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REPORT:

SCOPING REPORT PLUS IMPACT ASSESSMENT FOR EXPLORATION ACTIVITIES ON EPL 8408, OTJOZONDJUPA REGION, NAMIBIA

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on EPL 8408, Otjozondjupa Region, Namibia

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EXECUTIVE SUMMARY

B2Gold Namibia Minerals (Pty) Ltd (Herein referred to as B2Gold or the Proponent) intends to undertake exploration activities on Exclusive Prospecting Licence EPL 8408 for base and rare metals, industrial minerals and precious metals in the Otjozondjupa Region. The EPL is located 8km north of Otjiwarongo, over the Kuiseb and Karibib formation of the Damara belt.

The proposed Project triggers listed activities in terms of the Environmental Management Act, No. 7 of 2007 and its regulations, No. 30 of 2012. Therefore, an environmental clearance certificate is required. As part of the environmental clearance certificate application, an Environmental Impact Assessment (EIA) has been undertaken to satisfy the requirements of the Environmental Management Act, No. 7 of 2007. This environmental report and environmental management plan (EMP) shall be submitted to the competent authority as part of the application for the environmental clearance certificate.

The proposed activities on EPL 8408 include extremely low impact low impact ground-truthing and mapping, followed by soil, termite mound and rock chip sampling RAB drilling and/or diamond drilling. Existing tracks shall be used as far as reasonably practicable. If new tracks are required, they will be developed by hand or by use of a bulldozer, terrain-dependent. Vegetation clearing will be limited to clearing for access tracks and site camps. Access agreements will be entered into with all farmers or holders of private ground which may be accessed.

The exploration activities will commence as soon as an environmental clearance certificate has been granted and activities are expected to be conducted over 3 years, or the duration of the exploration licence.

The regional geology of the EPL 8408 area consists of the Swakop Group. The main rock types of this area are Metamorphic sedimentary rocks (schist, locally quartzite or marble) with granitic intrusions. The Swakop Group is part of the Damara Supergroup and Gariep Complex (Bubenzer, 2002). EPL 8408 is largely covered by chromic Cambisols and eutric Regosols. The plant diversity (300 to 500 species, of which 6 to 15 species are endemic) for this area is moderate to high and the dominant vegetation structure for the EPL is dense shrubland and falls within the Savanna biome. The overall fauna diversity for this area is moderate compared to other parts of the country.

EPL 8408 falls within the Ugab catchment area and over the Kunene south groundwater basin. Most of the EPL falls over rock bodies with generally low groundwater potential, but it could vary locally (i.e., some areas moderate potential) and these rock bodies have a low vulnerability. Groundwater recharge within this area is considered to low (Rock bodies) to high (Aquifer) (<0.5 to <4.5 % of the total average rainfall). The potential for contamination from the proposed activities is regarded as minimal. Protection of water quantity and quality is addressed in the EMP.

The impacts of exploration activities related to airborne dust are expected to be limited to vehicular traffic. There will be some release of exhaust fumes from machinery that will impact the immediate vicinity but will be of short duration and limited distance from the source. Additionally, there will be associated drilling and machinery noise, which could be a disturbance to immediate neighbours and possibly wildlife, but this will be of short duration.

Through further investigation, it was determined that the effects from noise are considered to be of minor significance, however with additional mitigation, the significance is reduced to low. The additional mitigation measures include:

- Residents shall be provided at least two weeks' notice of drilling operations within 1km of their property;
- Activities will be minimized to allocated daylight working hours;
- Continual engagement with residents and management of the national park shall be undertaken by the Proponent to identify any concerns or issues, and appropriate mitigation and management measures shall be further agreed; and
- Noise suppression measures shall be applied if drilling occurs in locations that may affect residents.

The overall potential impact of this proposed Project is not considered significant as it does not widely exceed recognised levels of acceptable change, does not threaten the integrity of the receptors, and is not material to the decision-making process. The assessment is considered to be comprehensive and sufficient to identify impacts, and it is concluded that no further assessment is required.

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TERMS AND ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
AIDS	Acquired immunodeficiency syndrome
BID	Background Information Document
CIA	Cumulative impacts assessment
CITES	The convention on International Trade of Endangered Species
COVID-19	Coronavirus disease 2019
DEAF	Directorate of Environmental Affairs and Forestry
E	East
EC	Environmental Commissioner
ECC	Environmental Compliance Consultancy
ECC	Environmental Clearance Certificate
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMA	Environmental Management Act, No.7 of 2007
EMP	environmental management plan
ENE	East North-East
EPL	Exclusive Prospecting Licence
ESIA	Environmental and Social Impact Assessment
GDP	gross domestic product
GIS	geographic information system
HIV	human immunodeficiency virus
I&APs	Interested and Affected Parties
IFC	International Finance Corporation
IHME	Institute for Health Metrics and Evaluation
IUCN	International Union for conservation of Nature
MAWLR	Ministry of Agriculture, Water and Land Reform
MME	Ministry of Mines and Energy
MEFT	Ministry of Environment, Forestry and Tourism
NBRI	National Botanical Research Institute
NDP 5	Fifth National Development Plan
NHC	National Heritage Committee
NPC	National Planning Commission
NSA	National Statistics Agency
RAB	Rotary air blast
RH	relative humidity
TB	tuberculosis

1 INTRODUCTION

1.1 COMPANY BACKGROUND

Environmental Compliance Consultancy (ECC) has been retained by B2Gold Namibia Minerals (Pty) Ltd (Hereinafter referred to as 'The Proponent', to undertake an environmental and social impact assessment (ESIA) and prepare an Environmental Management Plan (EMP) in terms of the Environmental Management Act, No 7 of 2007 and its regulations of 2012. An environmental clearance application will be submitted to the relevant competent authorities and the Ministry of Environment, Forestry and Tourism (MEFT) for a record of decision.

The Proponent is a mining company with a portfolio of gold assets in Namibia. The Namibian registered company propose to undertake the exploration of gold on the Exclusive Prospecting Licence (EPL) 8408, located 8km north of Otjiwarongo, (Hereinafter referred to as 'The Project') over the Kuiseb and Karibib formation of the Damara belt.

The proposed Project area is Shown in Figure 1.

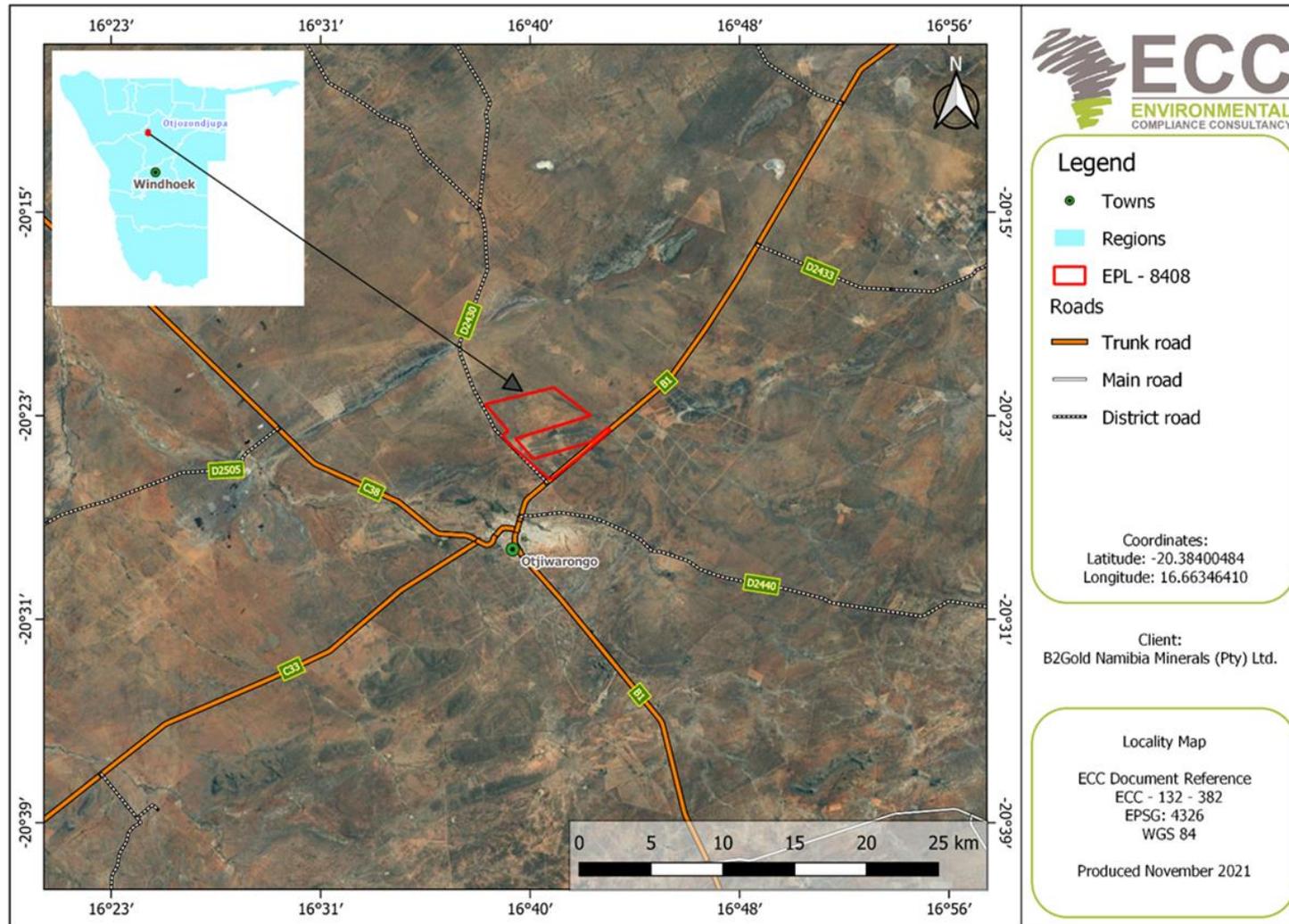


Figure 1 - Locality map of EPL 8408, Otjozondjupa Region

1.2 PURPOSE OF THE SCOPING REPORT

An environmental and social impact assessment (ESIA) has commenced in terms of the requirements of the Environmental Management Act, No.7 of 2007 (EMA 2007) and its regulations of 2012. The purpose of this report is to present the findings of the scoping study phase that forms part of the larger ESIA process.

The scoping report summarises the prescribed ESIA process followed; provides information on the baseline biophysical and socioeconomic environments; project description details; outlines the terms of reference for the assessment phase and presents an environmental management plan (EMP), which is provided.

ECC's terms of reference for the assessment is strictly to address potential effects, whether positive or negative and their relative significance, explore alternatives for technical recommendations and identify appropriate mitigation measures.

This report provides information to the public and stakeholders to aid in the decision-making process for the proposed Project. The objectives are to:

- Provide a description of the proposed activity and the site on which the activity is to be undertaken, and the location of the activity on the site;
- Provide a description of the environment that may be affected by the activity;
- Identify the laws and guidelines that have been considered in the assessment and preparation of this report;
- Provide details of the public consultation process;
- Describe the need and desirability of the activity;
- Provide a high level environmental and social impact assessment on feasible alternatives that were considered; and
- Report the assessment findings, identifying the significance of effects, including cumulative effects, and effective and feasible mitigation measures.

In addition to the environmental assessment, an EMP (Appendix A) is also required in terms of the Environmental Management Act, No. 7 of 2007. An EMP has been developed to provide a management framework for the planning and implementation of exploration activities. The EMP provides exploration standards and arrangements to ensure that the potential environmental and social impacts are mitigated, prevented or minimised as far as reasonably practicable, and that statutory requirements and other legal obligations are fulfilled.

1.3 PROPONENT DETAILS

Table 1 - Proponent's details

Company Representative:	Contact Details:
Dixon Bernardu (Technical contact person)	Address: P O Box 80363 Olympia Windhoek Cell Number: +264813312251 Tel. Number: +264813312251 dbernardu@b2gold.com

1.4 ENVIRONMENTAL COMPLIANCE CONSULTANCY

ECC, a Namibian consultancy (registration number Close Corporation 2013/11401), has prepared this scoping report and impact assessment on behalf of the Proponent. ECC operates exclusively in the environmental, social, health and safety fields for clients across southern Africa, in both the public and private sectors. ECC is independent of the Proponent and has no vested or financial interest in the proposed Project, except for fair remuneration for professional services rendered. All compliance and regulatory requirements regarding this ESIA report should be forwarded by email or posted to the following address:

Environmental Compliance Consultancy
PO BOX 91193
Klein Windhoek, Namibia
Tel: +264 81 669 7608
Email: info@eccenvironmental.com

1.5 ENVIRONMENTAL LEGAL REQUIREMENTS

The Environmental Management Act, No.7 of 2007 stipulates that an environmental clearance certificate is required to undertake listed activities in terms of the Act and its regulations. Listed activities triggered by the Project in terms of the Environmental Management Act, No. 7 of 2007 and its regulations are as follows:

Table 2 - Listed activities triggered by the project

LISTED ACTIVITY	DESCRIPTION	RELEVANCE TO THE PROJECT
Mining and quarrying activities	<p>(3.1) The construction of facilities for any process or activities which requires a licence, right or other form of authorisation, and the renewal of a licence, right or other form of authorisation, in terms of the Minerals (Prospecting and Mining Act), 1992.</p> <p>(3.2) Other forms of mining or extraction of any natural resources whether regulated by law or not.</p> <p>(3.3) Resource extraction, manipulation, conservation, and related activities.</p>	<ul style="list-style-type: none"> The proposed project has obtained an EPL from MME; now requires an environmental clearance from DEAF/MEFT for the search of base and rare metals, industrial minerals and precious metals. The proponent will be undertaking exploration activities on EPL 8408, which will include low impact ground-truthing and mapping, followed by soil, termite mound and rock chip sampling. RAB and diamond drilling will also take place in the second year.
Waste management, treatment, handling, and disposal activities	<p>(2.1) The construction of facilities for waste sites, and the treatment and disposal of waste.</p> <p>(2.3) The importing, processing, use and recycling, temporary storage, transit, or exporting, of waste.</p>	<ul style="list-style-type: none"> Waste generated which will be mainly solid waste and general waste during the exploration phase will be removed by a skip and will be disposed of at the nearest landfill site. Waste will be recycled, to the extent possible. A portable toilet, long drop hole for a toilet or chemical toilets will be used during exploration activities by the diamond drill crew.

