvolcanic intrusions ranging from 840 to 720 million years in age also form part of the regional geology (Miller, 1992).

According to Miller, (1992), widespread carbonate deposition followed and overlapped far beyond early rift shoulders (Kudis, Ugab and basal Khomas Subgroups); interbedded mica and graphitic schist, quartzite (some ferruginous), massflow deposits, iron-formation and local within-plate basic lava point to fairly variable depositional conditions south of a stable platform where only carbonates with very minor clastics occur (Otavi Group). Near the southern margin of the orogen, deep-water fans, facies equivalents of the carbonates were deposited on either side of a Southern Zone ocean separating Kalahari and Congo Cratons (Auas and Tinkas Formations). Thick schistose metagreywacke and metapelite (Kuiseb Formation) overlie the above rocks.

The lithostratigraphy of the Damara Sequence in the Central Zone (CZ) in which the EPL 7269 falls has been reviewed and significantly revised by Badenhorst (1987), who has also correlated the stratigraphy across the Omaruru Lineament. The stratigraphy of the CZ taken from Steven (1993) as slightly modified after Badenhorst, (1987) and (1988) is given in Table 4.1.

Table 4.1: Partial Lithostratigraphy of the Damara Sequence in Central Namibia (Karibib-Swakopmund Area) (Source: Venmyn Deloitte, 2014).

GROUP	SUB-GROUP	FORMATION	THICKNESS (m)	LITHOLOGICAL DESCRIPTION
Swakop	Khomas	Kuiseb	3,000	Biotite-rich quartzo-feldspathic schist, biotite-garnet-cordierite schist, minor amphibolite schist, quartzite, calc-silicate rock and marble.
		Karibib	700	Marble, biotite schist, quartz schist and calc-silicate rock.
		Chuos	700	Diamictite, pebble- and boulder-bearing schist and minor quartzite
	Discordance			
	Ugab	Rössing	200	Very variable marble, quartzite, conglomerate, biotite schist, biotite cordierite schist and gneiss, aluminous gneiss, biotite-hornblende schist and calc-silicate schist.
Unconformity or conformable transition				
Nosib		Khan	1,100	Various gneisses, quartzite, schist, conglomerate, minor marble, amphibolite and calc-silicate rock.
		Etusis	3,500	Layered light-red to greyish-brown quartzites with high feldspar content. In-between para-gneisses, biotite schists and conglomerates occur.

4.5.2 Geotechnical Engineering Considerations

Rocks of varying geotechnical characteristics are expected within the pegmatite zones and alternating bands within the banded dolomitic marble and biotite-quartz schist country rock and covered by a variety of sediments in some places. No field and laboratory assessment of rock mass and detailed discontinuities survey were undertaken as part of this study. Table 4.2 outlines an indicative classification of the various discontinuities that are likely to be found in the area. Both low and high order discontinuities are likely to be found around the EPL area. It's highly recommended that a field-based geotechnical engineering assessment followed by laboratory assessments must be undertaken before the implementation deep excavation in order to have accurate figures of all the key geotechnical parameters.

Table 4.2: General rock structure scheme (Source: Mwiya, 2004).

GEOMETRY				CHARACTERISTIC				
DISCONTINUITY	LENGTH m	SPACING m	WIDTH m	TRANSMISSIVITY m^2/s	HYDRAULIC CONDUCTIVITY m/s	INFILLING THICKNESS m	EXAMPLE	INFLUENCE INDICATOR
LOW ORDER DISCONTINUITIES; ZONES OUTCROPS								
1ST ORDER	$>10^4$	$>10^3$	$>10^2$	10^{-5} - 10^{-2}	10^{-7}- 10^{-5} AV. [10^{-6}]	10^0	Regional major fault systems	4 V. High
2ND ORDER	10^3 - 10^4	10^2- 10^3	10^1 – 10^2	10^{-7} - 10^{-4}	10^{-8} – 10^{-6} AV. [10^{-7}]	10^{-1}	Local major fault zones	
3RD ORDER	10^2 – 10^3	10^1 – 10^2	10^0 - 10^1	10^{-9} – 10^{-6}	10^{-9} – 10^{-7} AV. [10^{-8}]	$\leq 10^{-2}$	Local minor fault zones	
HIGH ORDER DISCONTINUITIES: INDEPENDENT OUTCROPS								
4TH ORDER	10^1 – 10^2	10^0- 10^1	-	-	10^{-11}-10^{-9} AV.[10^{-10}]	-	Local major joint set or bedding	3 High
5TH ORDER	10^0 - 10^1	10^{-1} - 10^0	-	-	10^{-12}-10^{-10} AV. [10^{-11}]	-	Local minor joints/ fractures	
6TH ORDER	10^{-1} - 10^0	10^{-2} – 10^{-1}	-	-	10^{-13}-10^{-11} AV. [10^{-12}]	-	Local minor fissures / schistosity	2 Low
7TH ORDER	$<10^{-1}$	$<10^{-2}$	-	-	$<10^{-13}$	-	Crystalline voids	1 V. Low

4.5.3 Water Sources

Groundwater as well as surface water (only during the rainy season) from ephemeral river channels is the sources of water supply in the area as well as much of the Erongo Region. According to the Department of Water Affairs, (2001), the Erongo Region and in particular the Usakos and the EPL area generally has a low groundwater potential. The area with aquifer potential, more or less reflects the rainfall distribution, decreasing westwards. Knowledge of the aquifers in this area is sparse, due to the low number of boreholes and few on groundwater.

Recharge from rainfall is an important parameter determining the groundwater potential, but the degree of metamorphism affects the groundwater potential too. The groundwater potential of rocks decreases, as the degree of metamorphism increases. Crystalline rocks normally exhibit a very low tendency to store water, typical of the pegmatite zones and the alternating bands within the banded dolomitic marble and biotite-quartz schist found within the project area. The groundwater potential of these rock units is generally low, to locally moderate.

Possible targets for water resources in this area are mainly fractured zones and faults that outcrop on the surface without impermeable infillings. But the success rate and yields for these rock types are generally low. The area along major ephemeral rivers may be more promising due to well developed fractures and faults that give rise to good recharge potential during the rainy season.

4.5.4 Evaluation of Water Vulnerability

Vulnerability assessment of surface water covered possible runoff, the presence of source factors and major flow routes such as major high order discontinuities (Table 4.2), ephemeral river channels, valleys and gullies as pathways and the presence of surface water body as a target. The groundwater assessments covered hydraulic properties and thickness of the unsaturated and saturated zones derived from geological and hydrogeological data. The assessment of the unsaturated characteristics was based on the ability for source factors to influence the system through known pathway factors such as discontinuities. The combined effects of unsaturated and saturated flow probabilities were used as

indicator for groundwater vulnerability. However, groundwater or surface water will only be vulnerable to contamination if the following three (3) component are all present at the same time and at a site-specific area within the EPL:

(i) Contaminant sources resulting from proposed exploration programme;

(ii) Potential pathways for contaminant migration such as major high order discontinuities (Table 4.2), ephemeral river channels, valleys and gullies, and;

(iii) Targets (economic water resources) present within the project area.

Overall, the limited local groundwater resources found in the area form part of the poorly developed metamorphic rocks based confined and unconfined aquifer system that is moderately vulnerable to any sources of pollution. During the rainy season, surface water bodies can be found along the local ephemeral river system. This surface water often recharges the local groundwater resources along the faults, solutions holes and other discontinuities along the ephemeral rivers in the general surrounding EPL area. Therefore, surface water in the local EPL area is more vulnerable to pollution sources associated with some of the proposed local field-based detailed prospecting / exploration activities such as drilling and trenching as well as supporting activities such as campsite and discharge of liquid and solid waste. It is important that all polluting activities must not be placed or undertaken in areas with high order discontinuities, valleys or gullies systems in the area. Discharge of solid or liquid waste into a public stream is prohibited.

4.6 Public Consultations Process

4.6.1 Overview

Public and stakeholder consultation process was provided for in the environmental assessment process undertaken for the EPL 7269 (Fig. 4.1 - 4.3 and Annex 2). According to the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 and the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007), a person conducting a public consultation process must give notice to all Interested and Affected Patties (I&AP) of the application which is subjected to public consultation. The EIA Regulations clearly state that potential interested and affected parties must be provided with a reasonable opportunity (21 days) to comment on the application under Section 21(6) of the EIA Regulations.

In line with the provisions of the regulations, the public notices were published in the Windhoek Observer Weekly Newspapers dated Friday 4th October 2019 (Fig. 4.1), the Confidente Weekly Newspaper dated 10th – 16th October 2019 (Fig. 4.2) and the Namibian Daily Newspaper dated Wednesday, 23rd October 2019 (Fig. 4.3). The closing date for registration and submission of written objections, comments, inputs to the environmental assessment process is Friday, 25th October 2019.

During the public / stakeholder consultation process, two (2) written submissions with objections to the proposed minerals prospecting activities in the EPL No. 7269 were received (Table 4.3). Key issues raised are discussed below.

Table 4.3: Stakeholder register for the EPL 7269.