LISTED ACTIVITY	DESCRIPTION	RELEVANCE TO THE PROJECT
Forestry activities	4. The clearance of forest areas, deforestation, afforestation, timber harvesting, or any other related activity that requires authorisation in terms of the Forest Act, 2001 (No. 12 of 2001) or any other law.	<ul style="list-style-type: none"> Limited vegetation clearing may be required for tracks and survey access creation, and possibly for the set up for survey and drilling teams' field camps. Clearing of large trees will be avoided.
Water resource developments	(8.1) The abstraction of ground or surface water for industrial or commercial purposes.	<ul style="list-style-type: none"> For the drilling of exploration borehole, ground water may need to be abstracted or water will be sourced. Exploration operations will utilize groundwater from existing boreholes and 25m³ will be extracted daily if diamond drilling is done.
Hazardous Substance Treatment, Handling and Storage	9.2) Any process or activity which requires a permit, licence or another form of authorisation, or the modification of or changes to existing facilities for any process or activity which requires an amendment of an existing permit, licence or authorisation or which requires a new permit, licence or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste.	<ul style="list-style-type: none"> Portable toilets, long drop holes for toilets, or chemical toilets will be used during the exploration activities.

2 APPROACH TO THE ASSESSMENT

2.1 PURPOSE AND SCOPE OF THE ASSESSMENT

This assessment aims to determine which impacts are likely to be significant; to scope the available data and identify any gaps that need to be filled; to determine the spatial and temporal scope and to identify the assessment methodology.

The scope of the assessment was determined through undertaking a preliminary assessment of the proposed Project against the receiving environment, obtained through a desktop review and available site-specific literature.

2.2 THE ASSESSMENT PROCESS

The ESIA methodology applied to this assessment has been developed using the International Finance Corporation (IFC) standards and models, in particular Performance Standard 1, 'Assessment and management of environmental and social risks and impacts' (International Finance Corporation, 2017) (International Finance Corporation, 2012), which establishes the importance of:

- Integrated assessment to identify the environmental and social impacts, risks, and opportunities of Projects;
- Effective community engagement through disclosure of Project -related information and consultation with local communities on matters that directly affect them and
- The client's management of environmental and social performance throughout the life of the Project

Furthermore, the Namibian Draft Procedures and Guidance for ESIA and EMP (Republic of Namibia, 2008) as well as the international and national best practice; and over 25 years of combined EIA experience, were also drawn upon in the assessment process. This impact assessment is a formal process in which the potential effects of the Project on the biophysical, social, and economic environments are identified, assessed, and reported so that the significance of potential impacts can be taken into account when considering whether to grant approval, consent or support for the proposed Project.

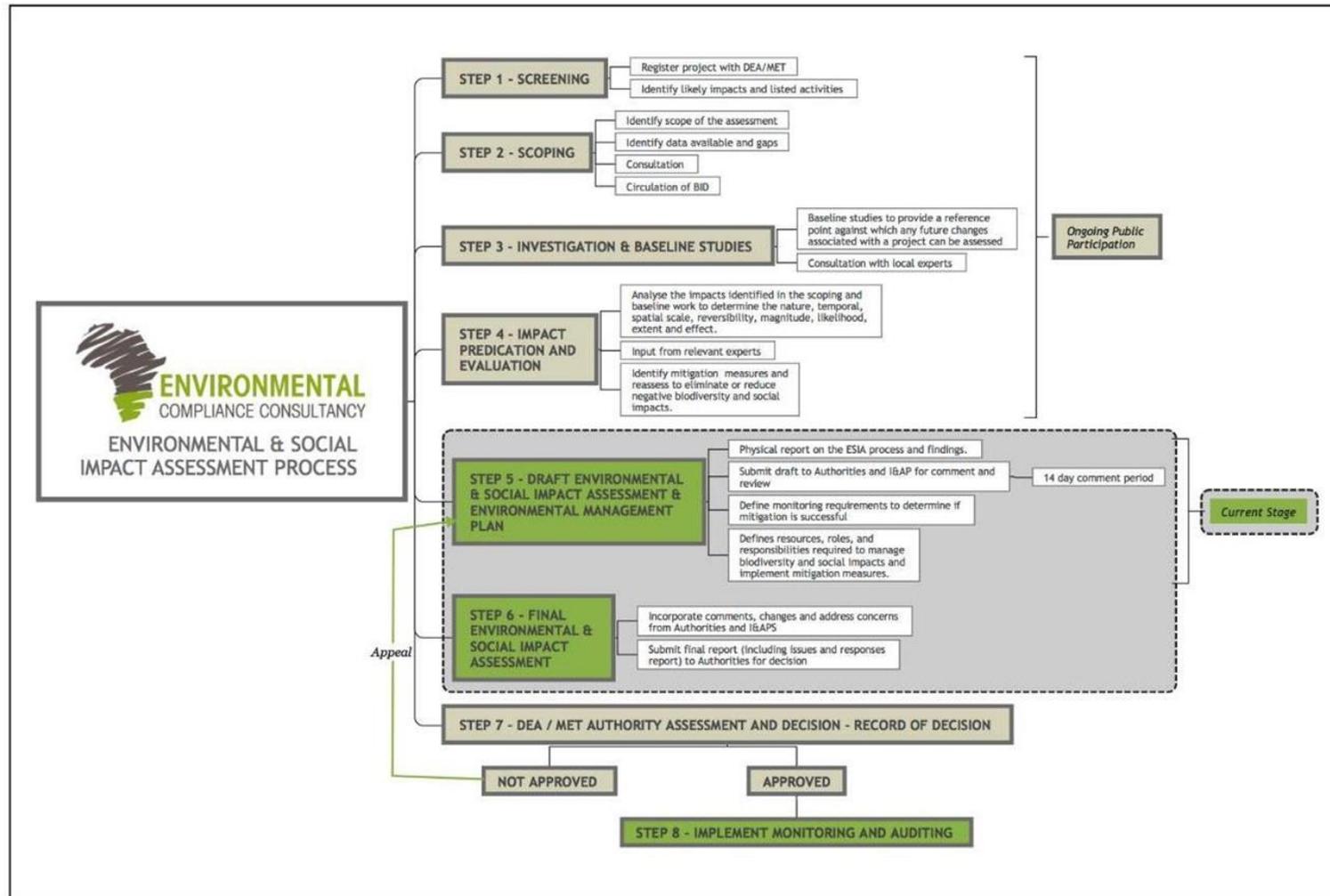


Figure 2 - ESIA Process and stages complete

2.3 SCREENING OF THE PROJECT

The first stages in the ESIA process are to register the Project with the DEAF / MEFT (completed) and undertake a screening exercise to determine whether it is considered a listed activity under the Environmental Management Act, No. 7 of 2007 and associated regulations and if significant impacts may arise from the Project. The location, scale, and duration of project activities will be considered against the receiving environment.

It was concluded that an ESIA (e.g., scoping report and EMP) is required, as the proposed Project is considered a listed activity and there may be potential for significant impacts to occur.

2.4 SCOPING AND ENVIRONMENTAL ASSESSMENT

Where an ESIA is required, the second stage is to scope the assessment. The main aims of this stage are to determine which impacts are likely to be significant (the focus of the assessment); scope the available data and any gaps which need to be filled; determine the spatial and temporal scope and identify the assessment methodology.

The screening phase of the Project is a preliminary analysis to determine ways in which the Project interacts with the biophysical, social, and economic environment. Impacts that are identified as potentially significant during the screening and scoping phases are taken forward for further assessment in the ESIA. The details and outcomes of the screening process are discussed further in sections 6 and 7.

Feedback from consultation with the client and stakeholders are also considered in this process.

The following environmental and social topics and subtopics were scoped into the assessment:

SOCIO-ECONOMIC ENVIRONMENT

- Limited goods and services procurement within the local economy.

BIOPHYSICAL ENVIRONMENT

- Dust emissions
- Soil and geology
- Terrestrial ecology
- Terrestrial biodiversity (including fauna and flora)
- Groundwater

2.5 BASELINE STUDIES

Baseline studies are undertaken as part of the scoping stage, which involves collecting all pertinent information on the current status of the receiving environment. This provides a baseline against

which changes that occur as a result of the proposed Project can be measured. For the proposed Project, baseline information was obtained through a desktop study, consultation, and engagement with stakeholders (Appendix B), focusing on environmental receptors that could be affected by the proposed Project, verified through site-specific information. The baseline information is covered in Section 5.

2.6 PUBLIC CONSULTATION

Public participation and consultation are a requirement as stipulated in the Environmental Impact Assessment Regulations (Regulations 21 and 23) of the EMA, No.7 of 2007, for a project undertaking a listed activity and requires an environmental clearance certificate. Consultation is a compulsory and critical component of the ESIA process for achieving transparent decision-making and can provide many benefits. Consultation is ongoing during the ESIA process. The objectives of the public participation and consultation process are to:

- Provide information on the Project, introducing the overall project concept and planning in the form of a background information document (BID)
- Determine the relevant government, regional and local regulating authorities
- Listen to and understand community issues, record concerns and questions
- Explain the process of the ESIA and timeframes involved and establish a platform for ongoing consultation

2.6.1 IDENTIFICATION OF KEY STAKEHOLDERS AND INTERESTED AND AFFECTED PARTIES

A stakeholder mapping exercise was undertaken to identify individuals or groups of stakeholders, and the method in which they will be engaged during the ESIA process.

Stakeholders were approached through direct communication (letters and phone calls), the national press, or directly by email. A summarized list of stakeholders for this project is given below:

- The general public with an interest in the Project;
- Ministry of Environment, Forestry and Tourism (MEFT);
- Ministry of Mines and Energy (MME);
- Neighbouring farms

The records of the public consultation process will provide a list of interested and affected parties (I&AP's), evidence of consultation, including minutes of public meetings, advertisements in national newspapers, and a summary of the comments or questions raised by the public.

The draft scoping report was submitted to the competent authority, and all interested and affected parties for their review on the 15 August 2022. The public review period was open for a period of 7 days from the 23 August 2022 to 29 August 2022.

2.6.2 NON-TECHNICAL SUMMARY

The background information document (BID) presents a high-level description of the proposed Project, sets out the ESIA process and when and how consultation is undertaken, and provides contact details for further Project-specific inquiries to all registered I&APs. The BID was distributed to registered I&APs and the BID can be found in Appendix B.

2.6.3 NEWSPAPER ADVERTISEMENTS

Notices regarding the proposed Project and associated activities were circulated in three newspapers namely the 'Republikein, Sun, and Allgemeine Zeitung' on the 21 February 2022 and 27 February 2022 (see Appendix C). The purpose of this was to commence the consultation process by informing the public about the Project and enabling I&APs to register any comments and interest raised for the Project.

2.6.4 SITE NOTICES

A site notice ensures neighbouring properties and stakeholders are made aware of the proposed Project. The notice was set up at the boundary of the EPL as illustrated in Appendix D.

2.6.5 PUBLIC MEETING

In terms of Section 22 of the Environmental Management Act, No. 7 of 2007 and its regulations, for the purpose of registering I&APs. A public meeting is not a requirement during the public consultation process for the proposed Project.

2.6.6 SUMMARY OF ISSUES RAISED

The I&APs were encouraged to provide constructive input during the consultation periods. The public is further being provided with an opportunity to send any comments on the draft scoping report and the EMP to be included and addressed, where applicable, in the final documentation.

2.7 DRAFT EIA AND EMP

This report and EMP for the Project's environmental clearance includes an assessment of the biophysical and social environment, which satisfies the requirements of Step 5 shown in Figure 2. The EIA report documents the findings of the assessment process provides stakeholders with the opportunity to comment and continue to engage in consultation and forms part of the environmental clearance application. The EMP provides measures to manage the environmental and social impacts of the proposed Project and outlines specific roles and responsibilities to fulfil the plan.

This EIA report focuses on the significant impacts that may arise from the proposed Project as described in Step 4 (Figure 2). These impacts are discussed in Chapter 7.

2.8 FINAL ESIA AND EMP

The final ESIA report and associated appendices will be made available to all stakeholders on the ECC website <https://eccenvironmental.com/download/the-proposed-exploration-of-rare-and-base-industrial-and-precious-metals-on-epl-8408-within-the-otjozondjupa-region-namibia/> and MEFT portal. All I&APs will be informed via email.

The ESIA report and appendices are formally submitted to the Office of the Environmental Commissioner, DEAF department as part of the application for an environmental clearance certificate.

2.9 AUTHORITY ASSESSMENT AND DECISION MAKING

The Environmental Commissioner in consultation with other relevant authorities will assess if the findings of the EIA presented in the EIA report is acceptable. If deemed acceptable, the Environmental Commissioner will revert back to the Proponent with a record of decision and any recommendations.

2.10 MONITORING AND AUDITING

In addition to the EMP being implemented by the Proponent, a monitoring strategy and audit procedure will be determined by the Proponent and competent authority. This will ensure key environmental receptors are monitored over time to establish any significant changes from the baseline environmental conditions caused by Project activities.

3 REVIEW OF THE LEGAL ENVIRONMENT

As stated in Section 1, an environmental clearance certificate is required for any activity listed in the Government Notice No. 29 of 2012 of the EMA 2007. The Project area is located outside of any protected areas or heritage listed areas.

A thorough review of relevant legislation has been conducted for the proposed Project. Table 3 below identifies relevant legal requirements specific to the Project. Table 4 provides the national policies and plan.

Table **5** specifies permits relevant for the Project. This chapter outlines the regulatory framework applicable to the proposed Project.