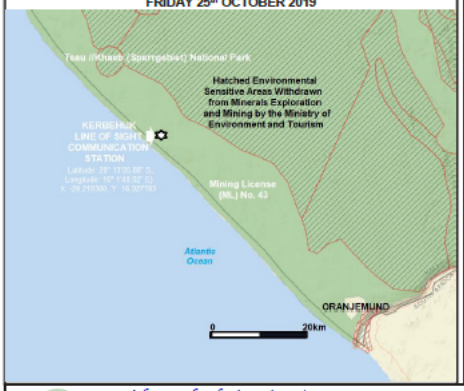
NAME	CONTACT DETAILS
Dr Johan Venter, Bergrus 94 and represented other farm owners as interested parties and land owners	Email: goergap123@gmail.com
Hans Kriess Properties (Pty) Ltd for Farm Wolfkoppe: Hans Kriess, Hans Jochen Kriess, Marieta Engelbrecht and Conlynx	Emails: info@hans-kriess.com Jochen Kriess: jochen34@me.com Marieta Engelbrecht: mme@iway.na Conlynx: conlynx@gmail.com
Riaan Maritz and Nico Maritz of Farm Tsawisis	Riaan Maritz: 0811275120 Nico Maritz: +264 811288266

ADVERTS

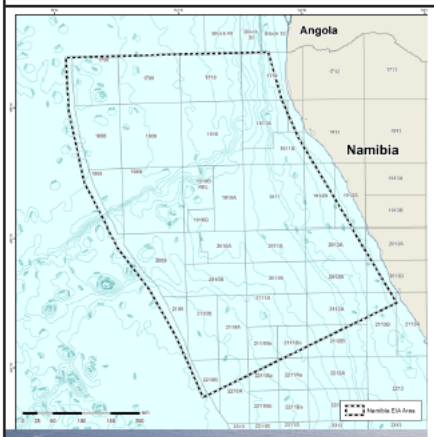
PUBLIC NOTICE BY DE BEERS MARINE NAMIBIA (Pty) Ltd
APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) FOR THE UPGRADING OF THE ELECTRICAL BACKUP SUPPLY INFRASTRUCTURES TO THE KERBEHUK LINE OF SIGHT COMMUNICATION STATION //KARAS REGION

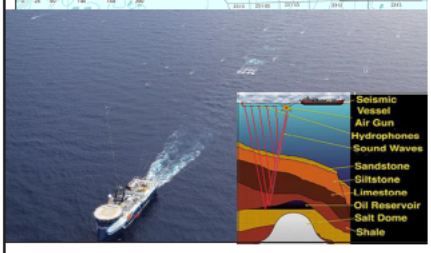
DE BEERS MARINE NAMIBIA (DBMN) (Pty) Ltd, (the Proponent) and Namibia's marine diamond exploration and recovery company is proposing to upgrade the electrical backup supply infrastructures to the Kerbehuk line of sight communication station situated about 42 km north of Oranjemund within the Namdeb Holdings (Pty) Ltd Mining License (ML) No. 43, Tsau //Khaeb (Sperrgebiet) National Park, //Karas Region. The station is central to the safety, emergency response and efficient logistical operations of DBMN offshore diamonds exploration and recovery process. The scope of work with respect to the proposed activities will include the installation of a containerised 1000 litre header diesel tank for standby generator inclusive of all supporting infrastructure and / or installation of a 20kW off grid Solar PV plant with a battery backup covering about 2500m² of already disturbed land area around the existing communication station. The proposed activities of upgrading the electrical backup supply infrastructures to the Kerbehuk line of sight communication station requires a Consumer Installation License listed in the Environmental Management Act, 2007, (Act No. 7 of 2007) and the Environmental Impact Assessment (EIA) Regulations 30 of 2012 and cannot be undertaken without an Environmental Clearance Certificate (ECC). In fulfilment of the environmental requirements, the Proponent has appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Report in order to support the application for ECC. All Interested and Affected Parties are hereby invited to register and submit written comments / objections / inputs with respect to the proposed upgrading the electrical backup supply infrastructures to the Kerbehuk line of sight communication station.

REGISTER BY EMAIL: frontdesk@rbs.com.na or Contact Dr. Sindila Mwiya for more Information: smwiya@rbs.com.na, Mobile: 0811413229
DEADLINE FOR WRITTEN SUBMISSIONS IS:
FRIDAY 25th OCTOBER 2019



PUBLIC NOTICE BY *CGG SERVICES (UK) LIMITED*
APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) FOR THE PROPOSED MULTICLIENT 2D AND 3D SEISMIC SURVEY OPERATIONS COVERING THE NORTHERN OFFSHORE NAMIBIA





REGISTER BY EMAIL: frontdesk@rbs.com.na or Contact Dr Sindila Mwiya (*PhD, PG Cert, MPhil, BEng (Hons), Pr Eng*) for more Information Email: smwiya@rbs.com.na or Mobile: +264-811413229

DEADLINE FOR WRITTEN SUBMISSIONS IS:
FRIDAY 25th OCTOBER 2019

CGG Services (UK) Limited **(the Proponent)** intends to undertake 2D and 3D multiclient offshore seismic survey operations covering northern offshore Namibia. The overall aim of the proposed survey is to map the subsurface geology and related petroleum systems of the targeted area as shown on the map in support of the ongoing petroleum exploration activities in Namibia. Although offshore seismic surveys operations in Namibia began as far back as 1968, a lot more still need to be done in order to have a full understanding of the petroleum systems offshore Namibia. The data sets from the proposed 2D and 3D multiclient seismic survey operations will provide critical insight into the subsurface geological evolution, offshore basin architecture, depositional and structural history of the northern offshore Namibia.

Seismic survey is a key tool that resources companies exploring for hydrocarbons (oil and natural gas) uses to map the subsurface geology and kilometres below the ground either on land (onshore) on in the sea (offshore) in order to reduce the risk of drilling dry wells and improve the chances for commercial oil and / or gas discoveries. The basic principle of seismic survey method is the application of controlled generation of sound / acoustic waves by a seismic source in order to obtain an image of the subsurface. The generated acoustic wave that travels deep into the earth's crust, is reflected by the various rock formations of the earth and returns to the surface where it is recorded and measured by receiving devices called hydrophones. In offshore environment, the vessel towed airguns release compressed air to generate seismic signals at regular intervals. Signals reflected from geological interfaces below the seafloor are recorded by multiple vessel towed hydrophones and transmitted to the seismic vessel for electronic processing. By analysing the time it takes for the seismic waves to travel between the rock formations and the surface, geophysicists, geologists and petroleum engineers use sophisticated software to create subsurface images /maps showing potential drill-ready subsurface geological structures called reservoirs that may contain hydrocarbons.

The proposed 2D and 3D multiclient seismic survey will be conducted using MARPOL / Namibian Maritimes Laws compliant and modern survey vessels of CGG / third-party Contractor. The surveys will have the following general indicative parameters:

- **2D Survey:** Shot point Interval: 25 m, Group separation: 12.5 m, Inline offset (center src/centre near trace): 150 m, Water depths: 2625-4350 m, Energy Volume 4840 cu in, Source Depth (+/- 0.5)m, Streamer No. 1, Streamer Depth 12 m and Active Streamer Length 12000 m.
- **3D Survey:** Shot Point Interval 25m, Source Separation 50m, Operating Air Pressure 2000 psi, No.of Sub-arrays per Source 3, Cross-line Separation between Sub-arrays 8m, Source Depth 7m, STREAMERS 14x100x8550, Near Trace in-Line Offset Approx. 235m, Adjacent Streamer Separation 100m, Group / Trace Interval 12.5m, and Streamer Depth Flat 12m tow.

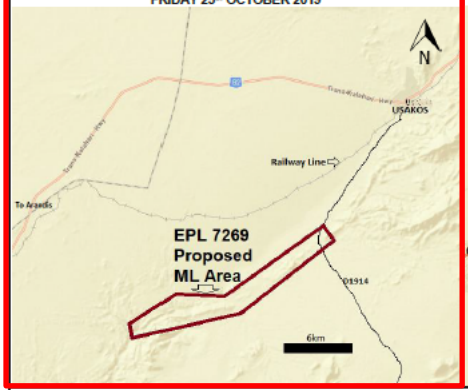
The proposed 2D and 3D seismic survey activities cannot be undertaken without an Environmental Clearance Certificate (ECC) as required by the Environmental Management Act, 2007, (Act No. 7 of 2007) and the Environmental Impact Assessment (EIA) Regulations 30 of 2012. In fulfilment of the environmental requirements, CGG Services (UK) Limited has appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant, led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare EIA and EMP Reports in order to support the application for ECC. All Interested and Affected Parties (I&APs) are hereby invited to register and submit written comments / objections / inputs with respect to the proposed CGG 2D and 3D multiclient seismic survey operations.

Risk-Based Solutions (RBS) CC URL / Global Office: www.rbs.com.na
Your Global Resources (Oil, Gas, Minerals & Energy Exploration, Production & Mining) and Environmental Assessments (SEA, EIA, EMP, EMS) International Specialist Consultants

PUBLIC NOTICE BY RISK- BASED SOLUTIONS (RBS) CC
APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) FOR EXPLORATION AND MINING (MARBLE QUARRY) IN THE EXCLUSIVE PROSPECTING LICENSE (EPL) No. 7269, KARIBIB DISTRICT. ERONGO REGION

RISK-BASED SOLUTION CC (the Proponent) intends to undertake prospecting / exploration and apply for Mining License (ML) in order to undertake dimension stone (marble) mining activities within the Exclusive Prospecting License (EPL) No. 7262. The EPL 7269 was granted on the 08/08/2019 for dimension stone and will expire on the 07/08/2022. The ML area will cover the entire EPL area totalling 4988.8087 Ha and falling within private commercial farmland. The exploration activities leading to the preparation of a feasibility report will use techniques such as mapping, drilling, sampling and trenching, starting with the desktop studies, followed by regional and local field-based activities. Following the completion of the feasibility study, the company intend to apply for a ML in order to develop a marble quarry. The proposed dimension stone mining (quarry) project will involve the mining of 5m³ blocks of marble, sorting, storage, transportation to a plant in Karibib / Walvis Bay for final processing and export of finished products. The proposed mining and exploration 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). The proponent is required to prepared Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Reports for the proposed prospecting and mining activities in order to support the application for ECC. The application for ECC shall be undertaken in accordance with the provisions of the EIA Regulations, 2012 and the EMA 2007, (Act No. 7 of 2007). The public / Interested & Affected Parties (I&AP) are hereby invited to register and submit written comments / objections / inputs with respect to the proposed dimension stone exploration and mining activities in the EPL 7269, proposed ML Area. A Background Information Document is available upon registration and on request.

REGISTER BY EMAIL: frontdesk@rbs.com.na or Contact Dr Sindila Mwiya for more Information: smwiya@rbs.com.na, Mobile: 0811413229
DEADLINE FOR WRITTEN SUBMISSIONS IS:
FRIDAY 25th OCTOBER 2019



PUBLIC NOTICE BY CHINA AFRICA RESOURCES NAMIBIA (Pty) Ltd
APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) FOR EXPLORATION IN THE MINING LICENSES 1 AND 24B GROOTFONTEIN DISTRICT, OTJOZONDJUPA REGION

CHINA AFRICA RESOURCES NAMIBIA (CARN) (Pty) Ltd (the Proponent) hold mineral rights under the Mining Licenses (MLs) Nos.1 and 24B situated in the Grootfontein District, Otjozondjupa Region. The MLs 1 and 24B are currently pending renewals. The ML 1 covers a total area of 449.4737 Ha and is granted for base and rare metals, non-nuclear fuel minerals, precious metals, precious stones and semi-precious stone. The ML 24B covering 561.9448 Ha is granted for base, rare and precious metals. The two MLs areas falls within the Berg-Aukas area situated to the east of Grootfontein. The proponent intend to conduct ONLY exploration activities starting with desktop review of the previous exploration activities, followed by regional and site-specific field-based activities and using techniques such as geophysical surveys, geological mapping, trenching, drilling and bulk sampling in order to evaluate the viability of the ML areas. 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 Risk-Based Solutions (RBS) CC as the Environmental Consultant and led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the exploration Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Reports in order to support the application for ECC. All Interested and Affected Parties are hereby invited to register and submit written comments / objections / inputs with respect to the proposed prospecting activities in the MLs Nos. 1 and 24B. A Background Information Document is available upon registration and on request.

REGISTER BY EMAIL: frontdesk@rbs.com.na or Contact Dr Sindila Mwiya for more Information: smwiya@rbs.com.na, Mobile: 0811413229
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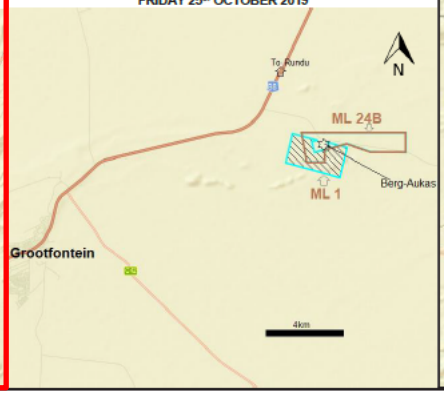
FRIDAY 25th OCTOBER 2019



PUBLIC NOTICE BY FLOCKED CONSULTANCY SERVICES (Pty) Ltd
APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC), EXCLUSIVE PROSPECTING LICENSE (EPL) No. 5641, KARIBIB DISTRICT, ERONGO REGION

FLOCKED CONSULTANCY SERVICES (Pty) Ltd (the Proponent) hold mineral rights under the Exclusive Prospecting License (EPL) No. 5641 for base and rare metals, dimension stone, industrial minerals, precious metals, and semi-precious stones. The EPL 5641 was granted on the 17/10/2016 and expired on the 16/10/2019. A renewal application to continue with exploration activities has been submitted and is currently pending. The EPL 5641 area totalling 5669.2 Ha falls within private commercial farmland. The proponent intend to conduct exploration activities covering desktop studies, followed by regional and site-specific field-based activities and using techniques such as geophysical surveys, geological mapping, trenching, drilling and sampling. 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 Risk-Based Solutions (RBS) CC as the Environmental Consultant and led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Reports in order to support the application for ECC. All Interested and Affected Parties are hereby invited to register and submit written comments / objections / inputs with respect to the proposed prospecting activities in the EPL 5641. A Background Information Document is available upon registration and on request.

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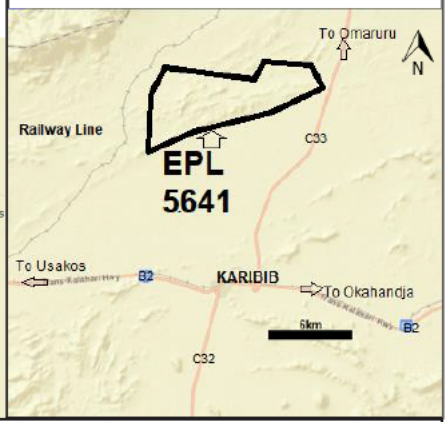

Risk-Based Solutions (RBS) CC URL / Global Office: www.rbs.com.na
Your Global Resources (Oil, Gas, Minerals & Energy Exploration, Production & Mining) and Environmental Assessments (SEA, EIA, EMP, EMS) International Specialist Consultants

Figure 4.1: Copy of the full-page advert of the 1st Public Notice published in the Windhoek Observer Weekly Newspaper dated Friday, 4th October 2019.

PUBLIC NOTICE BY DE BEERS MARINE NAMIBIA (Pty) Ltd
APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) FOR THE UPGRADING OF THE ELECTRICAL BACKUP SUPPLY INFRASTRUCTURES TO THE KERBEHUK LINE OF SIGHT COMMUNICATION STATION //KARAS REGION

DE BEERS MARINE NAMIBIA (DBMN) (Pty) Ltd, (the Proponent) and Namibia's marine diamond exploration and recovery company is proposing to upgrade the electrical backup supply infrastructures to the Kerbehuk line of sight communication station situated about 42 km north of Oranjemund within the Namdeb Holdings (Pty) Ltd Mining License (ML) No. 43, Tsau //Khaeb (Sperrgebiet) National Park, //Karas Region. The station is central to the safety, emergency response and efficient logistical operations of DBMN offshore diamonds exploration and recovery process. The scope of work with respect to the proposed activities will include the installation of a containerised 1000 litre header diesel tank for standby generator inclusive of all supporting infrastructure and / or installation of a 20kW off grid Solar PV plant with a battery backup covering about 2500m² of already disturbed land area around the existing communication station. The proposed activities of upgrading the electrical backup supply infrastructures to the Kerbehuk line of sight communication station requires a Consumer Installation License listed in the Environmental Management Act, 2007, (Act No. 7 of 2007) and the Environmental Impact Assessment (EIA) Regulations 30 of 2012 and cannot be undertaken without an Environmental Clearance Certificate (ECC). In fulfilment of the environmental requirements, the Proponent has appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Report in order to support the application for ECC. All Interested and Affected Parties are hereby invited to register and submit written comments / objections / inputs with respect to the proposed upgrading the electrical backup supply infrastructures to the Kerbehuk line of sight communication station.

REGISTER BY EMAIL: frontdesk@rbs.com.na or Contact Dr. Sindila Mwiya for more Information: smwiya@rbs.com.na, Mobile: 0811413229
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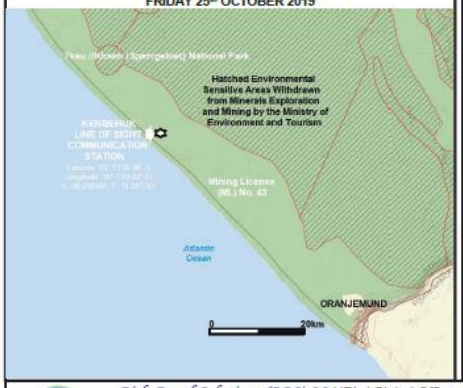

PUBLIC NOTICE BY *CGG SERVICES (UK) LIMITED*
APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) FOR THE PROPOSED MULTICLIENT 2D AND 3D SEISMIC SURVEY OPERATIONS COVERING THE NORTHERN OFFSHORE NAMIBIA

CGG Services (UK) Limited **(the Proponent)** intends to undertake 2D and 3D multiclient offshore seismic survey operations covering northern offshore Namibia. The overall aim of the proposed survey is to map the subsurface geology and related petroleum systems of the targeted area as shown on the map in support of the ongoing petroleum exploration activities in Namibia. Although offshore seismic surveys operations in Namibia began as far back as 1968, a lot more still need to be done in order to have a full understanding of the petroleum systems offshore Namibia. The data sets from the proposed 2D and 3D multiclient seismic survey operations will provide critical insight into the subsurface geological evolution, offshore basin architecture, depositional and structural history of the northern offshore Namibia.