3.1 NATIONAL REGULATORY FRAMEWORK

Table 3 - Details of the regulatory framework as it applied to the proposed Project

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Constitution of the Republic of Namibia (1990)	<p>The constitution defines the country's position in relation to sustainable development and environmental management.</p> <p>The constitution refers that the state shall actively promote and maintain the welfare of the people by adopting policies aimed at the following:</p> <p>"Maintenance of ecosystems, essential ecological processes and biological diversity of Namibia, and the utilisation of living, natural resources on a sustainable basis for the benefit of all Namibians, both present, and future."</p>	<p>The proposed project is committed to the sustainable use of the environment, and has aligned its corporate mission, vision, and objectives within the ambit of the Constitution of the Republic of Namibia (1990).</p>
Minerals (Prospecting and Mining) Act No. 33 of 1992	<p>The Act provides for the granting of various licences related to mining and exploration.</p> <p>Section 50 (i) requires: "An environmental impact assessment indicating the extent of any pollution of the environment before any prospecting operations or mining operations are being carried out, and an estimate of any pollution, if any, likely to be caused by such prospecting operations or mining operations."</p>	<p>The proposed exploration activity requires an EIA to be carried out, as it triggers listed activities in the Environmental Management Act's regulations.</p> <p>The project shall be compliant with Section 76 of the Act regarding records, maps, plans and financial statements, information, reports, and returns submitted.</p>

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
	<p>The Act sets out the requirements associated with licence terms and conditions, such that the holder of a mineral licence shall comply with.</p> <p>The Act also contains relevant provisions for pollution control related to mining activities and land access agreements and provides provisions that mineral licence holders are liable for any damage to land, water, plant, or animal life, caused by spilling or pollution, and must take all such steps as may be necessary to remedy such spilling, pollution, loss, or damage, at its own costs.</p>	
<p>Environmental Management Act, 2007 (Act No. 7 of 2007) and its regulations, including the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2011)</p>	<p>Environmental Management Act, 2007 (Act No. 7 of 2007) and its regulations, including the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2011)</p> <p>The Act aims to promote sustainable management of the environment and use of natural resources.</p> <p>The Act requires certain activities to obtain an environmental clearance certificate prior to project development.</p> <p>The Act states that an EIA should be undertaken and submitted as part of the environmental clearance certificate application process.</p>	<p>This environmental scoping report documents the findings of the scoping phase of the environmental assessment undertaken for the proponent.</p> <p>The process has been undertaken in line with the requirements under the Act and its regulations.</p>

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
	<p>The MEFT is responsible for the protection and management of Namibia's natural environment. The Department of Environmental Affairs, under the MEFT, is responsible for the administration of the EIA process.</p>	
<p>Water Act, 1956 (Act No. 54 of 1956)</p>	<p>Although the Water Resources Management Act (No. 11 of 2013), has been billed, but not promulgated, it cannot be enacted, as the regulations have not been passed – therefore the Water Act of 1956 remains the current piece of legislation relating to water management in Namibia.</p> <p>This Act provides for the control, conservation and use of water for domestic, agricultural, urban, and industrial purposes; and to make provision for the control of certain activities on or in water.</p> <p>The Department of Water Affairs, within the Ministry of Agriculture, Water and Land Reform (MAWLR), is responsible for the administration of the Act.</p>	<p>The Act stipulates obligations to prevent the pollution of water.</p> <p>Measures to minimise groundwater pollution are contained in the EMP.</p> <p>The project is obliged to have all permits relevant to its operations under this Act.</p> <p>Abstraction of water from boreholes requires an abstraction permit to be obtained from the Ministry of Agriculture, Water and Land Reform.</p>

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Soil Conservation Act, No. 76 of 1969	This Act makes provision for the prevention and control of soil erosion, and for the protection, improvement, and conservation of soil and vegetation.	<p>Planned activities will take place within the boundaries of the exploration prospecting licence.</p> <p>Measures for potential impact due to land clearing will be included in the EMP, this can ensure conservation of soil and vegetation that will be used as part of the rehabilitation phase of the project.</p>
The Forestry Act, No. 12 of 2001 as amended by the Forest Amendment Act, No. 13 of 2005	<p>Section 22 deals with the protection of natural vegetation that is not part of the surveyed erven of a local authority area as defined.</p> <p>Section 21 states that no person shall cut, destroy, or remove vegetation that is growing within 100 metres of a river, stream, or watercourse.</p> <p>Section 23 requires a permit from the Director for the clearance of vegetation on more than 15 hectares on any piece of land or several pieces of land situated in the same locality as that which has predominantly woody vegetation; or cut or remove more than 500 cubic metres of forest produce from any piece of land in a period of one year.</p>	<p>The project activities may require limited land clearing where necessary.</p> <p>The proponent will ensure that all required permits are in place before vegetation removal commences.</p>
National Heritage Act, No. 27 of 2004.	The Act provides provision for the protection and conservation of places and objects with heritage significance.	Since the proposed project area is not yet an operational area, there is potential for heritage related objects to be found in the exploration prospecting

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
	<p>Section 55 compels mining companies to report any archaeological findings to the National Heritage Council.</p> <p>Subsection 9 allows the NHC to issue a consent, subject to any conditions that the Council deems necessary.</p>	<p>licence area. Therefore, the relevant stipulations in the Act will be taken into consideration and incorporated into the EMP.</p> <p>In cases where heritage sites are discovered, the 'chance find procedure' will be used.</p>
Labour Act, No. 11 of 2007	The Labour Act, No. 11 of 2007 (Regulations relating to the Occupational Health & Safety provisions of Employees at Work, promulgated in terms of Section 101 of the Labour Act, No. 6 of 1992 - GN156, GG 1617 of 1 August 1997)	<p>The project shall adhere to all labour provisions and guidelines, as enshrined in the Labour Act.</p> <p>The project shall also develop and implement a comprehensive occupational health and safety plan to ensure adequate protection for its personnel throughout the project lifecycle.</p>
Hazardous Substances Ordinance, No. 14 of 1974	<p>This Ordinance provides for the control of toxic substances and can be applied in conjunction with the Atmospheric Pollution Prevention Ordinance, No. 11 of 1976.</p> <p>This applies to the manufacture, sale, use, disposal, and dumping of hazardous substances, as well as their import and export.</p>	<p>The planned project will involve the handling and storage of hazardous substances such as fuels and reagents, The proponent shall ensure safe handling, transfer, storage, and disposal protocols are developed, implemented, and audited throughout its operations.</p> <p>The proponent is obliged to ensure that all permits under this Ordinance are obtained prior to project commencement.</p>

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
The Atmospheric Pollution Prevention Ordinance, No. 11 of 1976	The Ordinance pertains to the prevention of air pollution, with particular focus on public health, and contains detailed provisions on air pollution matters, including the control of noxious or offensive gases, atmospheric pollution by smoke, dust control, motor vehicle emissions, and other general provisions.	The nature of exploration activities does generate dust. Activities within the exploration operations will generate gases, odours, and air pollution. The proponent will ensure that all measures reasonably practicable will be implemented to reduce and mitigate impacts to air quality, and this will be included in the EMP.

3.2 NATIONAL POLICIES AND PLANS

Table 4 - National policies and plans applicable to the proposed Project

Policy or plan	Description	Relevance to the Project
Vision 2030	<p>Vision 2030 sets out the nation’s development targets and strategies to achieve its national objectives.</p> <p>Vision 2030 states that the overall goal is to improve the quality of life of the Namibian people aligned with the developed world.</p>	The proposed Project shall aim to meet the objectives of Vision 2030 and shall contribute to the overall development of the country through continued employment opportunities and ongoing contributions to the gross domestic product (GDP).
Fifth National Development Plan (NDP5)	<p>The NDP5 is the fifth in a series of seven five-year national development plans that outline the objectives and aspirations of Namibia’s long-term vision.</p> <p>The NDP5 pillars are economic progression, social transformation, environmental sustainability, and good governance.</p>	The planned Project supports meeting the objectives of the NDP5 through creating opportunities for continued employment.

Policy or plan	Description	Relevance to the Project
The Harambee Prosperity Plan II (2021 – 2025)	Second Pillar: Economic advancement – ensuring increasing productivity of priority key sectors (including mining) and the development of additional engines of growth, such as new employment opportunities.	The Project will contribute to the continued advancement of the mining industry and create an additional employment generation engine within the local and regional landscape.
Namibia’s Green Plan, 1992	Namibia has developed a 12-point plan for integrated sustainable environmental management to ensure a safe and healthy environment and to maintain a viable economy. Clause 2 (f) makes specific mention to guidelines related to Mining and Sustainable Development.	Guidelines as best practise to be adhered too during operational activities.
Minerals Policy	<p>The Minerals Policy was adopted in 2002 and sets guiding principles and direction for the development of the Namibian mining sector, while communicating the values of the Namibian people.</p> <p>The policy strives to create an enabling environment for local and foreign investments in the mining sector and seeks to maximise the benefits for the Namibian people from the mining sector, while encouraging local participation.</p> <p>The objectives of the Minerals Policy are in line with the objectives of the Fifth National Development Plan (NDP5) that include reduction of poverty, employment creation, and economic empowerment in Namibia.</p>	<p>The planned Project conforms to the Policy, which has been considered through the ESIA process and the production of this report.</p> <p>The Proponent intends to continue to support local spending and procurement.</p> <p>The Project will comply with the general guidelines of the Policy through the adoption of various legal mechanisms to manage all aspects of the environment effectively and sustainably from the start. The ESIA is one such mechanism to ensure environmental integrity throughout the planned Project’s lifecycle.</p>

Table 5 - Specific permits and licence requirements for the proposed Project

Permit or licence	Act or Regulation	Related activities requiring a permit	Relevant Authority
Environmental clearance certificate	Environmental Management Act, No 7 of 2007	Required for all listed activities shown in Table 2. Requires issuance of Environmental Clearance Certificate by the Environmental Commissioner.	Ministry of Environment, Forestry and Tourism (MEFT)
Exclusive Prospecting Licence	Section 90 (2) (A) of the Minerals Act, No.33 of 1992	Written permission from the mining commissioner in the form of an Exclusive Prospecting Licence (EPL 8408) has been issued to date.	Ministry of Mines and Energy (MME)
Permit for the clearing of land	The Forest Act, 2001 (Act No. 12 of 2001)	This Act governs the removal of vegetation within 100 m of a water course, or removal of more than 15 ha of woody vegetation, or the removal of any protected plant species.	Ministry of Agriculture, Water and Land Reform (MAWLR)

4 PROJECT DESCRIPTION

4.1 NEED FOR THE PROJECT

The mining sector in Namibia significantly contributes to the country's Gross Domestic Product (GDP), government tax receipts and export revenues. For this reason, exploration activities are encouraged in Namibia and the vision of the Minerals Policy being to "further attract investment and enable the private sector to take the lead in exploration, mining, mineral beneficiation and marketing" supports mineral exploration and development.

The proposed Project is in line with this vision and has the potential to create employment in local communities in the Otjozondjupa Region. In the event that exploration activities are successful, and a resource can be defined, with commercially viable mineral concentrations, exploration operations can result in socio-economic development in the area.

4.2 ALTERNATIVES CONSIDERED

In terms of the Environmental Management Act, No. 7 of 2007 and its regulations, alternatives considered should be analysed and presented in the scoping assessment and EIA report. This requirement ensures that during the design evolution and decision-making process, potential environmental impacts, costs, and technical feasibility have been considered, which leads to the best option(s) being identified.

Exploration activities range from extremely low impact exploration such as remote sensing from satellites to more invasive methods such as extensive close-spaced drilling. The methods used shall be determined, based on the exploration programme, which is further designed once more information and data is obtained. At this stage of the Project, the exploration activities are yet to be finalised and therefore a range of options remain. Once the exploration programme is further defined, the most suitable options and methods shall be identified to ensure the impacts on the environment and society are minimized.

4.2.1 NO-GO ALTERNATIVES

Should exploration activities within EPL 8408 not take place, the anticipated environmental impacts from exploration activities would not occur, however, the social and economic benefits associated with the Project would also not materialize.

There would not be an opportunity to define resources within the Project area, which would be a missed opportunity for geological mapping and data collection that typically adds to regional knowledge of Namibia's mineral wealth and, if found to be viable for mining, would benefit the Namibian economy.

4.3 EXPLORATION METHODOLOGY

All geological and geophysical work will be conducted by contractors. The schedule of activities is presented in Table 6.

Table 6 – Exploration schedule

Phase	Date	Activity Description
Phase 1	During the year 2023	Preliminary prospecting causing no or minor disturbance to the surface of the property. Activities are (a) the conduct of geological mapping and geochemical sampling and (b) the removal of soil, termite mound and rock samples for analysis. Where access is an issue the proponent may require establish grid lines by cutting of line to enable the movement of personnel and vehicles.
Phase 2	During the years 2023 and 2024	This will be activities contemplated in phase 1 and conducting of percussion/ RAB and/or diamond drilling for rock chips and core samples.

The exploration activities on EPL 8408 will include the following: low impact ground-truthing and mapping, followed by soil, termite mound and rock chip sampling RAB drilling and/or diamond drilling. Details of these methods are described below.

Exploration shall be undertaken in programmed segments. Low impact ground truthing and mapping will take place using a vehicle to move around personnel (Geologist and an assistant), a Global Positioning System (GPS) to navigate around and a notebook for recording field observations. During this reconnaissance mapping rock chip specimens and/or samples will be collected analyses.

This will then be followed up by soil, termite mound and rock chip sampling using a team of less than 10 people. Soil and termite mound geochemistry sampling will be done using hand auguring tool and sieving pans will be used to screen the preferable size fraction. About 1-1.5kg sample will be collected and submitted for analyses.

Up to 100 RAB and/or 10 Diamond drillholes will be drilled to obtain samples, the samples collected will not be stored on site but will be transported to Otjiwarongo Exploration Office and submitted to the laboratories for preparation and analyses however the number of drill holes may vary depending on the exploration findings. Up to 5 light vehicles with trailers for RAB drilling with the inclusion of two 5-ton trucks for the diamond rigs will be needed on site.

Existing tracks shall be used as far as reasonably practicable. Vegetation clearing will be limited to clearing for site camps, only invasive bush species will be targeted and cleared lines will be no wider than 6m. Any established or large trees or specially protected plant species shall not be removed. Should additional areas be cleared for exploration activities the Forest Act, No. 12 of 2001 and its regulations will be complied with (the relevant forestry permits will be applied for if required).

4.3.1 EXPLORATION SCHEDULE

The exploration activities are executed and managed from the B2Gold Exploration Office. Field exploration activities, using techniques as discussed above, are anticipated to be carried out over the licence validity period. Planning phases for the prospecting programme will require X months. Low impacts ground truthing and mapping will take one month. This will then be followed up by termite mound and rock chip sampling which will then take a further two to three months.

This will then be followed up by RAB and/or Diamond drilling which is most likely to commence in the second year (2023). The duration of drilling programs is variable, and usually depends on the information that is gained from drilling. Applications for the environmental clearance certificate, along with all required permits will be submitted during this period should a renewal of the EPL be required.

4.3.2 EQUIPMENT AND MATERIALS

Up to 5 light vehicles with trailers for RAB drilling with the inclusion of two 5-ton trucks for the diamond rigs will be present on site. Contractor's camp long drop or portable toilets, will be set up on site temporarily if agreed to by the landowner. The RAB drilling crew if deployed will drill a long drop hole for a toilet and the diamond drill crew will use a portable toilet if deployed. A drill rig (track-mounted) will be brought to site for core drilling, along with a water truck and supporting equipment (rods truck, water and fuel bowsers) for use during drilling. Drilling equipment, diesel fuel and consumables shall be brought to the exploration site to support exploration activities when needed.