Seismic survey is a key tool that resources companies exploring for hydrocarbons (oil and natural gas) uses to map the subsurface geology and kilometres below the ground either on land (onshore) on in the sea (offshore) in order to reduce the risk of drilling dry wells and improve the chances for commercial oil and / or gas discoveries. The basic principle of seismic survey method is the application of controlled generation of sound / acoustic waves by a seismic source in order to obtain an image of the subsurface. The generated acoustic wave that travels deep into the earth's crust, is reflected by the various rock formations of the earth and returns to the surface where it is recorded and measured by receiving devices called hydrophones. In offshore environment, the vessel towed airguns release compressed air to generate seismic signals at regular intervals. Signals reflected from geological interfaces below the seafloor are recorded by multiple vessel towed hydrophones and transmitted to the seismic vessel for electronic processing. By analysing the time it takes for the seismic waves to travel between the rock formations and the surface, geophysicists, geologists and petroleum engineers use sophisticated software to create subsurface images /maps showing potential drill-ready subsurface geological structures called reservoirs that may contain hydrocarbons.

The proposed 2D and 3D multiclient seismic survey will be conducted using MARPOL / Namibian Maritimes Laws compliant and modern survey vessels of CGG / third-party Contractor. The surveys will have the following general indicative parameters:

- **2D Survey:** Shot point Interval: 25 m, Group separation: 12.5 m, Inline offset (center src/centre near trace): 150 m, Water depths: 2625-4350 m, Energy Volume 4840 cu in, Source Depth (+/- 0.5)m, Streamer No. 1, Streamer Depth 12 m and Active Streamer Length 12000 m.
- **3D Survey:** Shot Point Interval 25m, Source Separation 50m, Operating Air Pressure 2000 psi, No.of Sub-arrays per Source 3, Cross-line Separation between Sub-arrays 8m, Source Depth 7m, STREAMERS 14x100x8550, Near Trace in-Line Offset Approx. 235m, Adjacent Streamer Separation 100m, Group / Trace Interval 12.5m, and Streamer Depth Flat 12m tow.

The proposed 2D and 3D seismic survey activities cannot be undertaken without an Environmental Clearance Certificate (ECC) as required by the Environmental Management Act, 2007, (Act No. 7 of 2007) and the Environmental Impact Assessment (EIA) Regulations 30 of 2012. In fulfilment of the environmental requirements, CGG Services (UK) Limited has appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant, led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare EIA and EMP Reports in order to support the application for ECC. All Interested and Affected Parties (I&APs) are hereby invited to register and submit written comments / objections / inputs with respect to the proposed CGG 2D and 3D multiclient seismic survey operations.

REGISTER BY EMAIL: frontdesk@rbs.com.na or Contact Dr Sindila Mwiya (*PhD, PG Cert, MPhil, BEng (Hons), Pr Eng*) for more Information Email: smwiya@rbs.com.na or Mobile: +264-811413229

DEADLINE FOR WRITTEN SUBMISSIONS IS:
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Risk-Based Solutions (RBS) CC URL / Global Office: www.rbs.com.na
Your Global Resources (Oil, Gas, Minerals & Energy Exploration, Production & Mining) and Environmental Assessments (SEA, EIA, EMP, EMS) International Specialist Consultants

PUBLIC NOTICE BY RISK- BASED SOLUTIONS (RBS) CC
APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) FOR EXPLORATION AND MINING (MARBLE QUARRY) IN THE EXCLUSIVE PROSPECTING LICENSE (EPL) No. 7269, KARIBIB DISTRICT. ERONGO REGION

RISK-BASED SOLUTION CC (the Proponent) intends to undertake prospecting / exploration and apply for Mining License (ML) in order to undertake dimension stone (marble) mining activities within the Exclusive Prospecting License (EPL) No. 7262. The EPL 7269 was granted on the 08/08/2019 for dimension stone and will expire on the 07/08/2022. The ML area will cover the entire EPL area totalling 4988.8087 Ha and covering portions of Farms Gross-aukas Naob 69, Tsawisis 16, Bergrus 94 and Wolfkoppe 105. The exploration activities leading to the preparation of a feasibility report will use techniques such as mapping, drilling, sampling and trenching, starting with the desktop studies, followed by regional and local field-based activities. Following the completion of the feasibility study, the company intend to apply for a ML in order to develop a marble quarry. The proposed dimension stone mining (quarry) project will involve the mining of 5m³ blocks of marble, sorting, storage, transportation to a plant in Karibib / Walvis Bay for final processing and export of finished products. The proposed mining and exploration 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). The proponent is required to prepared Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Reports for the proposed prospecting and mining activities in order to support the application for ECC. The application for ECC shall be undertaken in accordance with the provisions of the EIA Regulations, 2012 and the EMA 2007, (Act No. 7 of 2007). The public / Interested & Affected Parties (I&AP) are hereby invited to register and submit written comments / objections / inputs with respect to the proposed dimension stone exploration and mining activities in the EPL 7269, proposed ML Area. A Background Information Document is available upon registration and on request.

REGISTER BY EMAIL: frontdesk@rbs.com.na or Contact Dr Sindila Mwiya for more Information: smwiya@rbs.com.na, Mobile: 0811413229
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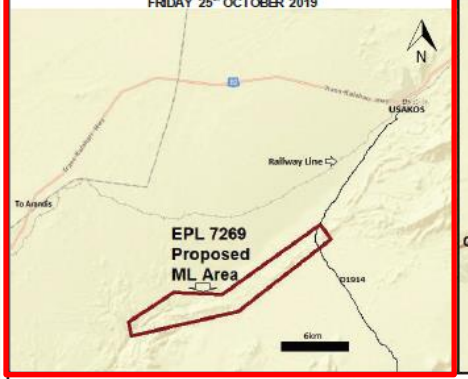

PUBLIC NOTICE BY CHINA AFRICA RESOURCES NAMIBIA (Pty) Ltd
APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) FOR EXPLORATION IN THE MINING LICENSES 1 AND 24B GROOTFONTEIN DISTRICT, OTJOZONDJUPA REGION

CHINA AFRICA RESOURCES NAMIBIA (CARN) (Pty) Ltd (the Proponent) hold mineral rights under the Mining Licenses (MLs) Nos.1 and 24B situated in the Grootfontein District, Otjozondjupa Region. The MLs 1 and 24B are currently pending renewals. The ML 1 covers a total area of 449.4737 Ha and is granted for base and rare metals, non-nuclear fuel minerals, precious metals, precious stones and semi-precious stone. The ML 24B covering 561.9448 Ha is granted for base, rare and precious metals. The two MLs areas falls within the Berg-Aukas area situated to the east of Grootfontein. The proponent intend to conduct ONLY exploration activities starting with desktop review of the previous exploration activities, followed by regional and site-specific field-based activities and using techniques such as geophysical surveys, geological mapping, trenching, drilling and bulk sampling in order to evaluate the viability of the ML areas. 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 Risk-Based Solutions (RBS) CC as the Environmental Consultant and led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the exploration Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Reports in order to support the application for ECC. All Interested and Affected Parties are hereby invited to register and submit written comments / objections / inputs with respect to the proposed prospecting activities in the MLs Nos. 1 and 24B. A Background Information Document is available upon registration and on request.

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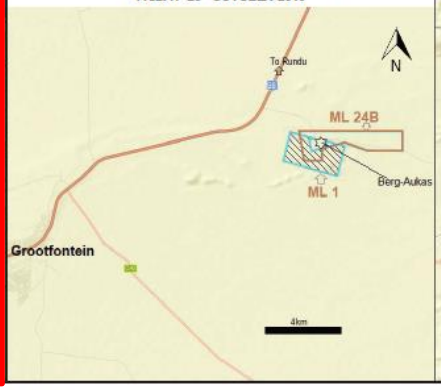

PUBLIC NOTICE BY FLOCKED CONSULTANCY SERVICES (Pty) Ltd
APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC), EXCLUSIVE PROSPECTING LICENSE (EPL) No. 5641, KARIBIB DISTRICT, ERONGO REGION

FLOCKED CONSULTANCY SERVICES (Pty) Ltd (the Proponent) hold mineral rights under the Exclusive Prospecting License (EPL) No. 5641 for base and rare metals, dimension stone, industrial minerals, precious metals, and semi-precious stones. The EPL 5641 was granted on the 17/10/2016 and expired on the 16/10/2019. A renewal application to continue with exploration activities has been submitted and is currently pending. The EPL 5641 area totalling 5669.2 Ha falls within private commercial farmland and covering portions of Farms Onguati 52, Daheim 106 and Spes Bon 105. The proponent intend to conduct exploration activities covering desktop studies, followed by regional and site-specific field-based activities and using techniques such as geophysical surveys, geological mapping, trenching, drilling and sampling. 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 Risk-Based Solutions (RBS) CC as the Environmental Consultant and led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Reports in order to support the application for ECC. All Interested and Affected Parties are hereby invited to register and submit written comments / objections / inputs with respect to the proposed prospecting activities in the EPL 5641. A Background Information Document is available upon registration and on request.

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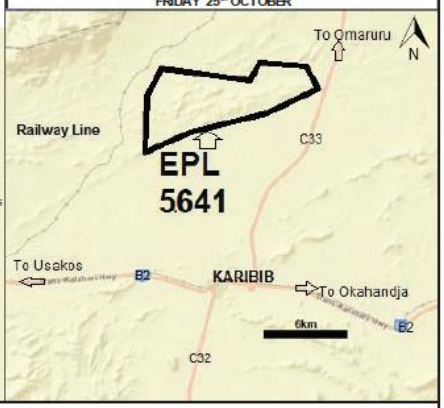

Risk-Based Solutions (RBS) CC URL / Global Office: www.rbs.com.na
Your Global Resources (Oil, Gas, Minerals & Energy Exploration, Production & Mining) and Environmental Assessments (SEA, EIA, EMP, EMS) International Specialist Consultants

Figure 4.2: Copy of the full-page advert of the 2nd Public Notice published in the Confidente Weekly Newspaper dated 10th – 16th October 2019.

Risk-Based Solutions (RBS) CC

Delivering the Solutions

PUBLIC NOTICE BY DE BEERS MARINE NAMIBIA (Pty) Ltd APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) FOR THE UPGRADING OF THE ELECTRICAL BACKUP SUPPLY INFRASTRUCTURES TO THE KERBEHUK LINE OF SIGHT COMMUNICATION STATION //KARAS REGION

DE BEERS MARINE NAMIBIA (DBMN) (Pty) Ltd, (the Proponent) and Namibia's marine diamond exploration and recovery company is proposing to upgrade the electrical backup supply infrastructures to the Kerbehuk line of sight communication station situated about 42 km north of Oranjemund within the Namdeb Holdings (Pty) Ltd Mining License (ML) No. 43, Tsau //Khaeb (Sperrgebiet) National Park, //Karas Region. The station is central to the safety, emergency response and efficient logistical operations of DBMN offshore diamonds exploration and recovery process. The scope of work with respect to the proposed activities will include the installation of a containerised 1000 litre header diesel tank for standby generator inclusive of all supporting infrastructure and / or installation of a 20kW off grid Solar PV plant with a battery backup covering about 2500m² of already disturbed land area around the existing communication station. The proposed activities of upgrading the electrical backup supply infrastructures to the Kerbehuk line of sight communication station requires a Consumer Installation License listed in the Environmental Management Act, 2007, (Act No. 7 of 2007) and the Environmental Impact Assessment (EIA) Regulations 30 of 2012 and cannot be undertaken without an Environmental Clearance Certificate (ECC). In fulfilment of the environmental requirements, the Proponent has appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Report in order to support the application for ECC. All Interested and Affected Parties are hereby invited to register and submit written comments / objections / inputs with respect to the proposed upgrading the electrical backup supply infrastructures to the Kerbehuk line of sight communication station.

REGISTER BY EMAIL: frontdesk@rbs.com.na or Contact Dr. Sindila Mwiya for more Information: smwiya@rbs.com.na, Mobile: 0811413229
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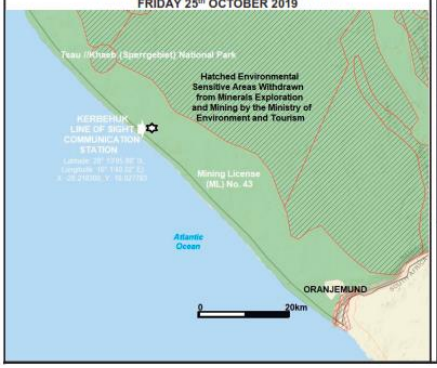
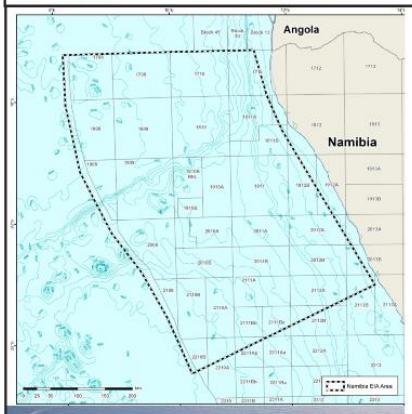
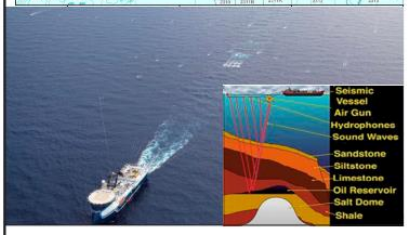
FRIDAY 25th OCTOBER 2019



PUBLIC NOTICE BY *CGG SERVICES (UK) LIMITED*
APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) FOR THE PROPOSED MULTICLIENT 2D AND 3D SEISMIC SURVEY OPERATIONS COVERING THE NORTHERN OFFSHORE NAMIBIA





CGG Services (UK) Limited **(the Proponent)** intends to undertake 2D and 3D multiclient offshore seismic survey operations covering northern offshore Namibia. The overall aim of the proposed survey is to map the subsurface geology and related petroleum systems of the targeted area as shown on the map in support of the ongoing petroleum exploration activities in Namibia. Although offshore seismic surveys operations in Namibia began as far back as 1968, a lot more still need to be done in order to have a full understanding of the petroleum systems offshore Namibia. The data sets from the proposed 2D and 3D multiclient seismic survey operations will provide critical insight into the subsurface geological evolution, offshore basin architecture, depositional and structural history of the northern offshore Namibia.

Seismic survey is a key tool that resources companies exploring for hydrocarbons (oil and natural gas) uses to map the subsurface geology and kilometres below the ground either on land (onshore) on in the sea (offshore) in order to reduce the risk of drilling dry wells and improve the chances for commercial oil and / or gas discoveries. The basic principle of seismic survey method is the application of controlled generation of sound / acoustic waves by a seismic source in order to obtain an image of the subsurface. The generated acoustic wave that travels deep into the earth's crust, is reflected by the various rock formations of the earth and returns to the surface where it is recorded and measured by receiving devices called hydrophones. In offshore environment, the vessel towed airguns release compressed air to generate seismic signals at regular intervals. Signals reflected from geological interfaces below the seafloor are recorded by multiple vessel towed hydrophones and transmitted to the seismic vessel for electronic processing. By analysing the time it takes for the seismic waves to travel between the rock formations and the surface, geophysicists, geologists and petroleum engineers use sophisticated software to create subsurface images /maps showing potential drill-ready subsurface geological structures called reservoirs that may contain hydrocarbons.

The proposed 2D and 3D multiclient seismic survey will be conducted using MARPOL / Namibian Maritimes Laws compliant and modern survey vessels of CGG / third-party Contractor. The surveys will have the following general indicative parameters:

- **2D Survey:** Shot point Interval: 25 m, Group separation: 12.5 m, Inline offset (center src/centre near trace): 150 m, Water depths: 2625-4350 m, Energy Volume 4840 cu in, Source Depth (+/- 0.5)m, Streamer No. 1, Streamer Depth 12 m and Active Streamer Length 12000 m.
- **3D Survey:** Shot Point Interval 25m, Source Separation 50m, Operating Air Pressure 2000 psi, No.of Sub-arrays per Source 3, Cross-line Separation between Sub-arrays 8m, Source Depth 7m, STREAMERS 14x100x8550, Near Trace in-Line Offset Approx. 235m, Adjacent Streamer Separation 100m, Group / Trace Interval 12.5m, and Streamer Depth Flat 12m tow.

The proposed 2D and 3D seismic survey activities cannot be undertaken without an Environmental Clearance Certificate (ECC) as required by the Environmental Management Act, 2007, (Act No. 7 of 2007) and the Environmental Impact Assessment (EIA) Regulations 30 of 2012. In fulfilment of the environmental requirements, CGG Services (UK) Limited has appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant, led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare EIA and EMP Reports in order to support the application for ECC. All Interested and Affected Parties (I&APs) are hereby invited to register and submit written comments / objections / inputs with respect to the proposed CGG 2D and 3D multiclient seismic survey operations.