4.3.3 POWER SUPPLY

The individual contractors will be responsible to supply their own energy needs throughout the duration of their stay within the field camps.

4.3.4 WATER SUPPLY

Water will be required for various uses including human consumption during the planned exploration activities and to support any of the exploration activities such as diamond drilling. The diamond drilling team will need approximately 25m³ of water per day. This water will be trucked to site.

Water demand per day for the exploration Project is broken down into two usage categories.

These are:

- Water for domestic use within field camps: 0.5 m³ per day; and
- Water for exploration activities (drilling): 25 m³ per day.

If deemed necessary, water will be supplied directly from farmer's boreholes with their permission and compensation.

4.3.5 WORKERS AND ACCOMMODATION

Not more than 10 possible job opportunities are foreseen during the exploration phase and workers will be sourced from Otjiwarongo. The workers will be deployed at various stages of exploration including, low impact ground-truthing and mapping, soil, termite mound and rock chip sampling and drilling operations.

It is envisaged that for most of the exploration programme workers will reside in Otjiwarongo and be transported to and from the site. The Proponent will provide transport. However, during the latter part of the prospecting (drilling) workers may be required to stay at the exploration site in campsites. The Proponent shall provide suitable living facilities during this period.

Should the Proponent consider setting up camps for the exploration team on-site, precaution and safe use of flammable items should be adhered to. Although fire is unlikely and probably rarely caused by the residing exploration team, there is a growing concern from farmers/ landowners regarding the occurrences of an uncontrolled veld fire.

Mitigation measures have been included in the EMP, which shall be ensured and utilized by the Proponent. Accommodation options for exploration personnel on-site should always be done in consultation with the affected landowner and captured within the land access agreement.

4.3.6 WASTE MANAGEMENT

Waste produced on-site will include solid waste such as packaging material and field camps household waste. The Proponent should ensure waste is collected in categorized bins and that the waste hierarchy of (reduce, reuse, and recycle) is practiced as practically as possible.

4.3.7 WASTEWATER EFFLUENT

Sewerage may as well, be produced on site and in the case of provision of the mobile toilets to be used on site, sewerage generated shall be managed by the toilet contractor.

4.3.8 REHABILITATION

Once exploration activities are completed the areas shall be rehabilitated to a condition as close to the original state as far as possible. Rehabilitation shall be determined during the exploration programme and shall be agreed with the landowners and authorities as per legislation (discussed in Section 3). Before and after photographs will be used to monitor rehabilitation success. The Proponent has committed to restoring any historic exploration disturbance on the site if identified.

5 ENVIRONMENT AND SOCIAL BASELINE

A detailed environmental and socio-economic baseline assessment of the Project is provided in this report. Baseline studies aim to assess possible Project impacts (positive, negative and cumulative), thus ensuring input into the Project designs, which avoid, reduce or mitigate the potentially adverse environmental and social risks. This section provides an overview of the existing biophysical environment through the analysis of the available baseline data regarding the receiving environment. Desktop studies, followed by site verification on the national database are undertaken as part of the scoping process to get information about the current status of the receiving environment. This provides a baseline where changes that occur as a result of the proposed Project can be measured.

5.1 BASELINE DATA COLLECTION

Initial desktop baseline studies relevant to the project formed part of the initial environmental assessments conducted for the exclusive prospecting licences on which the project is situated. As part of this assessment, the baseline was studied in detail, with inputs from specialist studies commissioned as part of the environmental and social impact assessment process.

5.1.1 SPECIALIST STUDIES

Table 7 - Specialist studies conducted for the ESIA

STUDY AREA	PURPOSE
Heritage and culture	A heritage assessment is required, in order to comply with Namibian national legislature

5.2 LAND USE

Majority of the land in this area is used for livestock farming (sheep and cattle) ranging between 0- 19 animals per km² and game farming for tourism. The average number of cattle on this land is 4 cows per km²

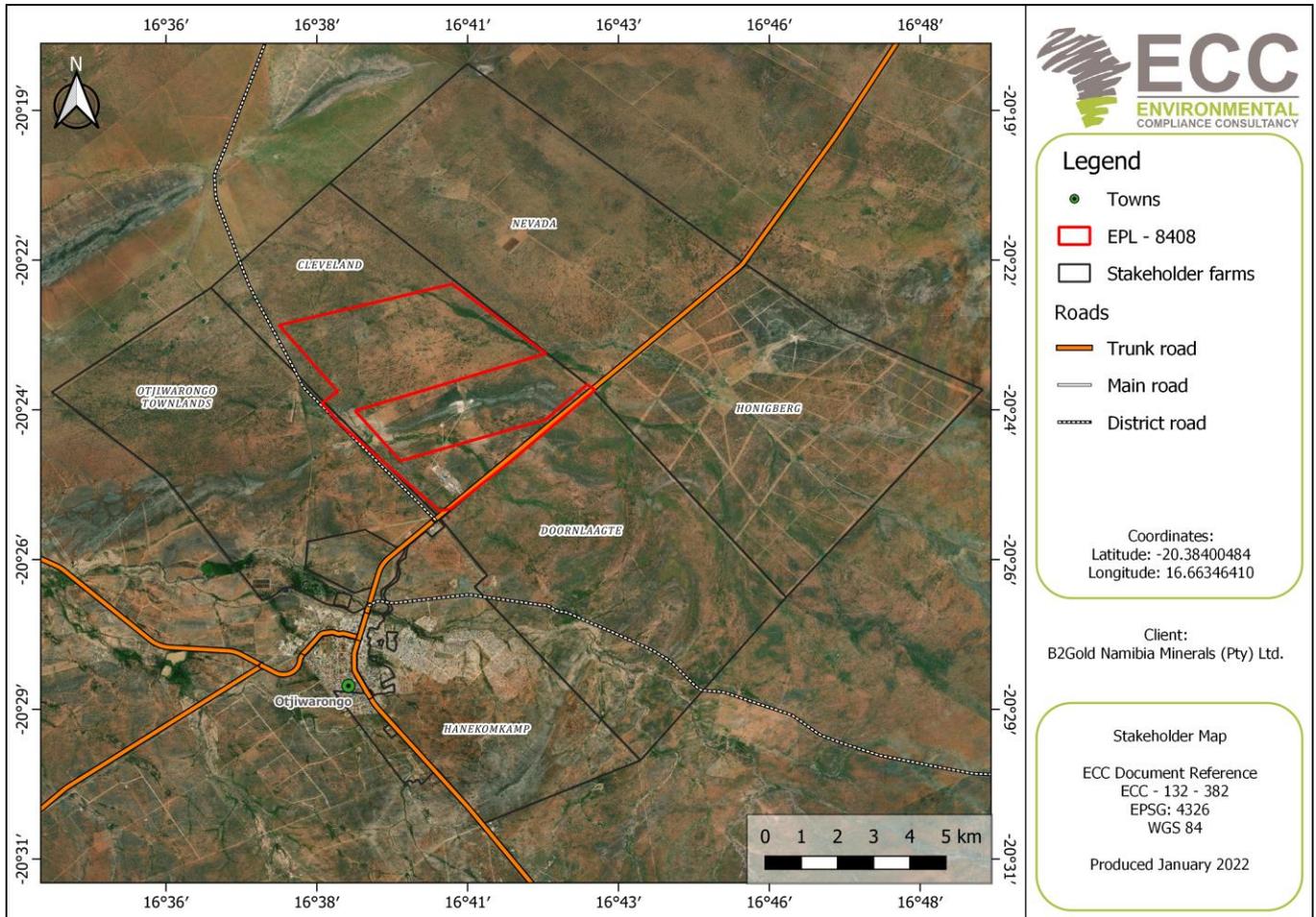


Figure 3 - Stakeholder map of the area

5.3 CLIMATE

The climate of this area is characterised by mild summers and cool winters. The mean temperature ranges between 20 °C to more than 21 °C. The minimum temperatures are between 4 °C to 19 °C and the maximum temperatures between 24 °C to 33 °C. The hottest months of the year are between September and December and the coolest months are June and July as seen in Figure 4. Frost can be experienced during winter months (Bubenzer, 2002 & Meteoblue, 2021).

With regards to the relative humidity (RH), the most humid month of the year is March at approximately 70% RH, and the driest month is September with approximately 10% RH. The average rainfall in this area during the year is between 400 to 450 mm and rainfall events are limited to the summer months, mainly between November and March. Evaporation is between 2800 and 3000 mm per year (Bubenzer, 2002).

The area where the EPL is situated has an average wind speed between 0 and 28 km/h. The months of July to October are known to have the strongest winds. Wind can occur any time of the day and the most predominant wind directions for this area are ENE and E as shown in Figure 5.

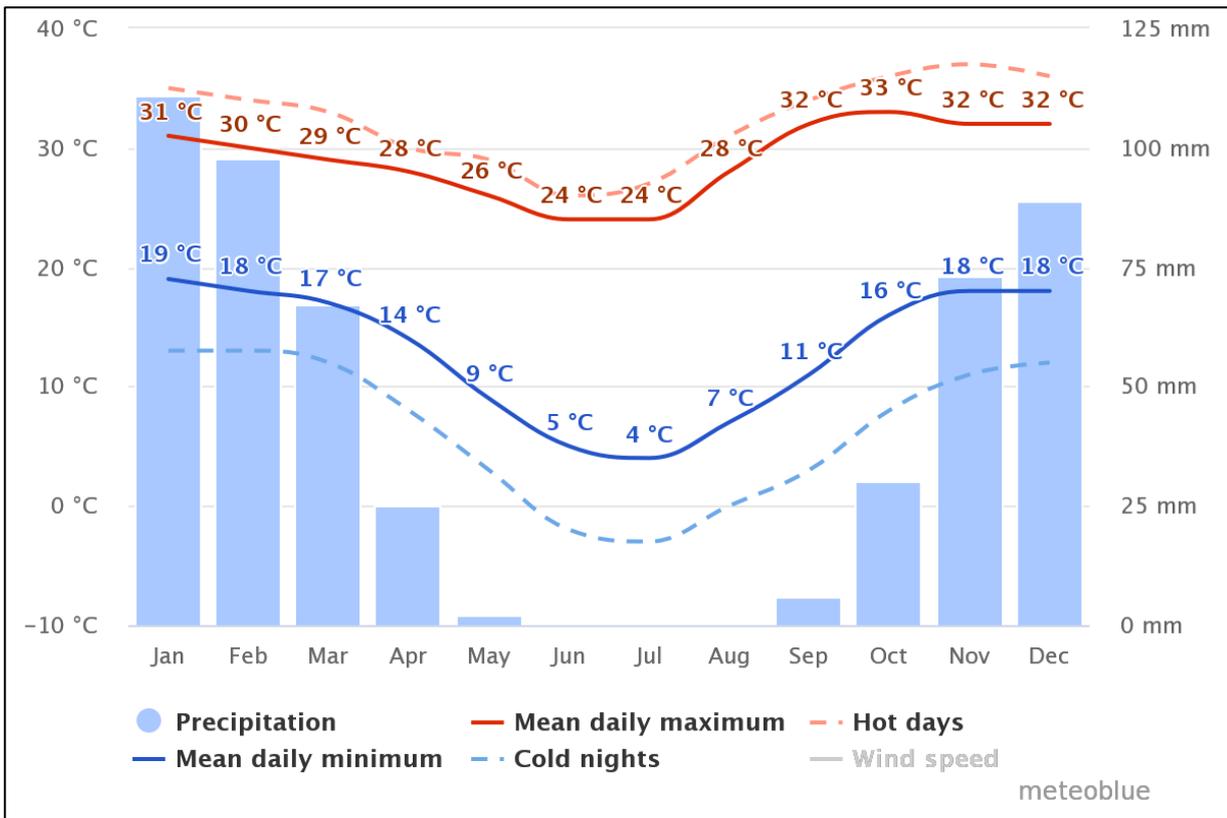


Figure 4 - Average climate data for EPL 8408

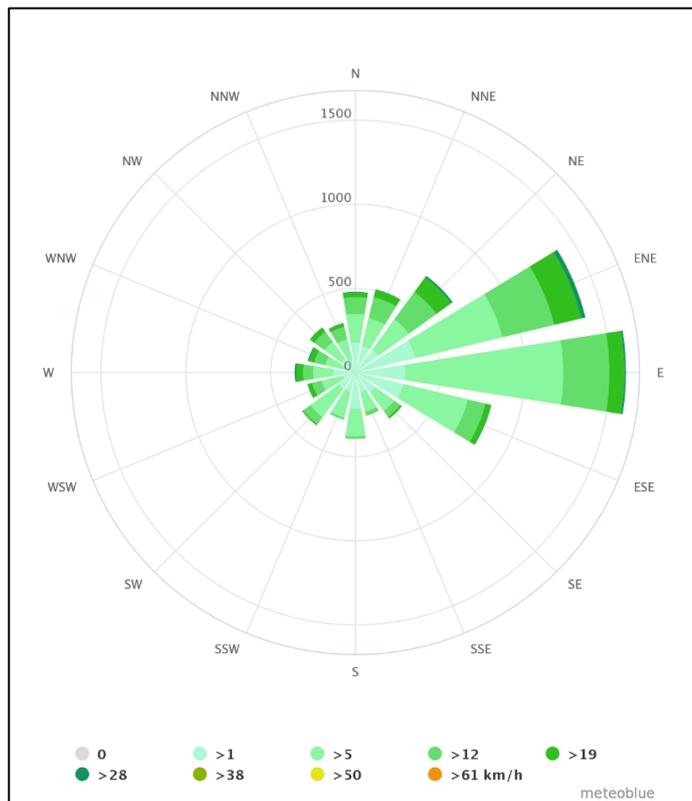


Figure 5 - Average wind speed and direction for EPL 8408

5.4 SOIL, GEOLOGY AND TOPOGRAPHY

Namibia can be divided into two broad geological provinces, one covering the western parts and the other in the east. The western parts consist of a variety of geological formations of different ages and compositions and formed under very diverse environmental conditions – some were formed in the depths of primaeval oceans, others as a result of the movement of the earth's crust or because of collisions or volcanic eruptions. Most of these formations are exposed in the west as rugged landscapes of mountains, hills, valleys and plains with sparse vegetation, providing an interesting insight into Namibia's geological past.