REGISTER BY EMAIL: frontdesk@rbs.com.na or Contact Dr Sindila Mwiya (*PhD, PG Cert, MPhil, BEng (Hons), Pr Eng*) for more Information Email: smwiya@rbs.com.na or Mobile: +264-811413229

DEADLINE FOR WRITTEN SUBMISSIONS IS:
FRIDAY 25th OCTOBER 2019

PUBLIC NOTICE BY RISK- BASED SOLUTIONS (RBS) CC APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) FOR EXPLORATION AND MINING (MARBLE QUARRY) IN THE EXCLUSIVE PROSPECTING LICENSE (EPL) No. 7269, KARIBIB DISTRICT. ERONGO REGION

RISK-BASED SOLUTION CC (the Proponent) intends to undertake prospecting / exploration and apply for Mining License (ML) in order to undertake dimension stone (marble) mining activities within the Exclusive Prospecting License (EPL) No. 7262. The EPL 7269 was granted on the 08/08/2019 for dimension stone and will expire on the 07/08/2022. The ML area will cover the entire EPL area totalling 4988.8087 Ha and covering portions of Farms Gross-aukas Naob 69, Tsawisis 16, Bergrus 94 and Wolfkoppe 105. The exploration activities leading to the preparation of a feasibility report will use techniques such as mapping, drilling, sampling and trenching, starting with the desktop studies, followed by regional and local field-based activities. Following the completion of the feasibility study, the company intend to apply for a ML in order to develop a marble quarry. The proposed dimension stone mining (quarry) project will involve the mining of 5m³ blocks of marble, sorting, storage, transportation to a plant in Karibib / Walvis Bay for final processing and export of finished products. The proposed mining and exploration 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). The proponent is required to prepared Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Reports for the proposed prospecting and mining activities in order to support the application for ECC. The application for ECC shall be undertaken in accordance with the provisions of the EIA Regulations, 2012 and the EMA 2007, (Act No. 7 of 2007). The public / Interested & Affected Parties (I&AP) are hereby invited to register and submit written comments / objections / inputs with respect to the proposed dimension stone exploration and mining activities in the EPL 7269, proposed ML Area. A Background Information Document is available upon registration and on request.

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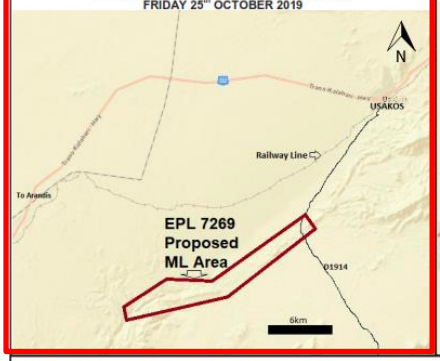
DEADLINE FOR WRITTEN SUBMISSIONS IS:
FRIDAY 25th OCTOBER 2019



PUBLIC NOTICE BY CHINA AFRICA RESOURCES NAMIBIA (Pty) Ltd APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) FOR EXPLORATION IN THE MINING LICENSES 1 AND 24B GROOTFONTEIN DISTRICT, OTJOZONDJUPA REGION

CHINA AFRICA RESOURCES NAMIBIA (CARN) (Pty) Ltd (the Proponent) holds mineral rights under the Mining Licenses (MLs) Nos.1 and 24B situated in the Grootfontein District, Otjozondjupa Region. The MLs 1 and 24B are currently pending renewals. The ML 1 covers a total area of 449.4737 Ha and is granted for base and rare metals, non-nuclear fuel minerals, precious metals, precious stones and semi-precious stone. The ML 24B covering 561.9448 Ha is granted for base, rare and precious metals. The two MLs areas falls within the Berg-Aukas area situated to the east of Grootfontein. The proponent intend to conduct ONLY exploration activities starting with desktop review of the previous exploration activities, followed by regional and site-specific field-based activities and using techniques such as geophysical surveys, geological mapping, trenching, drilling and bulk sampling in order to evaluate the viability of the ML areas. 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 Risk-Based Solutions (RBS) CC as the Environmental Consultant and led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the exploration Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Reports in order to support the application for ECC. All Interested and Affected Parties are hereby invited to register and submit written comments / objections / inputs with respect to the proposed prospecting activities in the MLs Nos. 1 and 24B. A Background Information Document is available upon registration and on request.

REGISTER BY EMAIL: frontdesk@rbs.com.na or Contact Dr Sindila Mwiya for more Information: smwiya@rbs.com.na, Mobile: 0811413229
DEADLINE FOR WRITTEN SUBMISSIONS IS:
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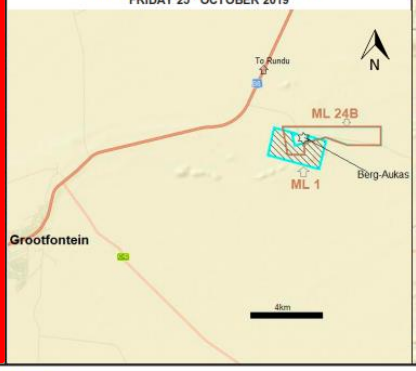

PUBLIC NOTICE BY FLOCKED CONSULTANCY SERVICES (Pty) Ltd APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC), EXCLUSIVE PROSPECTING LICENSE (EPL) No. 5641, KARIBIB DISTRICT, ERONGO REGION

FLOCKED CONSULTANCY SERVICES (Pty) Ltd (the Proponent) holds mineral rights under the Exclusive Prospecting License (EPL) No. 5641 for base and rare metals, dimension stone, industrial minerals, precious metals, and semi-precious stones. The EPL 5641 was granted on the 17/10/2016 and expired on the 16/10/2019. A renewal application to continue with exploration activities has been submitted and is currently pending. The EPL 5641 area totalling 5669.2 Ha falls within private commercial farmland and covering portions of Farms Onguati 52, Daheim 106 and Spes Bon105. The proponent intend to conduct exploration activities covering desktop studies, followed by regional and site-specific field-based activities and using techniques such as geophysical surveys, geological mapping, trenching, drilling and sampling. 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 Risk-Based Solutions (RBS) CC as the Environmental Consultant and led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Reports in order to support the application for ECC. All Interested and Affected Parties are hereby invited to register and submit written comments / objections / inputs with respect to the proposed prospecting activities in the EPL 5641. A Background Information Document is available upon registration and on request.

REGISTER BY EMAIL: frontdesk@rbs.com.na or Contact Dr Sindila Mwiya for more Information: smwiya@rbs.com.na, Mobile: 0811413229
DEADLINE FOR WRITTEN SUBMISSIONS IS:
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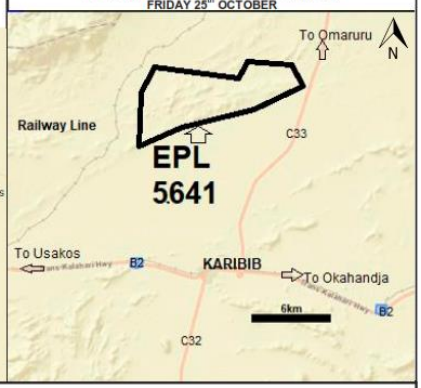

Risk-Based Solutions (RBS) CC URL / Global Office: www.rbs.com.na
Your Global Resources (Oil, Gas, Minerals & Energy Exploration, Production & Mining) and Environmental Assessments (SEA, EIA, EMP, EMS) International Specialist Consultants

Figure 4.3: Copy of the full-page advert of the 3rd Public Notice published in the Namibian Daily Newspaper on Wednesday, 23rd October 2019.

4.6.2 Concerns of the Land Owners

4.6.2.1 Objections by Dr Johan Venter of Farm Bergrus

The following detailed submission was made by Dr Johan Venter of Farm Bergrus which according to his submission, his farm is intended to be developed for eco-tourism business. According to his submission for objection, first, the area intended for exploration is in a semi-desert environment. Rainfall is extremely low, for the past two years less than 25 mm pa. The region has had a drought for seven years, with effectively no vegetation left, and the land relying on the seed bank, which has to be preserved at all cost. Growth of vegetation is extremely slow, and the soil does not react well to any form of mechanical transgression. Single vehicle tracks remain visible for 10 - 20 years after in some cases only driven over once. This has been highlighted as one of the great causes for concern, as all the relevant farm owners endeavour to keep the impact on the veld as low as possible. Traffic is limited as far as possible, in general to only one vehicle per farm, and even existing tracks to be used as seldom as possible.

Secondly, the farms to be affected cannot be used for commercial farming, as rainfall is simply too low, and the recovery rate of the plants and veld cannot sustain such activity. Due to this, the owners of the farms in this area focus on preservation of nature, as this is the only possible way to act environmentally and economically responsible, whilst attempting to also protect the investment made in the land.

Farm Bergrus and Wolfkoppe are intended as eco-tourism destinations. As such the aim is to impact as little as humanly possible on the environment, thus the land, fauna and flora. The aim is to preserve the natural environment, as in the eco-tourism business any activity which may damage the soil, fauna and flora temporarily or permanently, will effectively destroy any attempt to achieve this goal. Exploration and mining of the land will without doubt severely impact the value of our land, and lead to substantial depreciation of our farms.

Water is a scarce commodity, another reason why human intervention in the area is limited as far as possible. Any increase in vehicle numbers and human involvement is seen as severely detrimental to the natural environment.

Even with the aim of eco-tourism, the nature of the region is such that the number of visitors and vehicles will always have to be limited to the minimum.

According to Dr Venter, the proposed activities appear completely opposed to all of the current indented land use of the Farm Bergrus.

In his view the Proponent intend to bring in people and vehicles, intend to drill and trench, which will be detrimental to nature and wildlife. He emphasised that the proposed activities will unfortunately have to be opposed.

The the veld, animal and plant life are the core value of a farm and this cannot be threatened in any way, which unfortunately will be the case, both with exploration and mining activities.

On Bergrus for example, vehicles are not allowed to leave established tracks at all, under no circumstances: Not to stop, not to turn around, for no reason whatsoever. Human spoor is discouraged. No signs of human activity or presence is ever allowed, in any way. Animals and plant life are respected to the utmost. These are never to be disturbed in any way. Clearly what is intended by the Proponent contradicts these principles, and these cannot be respected in any way by the activities intended.

Lastly, the owners of the farms involved remain concerned about factors such as crime and human trespassing. These farms are almost an hour's drive away from Usakos, and have none or poor cell phone reception. As such the people living on these farms are reliant on privacy, with limited security provision. For this reason, entrance of anyone who may in any way threaten safety and security is limited. Any outside party may disrupt the balance which exists at present, which is to be avoided.

Further information is to be provided at your request, also after further consultation of the land owners involved.

His submission was a personal plea on behalf of the country, its peoples, and of nature. The area targeted for exploration is a sensitive area, not able to defend itself against human activities and intervention. Mining in this area will damage and destroy the land, will damage and destroy wildlife and nature, and the land will never be able to recover from such activities. Land owners in this area made size-able investments, which are now threatened by the intended activities. As such, land owners have to defend themselves, investments, future, land, nature, and oppose any form of mining activity.

Additionally, he requested a copy of the official environmental impact study as well as the environmental management plan, that would normally have to be presented together with the application for the license.

He also requested to be personally informed about any meetings or public meetings to be held regarding the licence application or any other related matter. He registered himself and the other farm owners as interested parties and land owners, in order to further participate in this process.

The owners of the land in question would like to confirm that the right procedure has been followed and the environmental impact is the greatest concern.

Lastly, the relevant farm owners confirm that nobody will be allowed on these farms without the necessary arrangements in place, and permission granted by the farm owners.

4.6.2.2 Objections by Hans Kriess of Farm Wolfkoppe

The owners of farm Wolfkoppe, which is the 2nd Farm intended to be used for eco-tourism also submitted an objection to the proposed prospecting and exploration on the EPL 7269.

The key concerns were centred on fact that substantial amounts of money have been invested by the land owners in game, water wells, pumps, fencing and feeding wildlife during the past ten years. The proposed exploration would render the conservation efforts of the land owners during the past decades null and void, and would open up the area to crime and serious destruction of the environment. All this will be irreversible.

4.6.2.3 Feedback Provided by the EAP and Conclusions

The EAP acknowledged all the submissions that were made by the land owners as presented in subsection 4.6.2.1 and 4.6.2.2 with minimum of the report with original responses contained in Annex 2. The legitimate concerns of the land owners were fully acknowledged and respect for private property was fully emphasised with assurances that there will no way that anyone will enter any of the farms covered by the EPL 7269 without the permission of the land owner/s.

Often its difficulty to know the land owners and the only way to initiate consultation usually is first through a public notice in the local newspaper as required by the EIA Regulations, 2012 and once we establish who the affected land owners are and if there is indeed interest in the specific farm/s a meeting will then be arranged for more direct consultation and information exchanged in order to for the Proponent to fully understand what is really on the ground and for the land owner to be informed in detail on the type of exploration activities planned.

The EPL 7269 was only granted recently and currently the Proponent is only focused on desktop studies with no need for any field activities. If the need for a field visit over a specific farm arises, then the Proponent will contact the land owner and 1st for meeting even before such a field visit is undertaken. The EPL 7269 is not the only EPL covering this area and there are several other licenses as shown on https://maps.landfolio.com/Namibia/ to see all the license that are active in Namibia.

The probability of any EPL to advance to a mining project is 0.001 or equal to zero and that means most EPLs just expires and it is only the Government that makes their money inform of subsurface minerals rights rentals. Although EPA share the investment and environmental concerns of the land owners, there is no guarantee that each and every EPL that overlaps these farms will become a mining

project and that the land will now be exposed to criminal elements because of increased human activities. In aiding prospectors, the Ministry of Environment and Tourism and the Ministry of Mines and Energy both have come up with no go zones (withdrawn areas) from minerals prospecting and mining (see the link). Furthermore, requirements for Environmental Clearance Certificates (ECCs) have also been put in place in order to further make sure that other key sensitive areas such as the existing local investments and environmental conservation efforts are also not affected by minerals prospecting and mining related activities. Therefore, the process of placing the advert in the local newspapers was all of good intentions and not meant to cause any form panic or threat to the land owners investments or surface land rights. Once these key sensitive areas are delineated relative to any potential resources that may be discovered, if any, together with the permission and participation of the land owner/s, an assessment for coexistence will be undertaken. If there is no opportunity for coexistence, then yes, the proposed new activities if it's a new mine will not go ahead and project will not be viable (negative feasibility) with high environmental liabilities from an environmental point of view.

The following is the summary of conclusions as presented by the EAP:

(i) The concerns of the land owners are hereby acknowledged;

(ii) There is no guarantee that the proposed exploration activities will lead to the development of mine because the probability of any EPL to advance to a mining project is 0.001 or equal to zero. Even if a potential economic mining project is developed in the EPL area, it will not happen overnight and as such the land owners will be involved and consulted throughout the whole development process;

(iii) The initial step of the proposed exploration activities will start with desktop studies (Initial desktop exploration activities with no fieldwork undertaken) and then will progress as more information becomes available as detailed in Chapter 2 of this report. The following id the summary of the subsequent exploration activities that will follow subject positive results being obtained at each stage:

- ❖ Regional reconnaissance field-based mapping and sampling activities (Subject to the positive results of the initial desktop exploration activities);
- ❖ Initial local field-based mapping and sampling activities (Subject to the positive results of initial desktop exploration activities and regional reconnaissance field-based mapping and sampling activities);
- ❖ Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling (Subject to the positive results of initial desktop exploration activities, regional reconnaissance, field-based mapping, sampling and detailed local field-based activities);
- ❖ Prefeasibility and feasibility studies (Subject to the positive results of all the above above), and;
- ❖ Application for a Mining License (ML) subject to a positive feasibility study.

(iv) It is important to emphasise that if there is a need for the Proponent to visit the field in order to verify a target/s, this will only be undertaken with the permission from the land owner/s and there will be no activities undertaken without the permission and knowledge of the land owner/s. In cases where there is a need to undertake frequent verification visits or more detailed field-based exploration activities over a specific area, Access Agreements will be negotiated between the License (EPL) Holder / Proponent (subsurface rights holder) and the land owner/s (surface rights holders / farmer/s). However, it is very highly likely that not all areas or farms covered by a given EPL will be physically visited as part of the proposed exploration programme because in most cases the area of interest tends to be a very limited local area where the minerals may occur;

(v) If an exploration programme leads to a discovery of economic mineral deposits, then a prefeasibility and feasibility studies will then be undertaken over the local area. During the prefeasibility and feasibility processes, a detailed site-specific Environmental Impact Assessment (EIA) study and preparation of Environmental Management Plan (EMP) report will be undertaken as parts of the feasibility study in order to determine the short and long-term environmental liabilities that may affect the feasibility outcome. During the EIA and EMP processes all key issues will be weighed against the proposed project including the no-go option where the proposed project does not take place and if no mitigation measures that can promote the coexistence of the proposed mining project activities with the receiving environment (physical, biological, socioeconomic environments and ecosystem functions, services, use and non-use values or passive uses), then the proposed mining activities will not go ahead;

(vi) With effective planning and consultations with the local farmers, there is definitely opportunity for coexistence between the current proposed exploration activities and the intended eco-tourism ventures in the area and especially on some of the other farmers not participating in the eco-tourism business;

(vii) Its hereby recommended that the proposed exploration been supported by the local farmer/s / land owner/s because the exploration process will not be an overnight digging and destruction of their land but a slow increment process of activities only if there is positive information on the possibility for economic minerals resources occurrences in the area especially on the farms that are not participating in the eco-tourism business. The Proponent shall fully engage and continuously updating the land owner/s in all the activities that they plan to undertake on any of the farms covers by the EPL 7269 in order to porometer the coexistence of the proposed exploration activities and the current and future business operations of the land owner, and;

(viii) As part of initial exploration and in consultation with the land owners, the Proponent shall implement thematic mapping in delineate various land use zones for specific uses such as the no-go zones, conservation, eco-tourism, adventure tourism and possible minerals exploration and mining etc, within the EPL area. This will greatly improve the multiple land use practices and promote coexistence for all the possible land use options on the farms covered by the EPL 7269.

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. 7269 has been conducted in accordance with the provisions of the Environmental Impact Assessment (EIA) Regulations No. 30 of 2012 gazetted under the Environmental Management Act, (EMA), 2007, (Act No. 7 of 2007).