In eastern Namibia, the formations are covered with deposits of a much more recent past (Mendelsohn et al., 2002). The deposits are loose, aeolian of origin, sandy and unconsolidated. On the surface the east of Namibia appears monotonous and uniform, covered with dense vegetation in the north and decreasing to the south. Most of the knowledge about these sediments has been derived from water abstraction boreholes, and rare outcrops and underlying formations exposed along drainage lines and around isolated pans.

Apart from diamonds, most of Namibia's valuable mineral resources have been found in the western part of Namibia where the oldest rocks are exposed to the surface, i.e., the metamorphic complexes and the Damara Supergroup, EPL 8408 also falls over the Damara Supergroup and Gariiep Complex (Mendelsohn et al., 2002).

The regional geology of the EPL 8408 area consists of the Swakop Group. The main rock types of this area are Metamorphic sedimentary rocks (schist, locally quartzite or marble) with granitic intrusions. The Swakop Group is part of the Damara Supergroup and Gariiep Complex (Bubenzer, 2002). The different geological group formations associated with the EPL are illustrated in Figure 6.

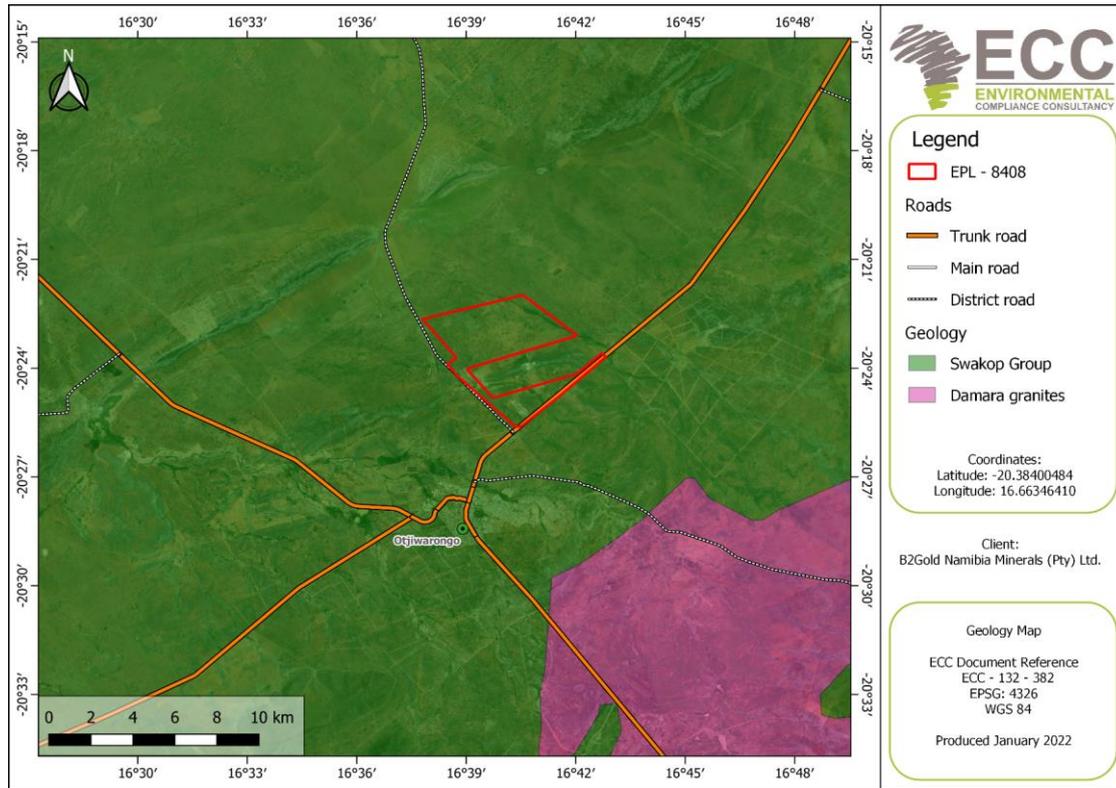


Figure 6 - Regional Geological setting on EPL 8408

The topography of the EPL is relatively flat and the elevation gradually decreases from the southeastern side of the EPL towards the northwestern side, varying between approximately 1490m to 1440m above mean sea level Figure 7.

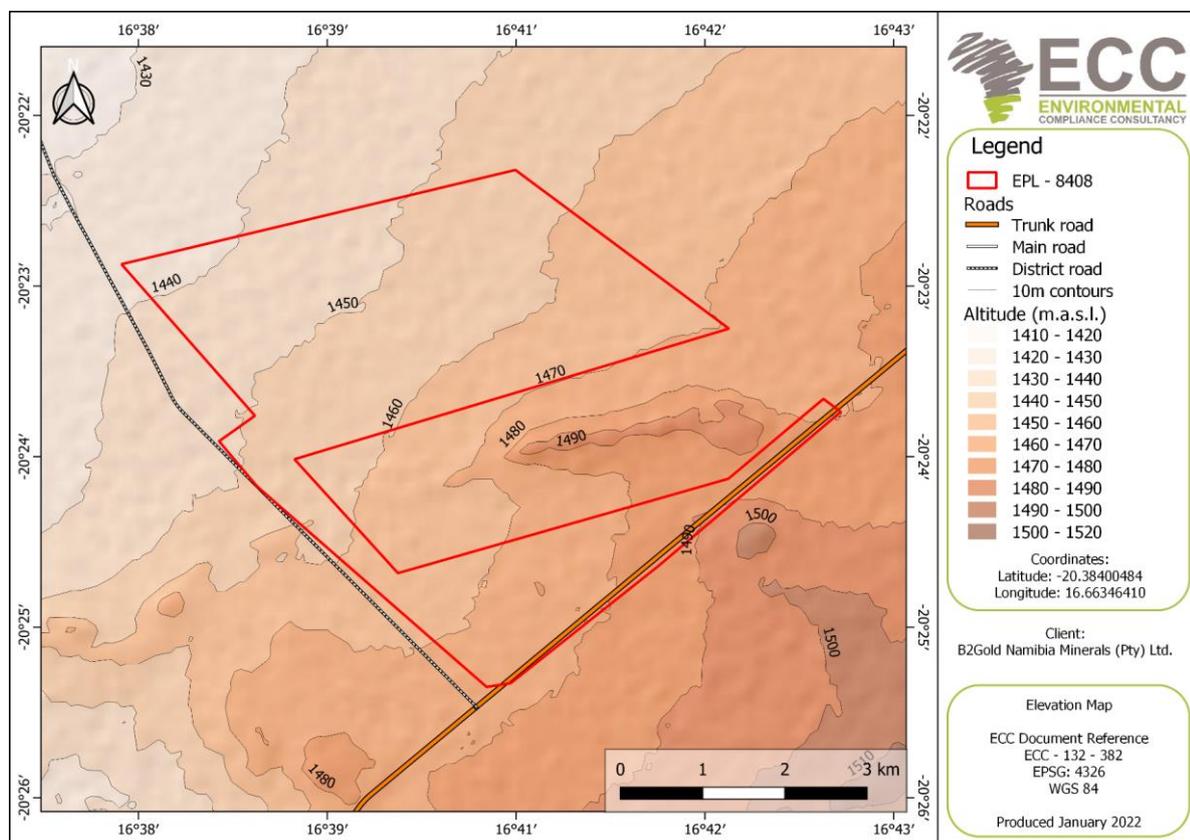


Figure 7 - Elevation of EPL 8408

EPL 8408 is largely covered by chromic Cambisols and eutric Regosols as seen in Figure 8 (Bubenzer, 2002). Namibian soils vary a great deal, variations occur on a broad scale but there is even a great deal of variability at a local level.

The dominant soils found within and surrounding the EPL boundary include eutric Regosols and chromic Cambisols. Namibian soils vary a great deal, variations occur on a broad scale but there is even a great deal of variability at a local level.

The first part of the soil name provides information on the properties of the soil, namely: eutric soils are fertile with high base saturation and chromic is “soils with bright colours”. The second name reflects the conditions and processes which have led to the formation of the soils (Mendelsohn et al., 2002).

Regosols are medium to fine-textured soils of actively eroding landscapes. These soils are not as shallow as Leptosols but these soils never reach depths of more than 50cm. Cambisols are soils that usually have a medium to high fertility, but is also characterised by the absence of significant

quantities of organic material, clay, and iron and aluminium. Considering geological time Cambisols were formed quite recently mainly from medium to fine-textured parent materials (Mendelsohn et al., 2002).

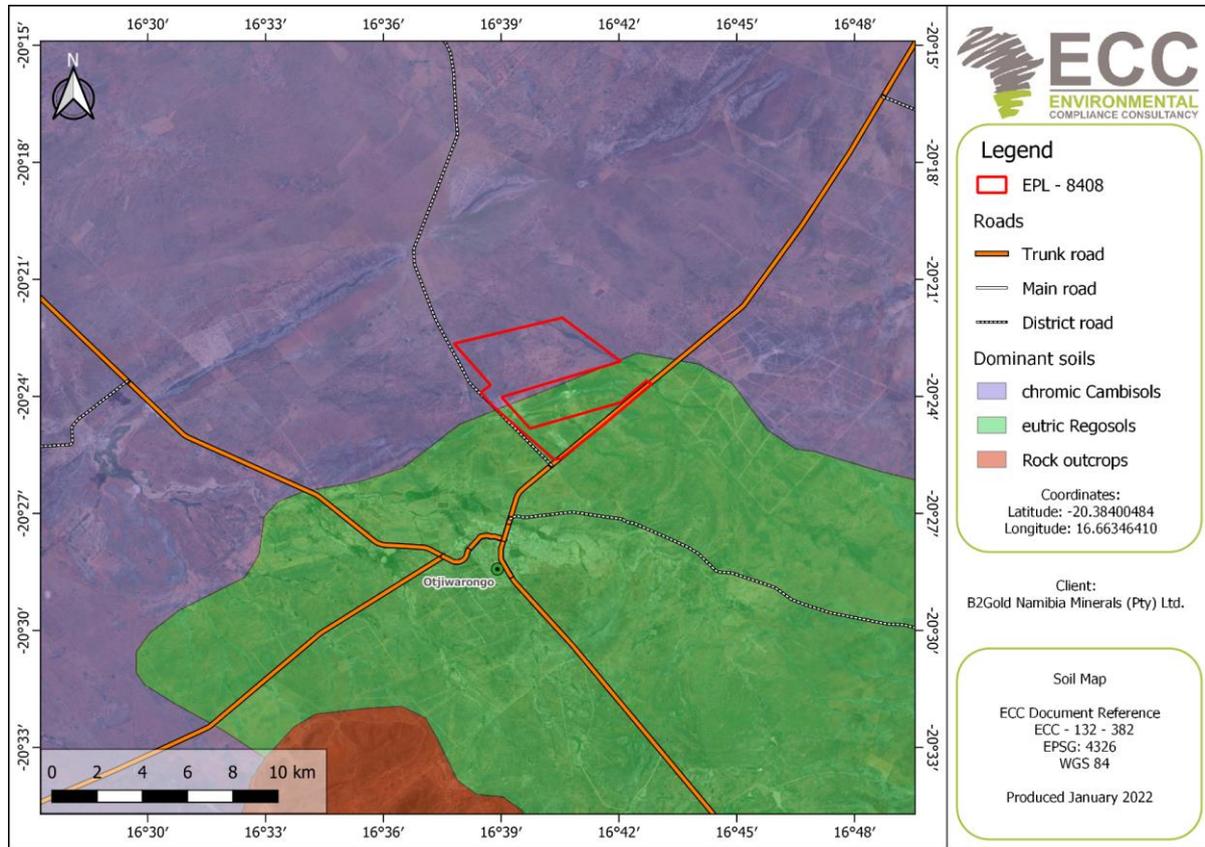


Figure 8 - Dominant soils found within and surrounding the EPL boundary

5.5 HYDROGEOLOGY

EPL 8408 falls within the Ugab catchment area and over the Kunene south groundwater basin Figure 9. According to the Namibian Monitoring Information System & Hydrological Map of Namibia (<https://na-mis.com/>), a small section of the site falls over a fractured, fissured or karstified aquifer with high groundwater potential that has a very high vulnerability. But most of the EPL falls over rock bodies with generally low groundwater potential, but it could vary locally (i.e., some areas moderate potential) and these rock bodies have a low vulnerability. Groundwater recharge within this area is considered to low (Rock bodies) to high (Aquifer) (<0.5 to <4.5 % of the total average rainfall). Groundwater in this area is generally of good to excellent quality (Group A and B) and the abstraction rate is moderate to high.

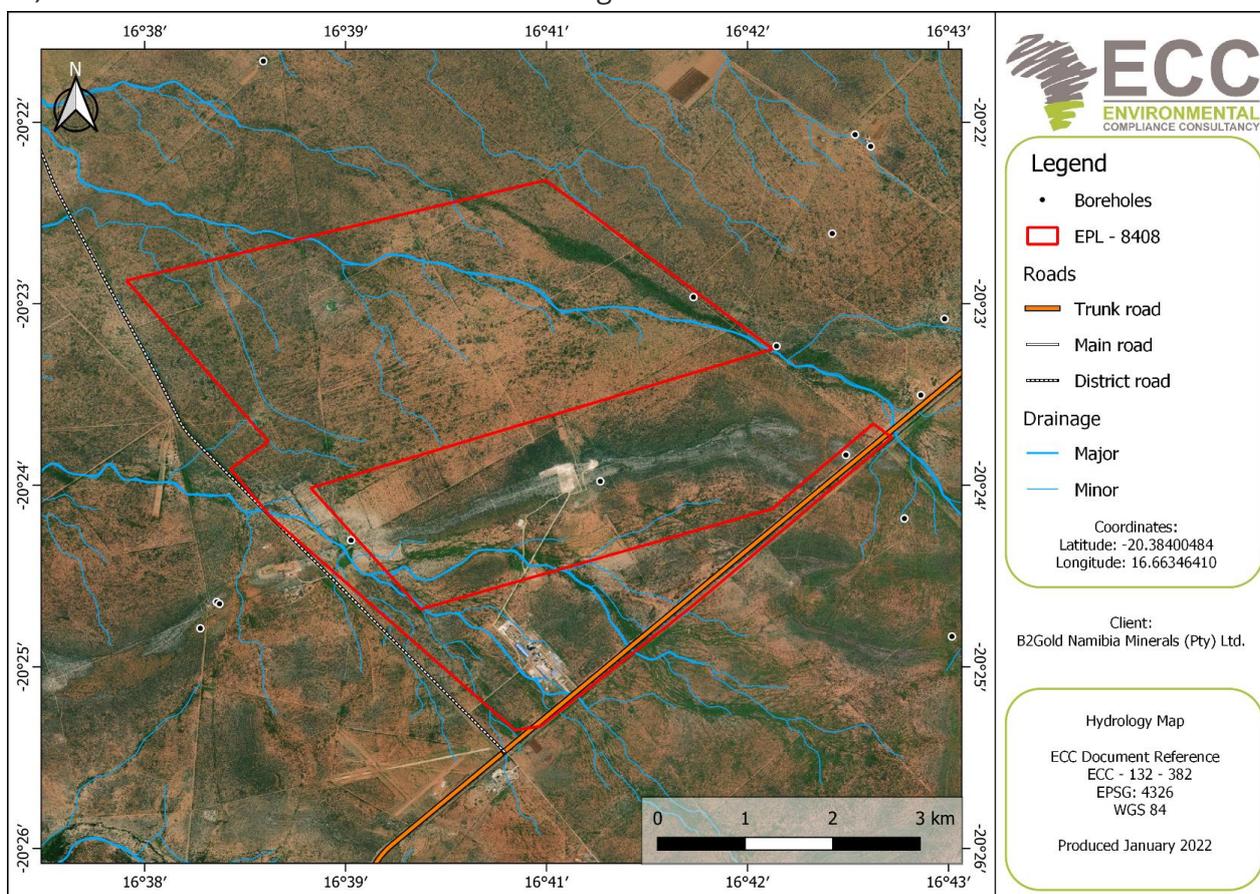


Figure 9 - Hydrology map of EPL 8408

5.6 BIODIVERSITY BASELINE

5.6.1 FLORA

The Vegetation in Namibia is strongly influenced by rainfall. The proposed Project site is situated within the thornbush shrubland vegetation cover. The plant diversity and tallest trees are most lush in the north-eastern parts of the country and contrast sparser and shorter to the west and south of the country. This gradient is not simple as factors such as soil types, landscape and human impacts may also influence the vegetation. The plant diversity (300 to 500 species, of which

6 to 15 species are endemic) for this area is moderate to high and the dominant vegetation structure for the EPL is dense shrubland and falls within the Savanna biome (Mendelsohn et al. 2002) shown in Figure 10.