5.2 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 / ongoing exploration activities do not take place) has been undertake. An assessment of the environmental impacts of a future, in which the proposed / ongoing 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 / ongoing 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 / ongoing 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 / ongoing exploration activities do not take place. Key loses that may never be realised if the proposed / ongoing project activities do not go-ahead include: Loss of potential added value to the unknown underground minerals resources that may occur within the EPL No. 7269, 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 private farmland. The area is too dry to be able to conduct full scale commercial agriculture in the area. The local land owners have invested greatly in conservation and eco-tourism business. 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 and the general area but not necessary on the farm covered by the EPL 7269. Due to the limited

scope of the proposed / ongoing exploration and the implementation of the EMP, it's likely that the proposed / ongoing exploration can coexist with the current and potential future land uses options within the area. The Proponent shall focus the exploration activities on farms or parts of the farms thereof that are not participating in the eco-tourism initiative in area;

(iv) **Potential Land Use Conflicts:** Considering the current land use practices (conservation and eco- 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 area especially on farms or parts of the farms thereof that are not participating on in the conservation and eco- tourism. 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 conservation, eco-tourism, mining or adventure tourism etc, within the EPL area will greatly improve the multiple land use practices and promote coexistence for all the possible land use options in this area;

(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 / ongoing exploration activities will not affect the ecosystem function due to the limited scope of the proposed / ongoing 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, benefits of animals or plants values, and the provision of clean water or scenic views are some of the local ecosystem services associated with the EPL area. However, the proposed / ongoing exploration activities will not affect the ecosystem services due to the limited scope and area of coverage of the proposed / ongoing 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 conservation and eco-tourism as well as indirect values which includes: Watching a television show about the general area and its wildlife, food chain linkages that sustains the complex life within this area and bequest value for future generations to enjoy. The proposed / ongoing exploration activities will not destroy the current and future use values due to the limited scope of the proposed / ongoing activities as well as the adherence to the no-go zones that may be delineated in the area and the implementation of the EMP for the proposed exploration programme, 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 / ongoing exploration activities will not affect the ecosystem current or future none or passive uses due to the limited scope of the proposed / ongoing 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 / Ongoing Project Activities)

The ongoing exploration activities being undertaken in the EPL 7269 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, agriculture, conservation, eco-tourism and recreation cultural, biological and archaeological resources.

5.4 Impact Assessment Methodology

5.4.1 Impact Definition

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

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

- Interact with the existing environment (physical, biological and social elements), and;
- Breach relevant national legislation, relevant international legislation, standards and guidelines, and corporate environmental policy and management systems.

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

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

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

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

Nature of Impact	Adverse	Considered to represent an adverse change from the baseline, or to introduce a new undesirable factor.
	Beneficial	Considered to represent an improvement to the baseline or to introduce a new desirable factor.
Type of Impact	Direct	Results from a direct interaction between a planned or unplanned Project activity and the receiving environment.
	Indirect	Results from the Project but at a later time or at a removed distance or which may occur as a secondary effect of a direct impact.
	Cumulative	Results from (i) interactions between separate Project-related residual impacts; and (ii) interactions between Project-related residual impacts in combination with impacts from other projects and their associated activities. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.
Duration of Impact	Short-term	Predicted to last only for a limited period but will cease on completion of the activity, or as a result of mitigation/reinstatement measures and natural recovery typically within a year of the project completion.
	Medium-	Predicted to last only for a medium period after the Project finishing, typically one to five years.
	Long-term	Continues over an extended period, typically more than five years after the Project's completion.
	Permanent	Occurs during the development of the Project and causes a permanent change in the affected receptor or resource that endures substantially beyond the Project lifetime.
Scale of Impact	Local	Affects locally important environmental resources or is restricted to a single habitat/biotope, a single community.
	Regional	Affects nationally important environmental resources, or an area that is nationally important/protected or has macro-economic consequences.
	National	Affects nationally important environmental resources, or an area that is nationally important/protected or has macro-economic consequences.
	International	Affects internationally important resources such as areas protected by international Conventions
	Transboundary	Impacts experienced in one country as a result of activities in another.
Probability	Negligible	Possibility negligible
	Improbable	Possibility very low
	Probable	Distinct possibility
	Highly Probable	Most likely
	Definite	Impact will occur regardless of preventive measures

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

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

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

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

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

Table 5.4: Scored time period (duration) over which the impact is expected to last.

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

Table 5.5: Scored geographical extent of the induced change.

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

5.4.3 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 5.6. Likelihood is estimated on the basis of experience and/ or evidence that such an outcome has previously occurred. Impacts resulting from routine/planned events (i.e., normal operations) are classified under category (E).

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

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

5.4.4 Project Activities Summary of Impacts Results

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

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

The step progressional 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 (Tables 5.7-5.10).

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

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

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

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

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

Table 5.7: Cont.

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

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

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

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

SCALE		DESCRIPTION
T		Temporary
P		Permanent

Table 5.8: *Cont.*

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

SCALE		DESCRIPTION
T		Temporary
P		Permanent

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

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

Table 5.9: *Conti.*

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

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

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

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

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

Table 5.10: *Cont.*

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
3. Initial Local Field-Based Activities	(i)	Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during regional reconnaissance field activities	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	(ii)	Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	(iii)	Ground geophysical survey (Subject to the positive outcomes of i and ii above)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	(iv)	Possible Trenching (Subject to the outcomes of i - iii above)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	(v)	Field-based support and logistical activities will be very limited focus on a site-specific area for a very short time (maximum five (5) days)	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
	(vi)	Laboratory analysis of the samples collected and interpretation of the results and delineating of potential targets	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
4. Detailed Local Field-Based Activities	(i)	Access preparation and related logistics to support activities	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	(ii)	Local geochemical sampling aimed at verifying the prospectivity of the target/s delineated during the initial field-based activities	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	(iii)	Local geological mapping aimed at identifying possible targeted based on the results of the regional geological and analysis undertaken	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	(iv)	Ground geophysical survey, trenching, drilling and sampling (Subject to the positive outcomes of i and ii above);	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
5. Prefeasibility and Feasibility Studies	(i)	Detailed site-specific field-based support and logistical activities, surveys, detailed geological mapping	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	(ii)	Detailed drilling and bulk sampling and testing for ore reserve calculations	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	(iii)	Geotechnical studies for mine design	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	(iv)	Mine planning and designs including all supporting infrastructures (water, energy and access) and test mining activities	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
	(v)	EIA and EMP to support the ECC for mining operations	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
	(vi)	Preparation of feasibility report and application for Mining License	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A

5.5 Evaluation of Significant Impacts

5.5.1 Overview

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

5.5.2 Significance Criteria

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

Table 5.11: Scored impact significance criteria.

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

5.5.3 Assessment Likely Significant Impacts

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

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

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

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

Table 5.12: *Cont.*

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

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

5.6 Assessment of Overall Impacts

5.6.1 Summary of the Results of the Impact Assessment

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

(i) Initial desktop exploration activities: Overall likely negative impact on the receiving environment will be negligible with extremely unlikely probability of occurrence without mitigations. Overall significant impacts will be negligible **[1/1]** (Table 5.12). Except for the socioeconomic components which carries a limited **(+)** at national level in terms of fess payable to the Government**,** the rest of the likely impacts are negative **(-)**;

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

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

(iv) Detailed local field-based activities: Overall likely negative impact on the receiving environment will be high and localised impacts without mitigations and localised low impacts with mitigations. Overall significant impacts will be medium **[2/2]** without mitigations and low with mitigations (Table 5.12). Except for the socioeconomic components which carries a limited **(+)** at national level in terms of fess payable to the Government, 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 5.12). Except for the socioeconomic components which carries a limited **(+)** at national level in terms of fess payable to the Government, all the other likely impacts are negative **(-)**.

6. CONCLUSION AND RECOMMENDATION

6.1 Conclusions

Farpoint Investments (Pty) Ltd (**the Proponent**) intends to undertake exploration activities in the Exclusive Prospecting Licence (EPL) No. 7269 covering dimension stones with special focus on marble. The exploration activities to be undertaken as assessed in this environmental assessment are as follows:

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

(ii) Regional reconnaissance field-based mapping and sampling activities (Subject to the positive results of (i);

(iii) Initial local field-based mapping and sampling activities (Subject to the positive results of (i) and (ii) above),

(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 (Subject to the positive results of (i) - (iii) above), and;

(v) Prefeasibility and feasibility studies (Subject to the positive results of (i) - (iv) above).

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

6.2 Recommendations

It's hereby recommended that the proposed / ongoing 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) The Proponent shall undertake thematic mapping in order to fully understand the land use plans of the local farms and identify areas of possible coexistence and no-go zones;

(ii) Based on the findings of this EIA Report, the Proponent shall prepare an EMP Report with key mitigations measures covering the lifecycle of the proposed exploration activities;

(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 support other land uses in the area in terms of access to freshwater supply for both human consumption, wildlife and agricultural support as may be requested by the local community / land owners/s. The abstraction of the groundwater resources shall include water levels monitoring, sampling and quality testing on a bi-annual basis, and that the affected landowners must have access to the results of the water monitoring analyses as part of the ongoing stakeholder disclosure requirements on shared water resources as maybe applicable.

6.3 Summary ToR for Test Mining and Mining Stages

In an even that economic minerals resources are discovered within the EPL 7269 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) Socioeconomic assessment, and;

(v) 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 Ministry of Mines and Energy, Ministry of Environment and Tourism and Ministry of Agriculture, Water Affairs and Forestry, 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

1. **CV Dr. S. Mwiya- EAP**

2. **BID and Stakeholder Consultations materials and communications**