In Namibia, there are 35 species of trees and/or shrubs that have legal or protected status, some of these trees/shrubs have more than one legal status and/or are classified as endemic or near-endemic. Of these species 10 are protected under forestry laws, 17 are protected under the Forestry Act No. 12 of 2001, three (3) are endemic, five (5) are near endemic (Cunningham, 2017).

A list of plant species that have been found or sampled in the general area of Otjiwarongo has been provided by the National Botanical Research Institute (NBRI) and according to the list there are approximately 220 species that were sampled in these areas and of these species 14 are endemic, 1 near endemic and 5 species are protected.

In this part of Namibia the following tree and shrub species are either protected under national legislation, endemic, near-endemic or listed in the CITES appendices: *Aloe littoralis* (Nature Conservation Ordinance and CITES II), *Ficus burkei* (Forestry protected), *Ficus Cordata* (Forestry protected), *Ficus sycomorus* (Forestry protected), *Obetia carruthersiana* (near-endemic), *Boscia albitrunca* (Forestry protected), *Maerua schinzii* (Forestry protected), *Moringa ovalifolia* (Forestry protected and near-endemic), *Albizia anthelmintica* (Forestry protected), *Erythrina decora* (Forestry protected and endemic), *Vachellia erioloba* (Forestry protected), *Burkea africana* (Forestry protected), *Securidaca longepedunculata* (Forestry protected), *Peltophorum africanum* (Forestry protected), *Commiphora glaucescens* (near-endemic), *Euphorbia guerichiana* (CITES II), *Ozoroa crassinervia* (Forestry protected), *Elaeodendron transvaalense* (Forestry protected), *Ziziphus mucronata* (Forestry protected), *Ochna pulchra* (Forestry protected), *Sterculia africana* (Forestry protected) (Mannheimer & Curtis, 2009).

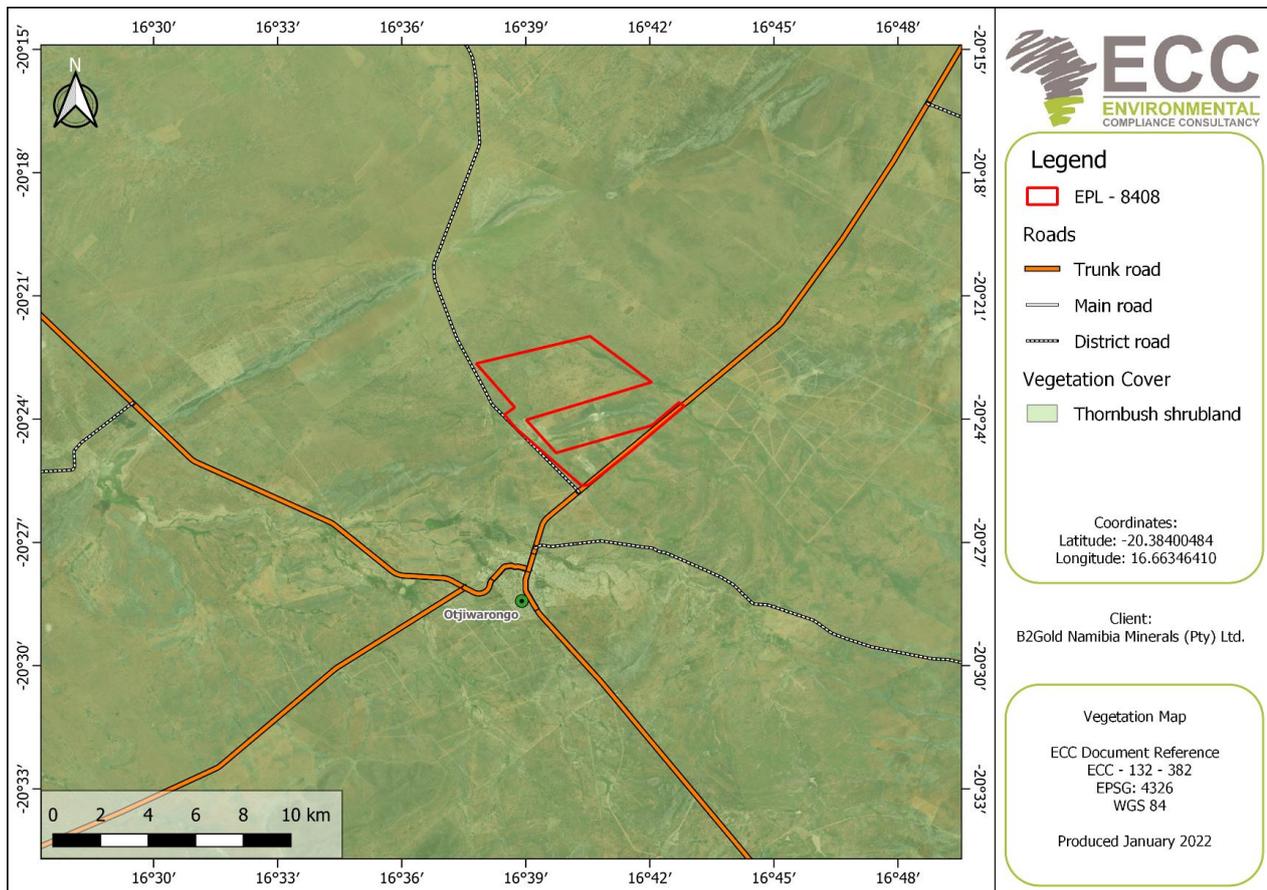


Figure 10 - Vegetation map of EPL 8408

5.6.2 FAUNA

The overall terrestrial diversity for this area is moderate compared to other parts of the country. The area within and surrounding the EPL boundary has a high bird diversity status of between 201 and 230 species, with low to moderate bird endemism (between 1 to 5 species) and represents an area with a moderate to high mammal diversity of between 76 to 90 species (1 to 2 of these species

are endemic). Up to four larger carnivore species have been recorded in the general area (Bubenzer, 2002, IUCN, 2021, Mendelsohn et al., 2002, Oberprieler and Cillié, 2008 & Stuart and Stuart, 2015).

Furthermore, the reptile diversity within this area is high with between 71 and 85 species, of which 13 to 16 species are endemic (moderate). The number of observed lizard species for this area is between 32 to more than 35 species of which 3 to 8 of the species are endemic and the different snakes recorded are between 35 to 39 species (7 to 8 endemic species).

This area has a moderate frog diversity of between 12 to 15 species. Then there is also a low to moderate scorpion diversity (12 to 13 species) around which 3 to 4 species are endemic (Bubenzer, 2002 & Mendelsohn et al., 2002).

Various protected or threatened mammal species may occur in this area or might pass through on occasion of which one is classified as near threatened (Brown Hyena, Plains Zebra) and four are classified as vulnerable (Cheetah, Leopard, Pangolin) according to the IUCN red list of threatened species (IUCN 2022).

Furthermore, all tortoise species, rock monitors and pythons (dwarf and rock pythons), that might potentially be encountered within the EPL boundaries and are protected under the Nature Conservation Ordinance No. 4 of 1975. Then various species are also listed in the CITES Appendices, such as Cheetahs, Leopards, Pangolins etc.

Most bird species in Namibia fall under Schedule 4: Protected Game within the Namibian Conservation Ordinance No. 4 of 1975, except for the following excluded species: Weavers, Sparrows, Mousebirds, Redheaded Quela, Bulbul, and Pied crow as well as 19 huntable game bird species identified in Schedule 6 of the Nature Conservation Ordinance (Nature Conservation Ordinance No. 4 of 1975).

A number of migratory bird species may only pass-through Namibia, thus some of the species might be rare to encounter during the year, but could potentially be found within the EPL boundaries. Surface water on or near the proposed site (rainy season) might attract various water birds (either resident or migratory).

5.7 SOCIAL AND SOCIO-ECONOMIC BASELINE

Otjozondjupa Region is clustered into seven constituencies (Grootfotein, Okahandja, Omatako, Okakarara, Otavi, Otjiwarongo and Tsumkwe). The region's capital town is Otjiwarongo. Local authorities govern the towns in a form of municipalities. Otjozondjupa Region occupies 105 460 km² of Namibia's 824 292 km² total surface area and lies approximately 330 km northeast of the central Khomas Region. To the west and northwest, the region is boarded by Erongo and Kunene region and Kavango East and Kavango west are northeast and Omaheke region to the south-east.

Otjozondjupa is amongst six regions that predominantly have a larger male population (51.5%) than females (NSA, 2014).

Namibia is one of the least densely populated countries in the world (2.8 people per km²). Vast areas of Namibia are still without people, in contrast to some dense concentrations, such as the central-north and along the Kavango River.

The projected total population for Otjozondjupa Region was 158 237, making up 6.6 % of the country's population and an annual growth rate of 0.6 % in 2018 (NSA, 2018). In the Otjozondjupa region approximately 54% of all people live in an urban area and 46 % in rural areas in 2011. Otjiherero is the most spoken language (27 % of all households). The average household size is 3.9 people and the literacy rate is 83 % for people older than 15 (NSA, 2017). Living in an urban environment implies better living conditions – in the Otjozondjupa Region 95 % of all households have access to safe water, only 39 % have no proper ablution facilities, 56 % have electricity for lighting and 56 % of the population depend on open fires to prepare food (NSA, 2011).

The urban population pyramid for Namibia shows a very clear dominance of the age group 20 to 35 as well as for infants (0 to 4 years of age) Figure 11. As the majority of people in the Otjozondjupa Region are living in an urban area. The majority of Namibia's population is young, as most of them are within the child-bearing age range (NSA 2014).

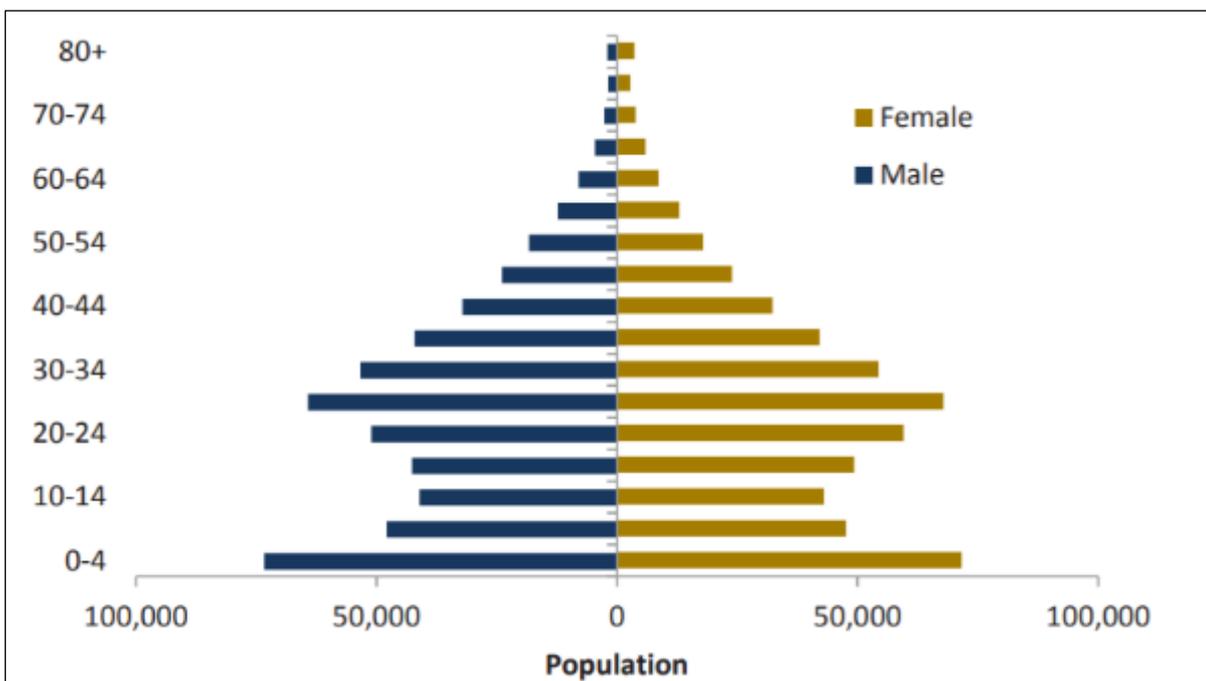


Figure 11 - 2014 urban population pyramid of Namibia (NSA 2014)

5.7.1 GOVERNANCE

Since independence in 1990, Namibia is led by a democratically elected and stable government to date through three organs of government and functions (legislative, executive, and judiciary). The country was ranked 5th out of 54 African countries in the Ibrahim Index of African Governance in 2015 and subsequently ranked 4th out of 54 African countries in 2017 for indicators including the quality of governance and the government's ability to support human development; sustainable economic opportunity; rule of law and human rights; and development of smart information and communication technology to access information for socio-economic growth (National Planning Commission, 2017).

As a result of sound governance and stable macroeconomic management, Namibia has experienced rapid socio-economic development. Namibia has achieved the level of 'medium human development and ranks 125th on the Human Development Index out of 188 countries (NPC, 2020). Globally, Namibia was ranked 43rd out of 168 countries in 2018 on the Global Peace Index, as was therefore considered one of the most peaceful countries in the world (NPC, 2020).

5.7.2 EMPLOYMENT

In 2018, 53.4% of all working Namibians were employed in the private sector and 21.5% by the state. State-owned enterprises employ 7.6% Namibians and private individuals 16.6%. Wages and salaries represented the main income source of 47.4% of households in Namibia. Agriculture (combined with forestry and fishing) as an economic sector has the most employees – 23% of all employed persons in Namibia work in this sector. Agriculture is also the sector that employs the most informal workers in Namibia, calculated at 87.6%. Wages of employees in the agriculture sector are lower than all other sectors except for workers in accommodation and food services and domestic work in private households (NSA, 2019).

Low education levels affect employability and prevent many households to earn a decent income. Of all people employed in Namibia, 63.5% are not higher qualified than junior secondary level (Grade 10 and lower). In total 11.8% of all people employed had no formal education. In total 29.1% of all people employed are within the category "elementary occupation" and 15.2% in the category "skilled agriculture" (NSA, 2019).

Overall, the rate for unemployment is estimated at 33.4% for Namibia, using the broad definition of unemployment. More than 60% of the population is over 15 years of age and about one-third of the total population can be regarded as part of the labour force. The unemployment rate in rural and urban areas is almost the same – 33.4% in urban areas and 33.5% in rural areas (NSA, 2019). The youth group also ranks high in unemployment levels, even though many Namibia youth complete post-secondary education. In 2018 the unemployment level was at 59.6% for those aged 15-19, 57% for those aged 20-24, and 42.3% for 25-29-year-olds (NSA, 2018).

According to the Socio-Economic impact Assessment of COVID-19 in Namibia by the United Nations Namibia (2020), there has been an estimated increase in unemployment from 33.4% to 34.5% and through a best-case scenario, it is also estimated that poverty will increase from 17.2% to 19.5% due to a drop in the domestic GDP (United Nations Namibia 2020).

In the Otjozondjupa Region, 61.7 % of all households depend on salaries and wages as their main income source, 2.6 % of households depend on subsistence farming as the main income whilst 9.9 % derive incomes from business activities, non-farming activities and pension (NSA, 2018).

The figure for informal-employed people is also lower (44.2 %) as people are employed in a wider range of secondary and tertiary economic sectors such as administration, security, services and accommodation and food service activities (NSA, 2018).

Guest farms, museums, craft shops, game parks/reserves and private game farms, the Waterberg Plateau Park, the Hoba meteorite site and other tourism-related economic activities further drive economic activities in Otjozondjupa Region. Income and employment through tourism are growing, subsequently.

Since 2016, Namibia has recorded slow economic growth, registering an estimated growth of only 1.1 % in 2016. The primary and secondary industries contracted by 2.0 % and 7.8 % respectively. During 2017 the economy contracted by 1.7 %, 0.7 % and 1.9 % in the first, second and third quarters respectively (NSA, 2019). Despite the more positive expectations, the economy retracted to average growth of not more than 1 % annually since 2017.

During the second quarter of 2020 the domestic economy contracted by 11.1%, which is the largest contraction since 2013; but the Bank of Namibia (BoN) predicts that the Gross Domestic Product (GDP) could grow by 1.9 % in 2021 and by 2.8 % in 2022. The impact assessment also showed that 96.5% of tourism businesses have been affected by COVID-19 in 2020, the manufacturing and construction sectors contracted by 9.2 % and 5.7 % respectively and there was also a 2 % to 3 % decline in net export (United Nations Namibia 2020).

5.7.3 ECONOMIC ENVIRONMENT

Mining plays a pivotal role in the economy of Namibia. Since independence, it has consistently been the biggest contributor to Namibia's economy in terms of revenue and accounts for 25% of the country's income. Mining is one of the main contributors to GDP, and one of the largest economic sectors of Namibia.

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5.7.4 HEALTH AND DISEASE

Since independence in 1990, the health status of Namibia has increased steadily, with a remarkable improvement in access to primary health facilities and medical infrastructure. In 2015, the World Health Organisation (WHO) recommended strategic priorities for the health system in Namibia, which entailed improved governance, an improved health information system, emergency preparedness, risk reduction and response, preventative healthcare, and the combating of HIV/AIDS and TB (WHO, 2016).

According to the website of the Ministry of Health and Social Services (MHSS), the Erongo Region has a total of 18 primary healthcare facilities, including two health centers, and four district hospitals. There are also private hospitals in Swakopmund and Walvis Bay.

As elsewhere in Namibia, HIV/AIDS remains a major reason for low life expectancy and is one of the leading causes of death in the region. HIV/AIDS remains the leading cause of death and premature mortality for all ages, killing up to half of all males and females aged 40 to 44 years in 2013 (IHME, 2016).

Tuberculosis (TB) is a leading killer of people infected by HIV/AIDS, and Namibia had a high burden in 2018 – 35% of people with TB were infected with HIV. The country is included among the top 30 high-burden TB countries in the world, with an estimated incidence rate of 423 per 100,000 people, and 60 fatalities per 100,000 people in 2018 (retrieved from www.mhss.gov.na).

As of the beginning of 2020, the coronavirus (COVID-19), caused illness in humans on a pandemic scale and has resulted in an increasing number of deaths worldwide. The viral outbreak has adversely affected various socioeconomic activities globally, and with reports of a continually increasing number of people testing positive, it is anticipated that this may have significant impacts on the operations of various economic sectors in Namibia too. The disease caused many countries to enter a state of emergency, which included various levels of lockdown restrictions that had dire economic consequences. In addition, these measures have had a detrimental effect on tourism, and Namibia is, in both cases, no exception.

Furthermore, COVID-19 has also resulted in a loss of learning and socialising opportunities for children in Namibia and there was a lack of access to school feeding programs and parents had to provide or find alternative care for children. There has also been a 6 % increase in health workers across Namibia as a result of the pandemic (United Nations Namibia 2020). The Namibian economy remains confined, following the aftermath of COVID-19. Hence, development partners, public and private sectors need the commitment to explore new approaches in order to revive the fragile economy (NSA,2019). By mid-February 2022, Namibia has recorded 4 002 deaths due to COVID-19 most of these deaths occurred in 2021, as a result of the Delta and Omicron variants.

5.7.5 CULTURAL HERITAGE

From the Namibian GIS data and information from the Atlas of Namibia, there are no heritage sites within the proposed site with regards to the following periods: records from 1.8 million to 10000 years ago, 10000 to 2000 years ago or within the last 2000 years (Bubenzer, 2002 & Mendelsohn et al., 2002). Regardless, there is potential to unearth heritage sites.

This is confirmed by a specialist study conducted by Dr. Kinahan that mentioned “Earlier surveys in the Otjozondjupa Region have revealed a fairly well-preserved archaeological record covering most of the last one million years, although no sites have been recorded in the vicinity of the farm Cleveland” (Kinahan, 2022).

“Most archaeological remains found in the Otjozondjupa Region are surface occurrences. These are primarily scatters of stone artefacts or isolated finds that have been moved from their original context by sheet erosion” (Kinahan, 2022).

A detailed site survey of the area has been conducted by Dr. Kinahan on EPL 8408 as seen in Appendix G – Heritage Assessment. EPL 8408 is “considered to have a low archaeological/heritage sensitivity it should be borne in mind that some archaeological features such as graves may lie in

densely overgrown vegetation. Bush clearing may reveal such features which do not necessarily have clearly recognizable headstones indicating the name and date of the burial” (Kinahan, 2022).

6 IMPACT IDENTIFICATION & EVALUATION METHODOLOGY

6.1 INTRODUCTION

This chapter outlines ECCs method to identify and evaluate impacts arising from the proposed project. The findings of the assessment are presented in Chapter 7.

The evaluation and identification of the environmental and social impacts require the assessment of the project characteristics against the baseline characteristics, ensuring all potentially significant impacts are identified and assessed. The significance of an impact is determined by taking into consideration the combination of the sensitivity and importance or value of environmental and social receptors that may be affected by the proposed project, the nature and characteristics of the impact, and the magnitude of potential change. The magnitude of change (the impact) is the identifiable changes to the existing environment which may be negligible, low, minor, moderate, high, or very high; temporary or short term, long-term or permanent; and either beneficial or adverse as shown in Figure 12.

This chapter provides the following:

- Details on the assessment guidance used to assess impacts;
- Lists the limitations, uncertainties and assumptions with regards to the assessment methodology;
- Details how impacts were identified and evaluated, and how the level of significance was derived; and
- Details how mitigation was applied in the assessment and how additional mitigation was identified.

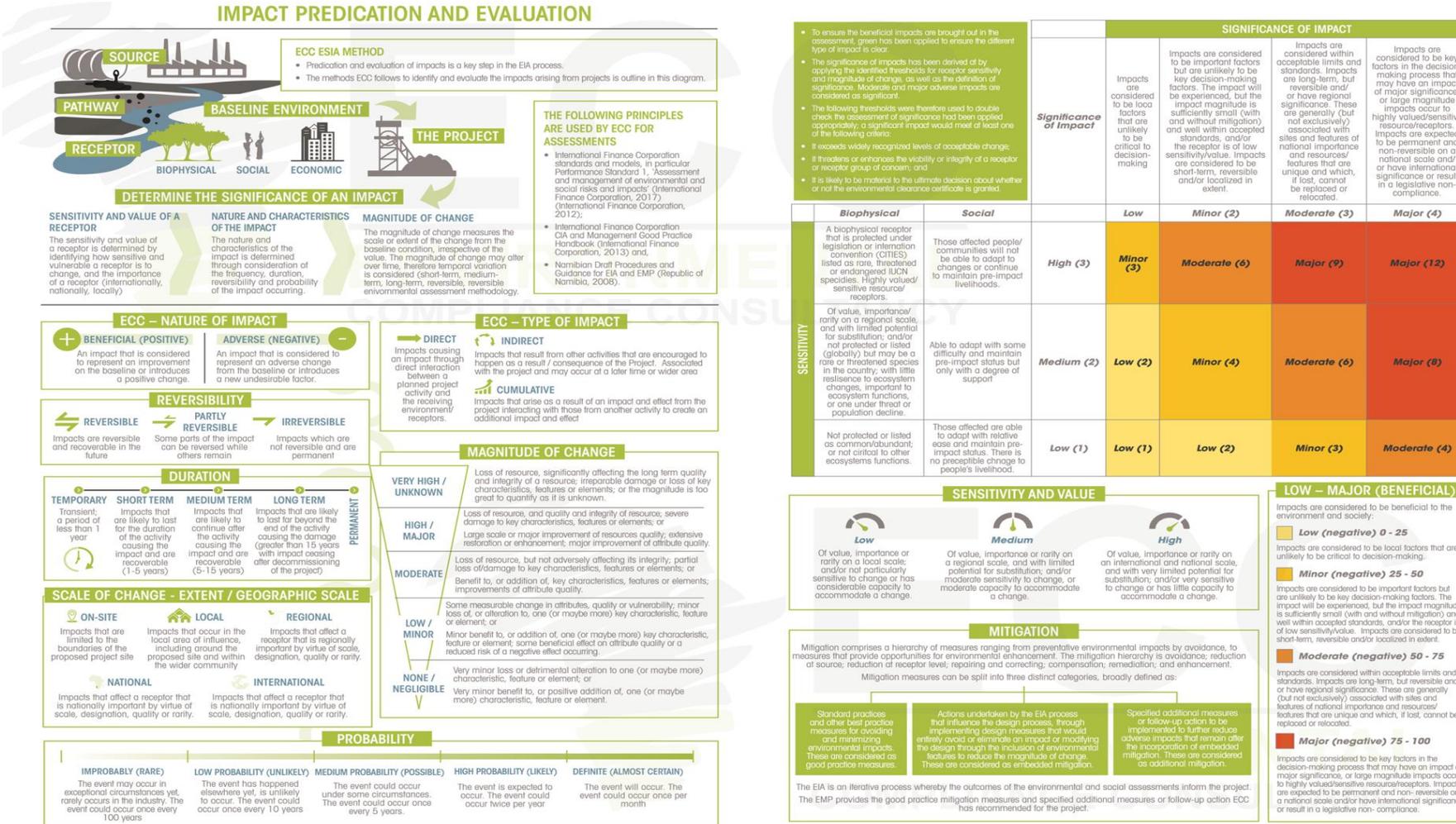


Figure 12 - ECC assessment methodology

6.2 ASSESSMENT GUIDANCE

- The principal documents used to inform the assessment method are:
- International Finance Corporation standards and models, in particular, Performance Standard 1, 'Assessment and management of environmental and social risks and impacts' (International Finance Corporation, 2017) (International Finance Corporation, 2012);
- International Finance Corporation CIA and management good practice handbook (International Finance Corporation, 2013); and,
- Namibian draft procedures and guidance for EIA and EMP (Republic of Namibia, 2008).

6.3 LIMITATIONS, UNCERTAINTIES AND ASSUMPTIONS

The following limitations and uncertainties associated with the assessment methodology were observed:

- Topic-specific assessment guidance has not been developed in Namibia. A generic assessment methodology was applied to all topics using IFC guidance and professional judgement.

Several limitations and uncertainties were acknowledged during the ESIA process. In line with ESIA best practice, assumptions have been made based on realistic worst-case scenarios, thereby ensuring that the worst-case potential environmental impacts are identified and assessed. Table 8 contains the assumptions and uncertainties identified during the assessment process.

Where uncertainties exist, a cautious approach has been applied, allowing the worst-case scenario for potential impacts to be identified. Where limitations and uncertainties exist, assumptions have been made and applied during the assessment process. These have been clearly described in the baseline section.

Table 8 - Limitations, uncertainties and assumptions

LIMITATION/UNCERTAINTY	ASSUMPTION
Number of access roads and temporary drill campsites	The making of new tracks or access roads will be minimized, and existing tracks and routes will be used as far as possible. While every effort will be made to minimize environmental damage, in some cases it will be necessary to clear some bush to create small roads, which may be required for equipment to reach the site and for temporary campsites. If needed, cut lines have to be created by clearing vegetation to have access to some parts of the EPL.
The program of exploration works is not confirmed	It is assumed that exploration work shall take a couple of months with two to three-week sampling projects at different times on different sites and with follow-up exploration drilling projects possible. Activities involve

LIMITATION/UNCERTAINTY	ASSUMPTION
	<p>drilling, remote sensing; geophysical surveys (airborne and ground-based), geochemical surveys and geological mapping. Pitting and trenching are unlikely and generally not favoured.</p> <p>If commercially viable concentrations can be defined by preliminary drilling, a next phase of advanced resource drilling operations is possible.</p>
<p>Number of workers, area they will come from and accommodation</p>	<p>It is planned that approximately ten people will be contracted for the proposed project. Contractors may camp on exploration sites/farmland, depending on approval from landowners.</p>
<p>Structures</p>	<p>No permanent infrastructure development will take place in this phase of operations which will span the 3-year award period. Depending on the results, the proponent will set up temporary field camps required to house field staff for the purpose of sample collection, ground surveys and drilling. The camps will be such that their locations can be fully rehabilitated post completion of the fieldwork.</p>

7 IMPACT ASSESSMENT FINDINGS AND PROPOSED MITIGATION MEASURES

This chapter presents the findings of the ESIA for the proposed project as per the ESIA process, scope and methodology set out in Chapters 2 and Chapter 6. A range of potential impacts have been identified that may arise as a result of the proposed project. This ESIA report aims to focus on the significant impacts that may arise as a result of the proposed project. This chapter therefore only considers the significant impacts and or those that may have specific interest to the community and stakeholders. A summary of impacts that are considered significant is discussed in this section.

When undertaking the assessment exercise, the design of the proposed project and best practice measures were considered to ensure the likely significant effects and any required additional mitigation measures were identified. A summary of the potential impacts and mitigation and or control measures are discussed below.

The following topics were considered during the scoping phase:

- Water (surface - and groundwater);
- Soil;
- Landscape (visual impacts, sense of place);
- Socio-economics (employment, demographics, and land-use);
- Noise;
- Ecology (fauna and flora);
- Air quality (emissions, pollutants and dust); and
- Heritage (including culture, history, archaeology and palaeontology).

Table 9 sets out the findings of the scoping assessment phase. Activities that could be the source of an impact have been listed, followed by receptors that could be affected. The pathway between the source and the receptor has been identified where both are present. Where an activity and or receptor have not been identified, an impact is unlikely, thus no further assessment or justification is provided. Where the activity, receptor and pathway have been identified, a justification has been provided documenting if further assessment is required or not required.

Due to the nature and localised scale of the exploration activities, and the environmental context of the EPL, the potential environmental and social effects are limited and unlikely to be significant. Aspects that prompted uncertainty relates to the potential increase in movements and the presence of people, which may cause the introduction of illegal and covert activities such as poaching, stock theft and the collection of organisms. Similarly, the potential of accidental veld fires may increase. In both cases, the terrestrial ecology and biodiversity of Namibia is the receptor, although local landowners and their neighbours may experience these adversities firsthand. The recommended mitigation measures are contained in Table 9.

All precautions must be taken to prevent damage to heritage sites, in particular when a site with paleontological remains is discovered as a result of the exploration activities. The chance-find procedure will be implemented in such a case. With the necessary mitigation measures in place (Table 9), the significance of the impact reduces from moderate to minor.

Table 9 - Scoping assessment findings and the proposed mitigation measures

Description of activity	Receptor	Description of impact	Effect or description of the magnitude	Value of sensitivity	Magnitude of change	Significance of impact	Impact management/control measures	Residual impact after mitigation
Site operations such as maintenance activities, loss of containment, accidental fuel / hydraulic fluid leaks and spills, or similar sources.	Groundwater quality	Hydrocarbon leaks and spills could enter the aquifer causing contamination	Adverse Direct Partly reversible Moderate Short term Regional Possible	Medium	Minor	Minor (4)	<ul style="list-style-type: none"> - Good house keeping - Training through toolbox talks and induction - All stationary vehicles and machinery must have drip trays to collect leakages of lubricants and oil - Spill kits and absorption material available during fuel delivery, storage or use - Accidental spills and leaks (including absorption material) to be cleaned as soon as possible - Major spills to be reported, also to the authorities - Maintenance and service schedules on equipment is in place - Store bulk fuel in adequate containment areas (non-porous surface, banded) - No damaged containers in use - Preventative measures will be in place when service and maintenance activities are done (drip trays, non-porous 	Low (2)

Description of activity	Receptor	Description of impact	Effect or description of the magnitude	Value of sensitivity	Magnitude of change	Significance of impact	Impact management/control measures	Residual impact after mitigation
							surfaces, funnels, non-damaged containers) – Refuelling will be done in areas with adequate preventative measures in place	
Potential spillages of drill fluid, lubrication, etc. or drilling that penetrate the groundwater table.	Groundwater quality	Hydrocarbon leaks and spills could enter the aquifer causing contamination	Adverse Indirect Partly Reversible Minor Short term Local Possible	Low	Minor	Low (2)	– Ensure drill pads and spill kits are in place – Consider alternative sites when water table is too high – Drill system should be dug to direct any accidental spills into sumps – Extraction volumes of water shall be minimal during exploration and where possible, water from existing water sources shall be used	Low (1)
Discharge and infiltration of non-contained wastewater	Water	Wastewater can contaminate surface and groundwater	Adverse Direct Partly Reversible Minor Short term Regional Unlikely	Low	Minor	Low (2)	– Wastewater discharges will be contained – Workers will be made aware about the importance of wastewater management – Good housekeeping	Low (1)

Description of activity	Receptor	Description of impact	Effect or description of the magnitude	Value of sensitivity	Magnitude of change	Significance of impact	Impact management/control measures	Residual impact after mitigation
Inadequate management of waste	Water	Waste items and litter can pollute drainage channels	Adverse Cumulative Reversible Minor Temporary On-site Unlikely	Low	Minor	Low (1)	<ul style="list-style-type: none"> - Good housekeeping - Training and awareness through toolbox talks and induction - Implement a Standard Operational Procedure on waste management, from cradle to grave for all kinds of waste possible on-site (e.g. domestic, mineral, hydrocarbons, hazardous, etc.) - Raise awareness about the importance of responsible waste management - Implement a culture of correct waste collection, waste segregation and waste disposal - Avoid hazardous waste on site - Wastewater discharges will be contained - no disposal of wastewater 	Low (1)
Inadequate management of hazardous and hydrocarbon waste	Soil	Pollution of soil	Adverse Direct Reversible Minor Short term On-site Possible	Low	Low	Low (2)	<ul style="list-style-type: none"> - Good housekeeping - Training and awareness through toolbox talks and induction - Implement a Standard Operational Procedure (SOP) on waste management, from cradle to grave, for all kinds of waste possible on-site (e.g. domestic, mineral, hydrocarbons, hazardous) 	Low (1)

Description of activity	Receptor	Description of impact	Effect or description of the magnitude	Value of sensitivity	Magnitude of change	Significance of impact	Impact management/control measures	Residual impact after mitigation
							<ul style="list-style-type: none"> - Implement a culture of correct waste collection, waste segregation and waste disposal 	
Vegetation clearing for access routes, drill pads and temporary contractors camp	Terrestrial ecology and biodiversity	Loss / alteration of terrestrial habitats and loss of species	Adverse Direct Reversible Minor Short term On-site Possible	Low	Minor	Low (2)	<ul style="list-style-type: none"> - Use existing roads for access to avoid new tracks and cut lines - Minimise clearance areas through proper planning of the exploration activities - Where possible, rescue and relocate plants of significance - Promote revegetation of cleared areas upon completion of exploration activities 	Low (1)
Ambient noise as a result of machinery use and movement (also through the use of airborne equipment)	Terrestrial ecology and biodiversity	Residing, nesting and slow-moving organisms can be disturbed	Adverse Direct Reversible Minor Short term On-site Likely	Low	Low	Low (2)	<ul style="list-style-type: none"> - Restrict excessive noise to areas of activities only - Restrict excessive noise to daytime hours (7 am to 5 pm weekdays and 7 am until 1 pm on Saturday) - No activities between dusk and dawn - Drill equipment shall be suitably positioned to ensure that noisy equipment is away from receptors - All equipment to be shut down or throttled back between periods of use, 	Low (1)

Description of activity	Receptor	Description of impact	Effect or description of the magnitude	Value of sensitivity	Magnitude of change	Significance of impact	Impact management/control measures	Residual impact after mitigation
							<ul style="list-style-type: none"> - Respect civic aviation regulations about the use of a drone 	
Increased movement of machinery	Terrestrial ecology and biodiversity	Residing, nesting and slow moving organisms can be disturbed, injured or killed	Adverse Direct Partly reversible Moderate Short term On-site Possible	Low	Moderate	Low (2)	<ul style="list-style-type: none"> - Restrict movements to areas of activities only - Use existing tracks and routes only - Identify rare, endangered, threatened and protected species in advance - Route new tracks around protected species and sensitive areas - Restrict movements to daytime hours - Make workers aware and notify them on avoiding some areas - No driving off designated access routes (into the bush) / off-road driving - No animals or birds may be collected, caught, consumed or removed from site 	Low (1)
Increased disturbance of areas with natural vegetation	Terrestrial ecology and biodiversity	Alien species and weeds can be introduced to the area	Adverse Direct Reversible Minor Short term On-site Possible	Low	Low	Low (2)	<ul style="list-style-type: none"> - Eradicate weeds and alien species as soon as they appear - Make workers aware about alien species and weeds 	Low (1)

Description of activity	Receptor	Description of impact	Effect or description of the magnitude	Value of sensitivity	Magnitude of change	Significance of impact	Impact management/control measures	Residual impact after mitigation
Vegetation clearing	Soil	Increased exposure due to vegetation clearance can cause soil erosion	Adverse Direct Reversible Moderate Short term On-site Possible	Low	Moderate	Low (2)	<ul style="list-style-type: none"> - Ensure erosion control and prevention measures are in place when vegetation clearance is required - Where possible, plan access routes, drill pads and camps outside of existing drainage lines - Where necessary, install diversions to curb possible erosion - Restore drainage lines when disturbed 	Low (1)
Drilling and the use of drilling equipment	Soil	Loss of soil quality due to mixing of earth matter, trampling and compaction	Adverse Direct Reversible Moderate Short term On-site Possible	Low	Moderate	Low (2)	<ul style="list-style-type: none"> - Limit the possibility of compaction and creating of a hard subsurface - Limit the possibility of trampling - Topsoil should be stockpiled separately, and re-spread during rehabilitation - During drilling oil absorbent matting should be placed under and around the rig - Equipment must be in a good condition to ensure that accidental oil spills do not occur and contaminate soil - In the event of spills and leaks, polluted soils must be collected and disposed of at an approved site 	Low (1)

Description of activity	Receptor	Description of impact	Effect or description of the magnitude	Value of sensitivity	Magnitude of change	Significance of impact	Impact management/control measures	Residual impact after mitigation
							<ul style="list-style-type: none"> - Limit the possibility to mix mineral waste with topsoil 	
Drilling activities, movement of machinery and vehicles	Heritage	Potential damage to cultural heritage sites	Adverse Direct Partly Reversible Negligible Permanent On-site Possible	High	Major	Moderate (6)	<ul style="list-style-type: none"> - Implement a Chance Find Procedure - Raise awareness about possible heritage finds - Report all finds that could be of heritage importance - In case archaeological remains to be uncovered, cease activities and the site manager has to assess and demarcate the area - Project manager to visit the site and determine whether work can proceed without damage to findings, mark exclusions boundary and inform ECC with GPS position - If needed, further investigation have to be requested for a professional assessment and the necessary protocols of the Chance Find Procedure have to be followed, - Archaeologist will evaluate the significance of the remains and identify appropriate action, (record and remove; 	Minor (4)

Description of activity	Receptor	Description of impact	Effect or description of the magnitude	Value of sensitivity	Magnitude of change	Significance of impact	Impact management/control measures	Residual impact after mitigation
							<ul style="list-style-type: none"> relocate or leave premises, depending on the nature and value of the remains), - Inform the police if the remains are human, - Obtain appropriate clearance or approval from the competent authority, if required, and recover and remove the remains to the National Museum or National Forensic Laboratory as directed. 	
Community	Drilling activities, including dust and emissions	Visual disturbance and loss of Sense of Place	Adverse Direct Reversible Negligible Temporary Local Likely	High	Moderate	Moderate (6)	<ul style="list-style-type: none"> - Position drill equipment in such a way that it is out of sight from human receptors - Apply dust suppression where possible - Restrict speed of vehicles (<30km/h) - Specific activities that may generate dust and impact on residents shall be avoided during high wind events - All vehicles and machinery / equipment to be shut down or throttled back between periods of use - Barriers or fences shall be used if drilling occurs in locations that may affect residents or livestock 	Minor (4)

Description of activity	Receptor	Description of impact	Effect or description of the magnitude	Value of sensitivity	Magnitude of change	Significance of impact	Impact management/control measures	Residual impact after mitigation
							<ul style="list-style-type: none"> - Residents need to be informed at least two weeks in advance that drilling operations are within 1km of their property - Maintain good housekeeping - Continuous engagement with residents to identify any concerns or issues, and appropriate mitigation and management measures agreed upon 	
Movement of vehicles, exploration activities	Community	Create conflict with farm owners and neighbours about access, leaving gates open, suspicious movements, loss of farming area, etc.	Adverse Indirect Reversible Minor Short term On-site Likely	Low	Minor	Low (2)	<ul style="list-style-type: none"> - Ensure documented permission to enter farms - Farmers should have access to all farm areas at all times - Residents shall be provided at least two weeks' notice of drilling operations within 1 km of their property - Existing water points and feeding area need to be left unaffected - Use existing roads for access, avoid new tracks / cut lines, - Compliance with all applicable laws and agreements - Continuous engagement with residents to identify any concerns or issues, and 	Low (1)

Description of activity	Receptor	Description of impact	Effect or description of the magnitude	Value of sensitivity	Magnitude of change	Significance of impact	Impact management/control measures	Residual impact after mitigation
							mitigation and management measures agreed upon	
Movement of vehicles, exploration activities	Community	Presence of exploration team can be blamed for stock theft and poaching	Adverse Cumulative Reversible Minor Temporary Local Unlikely	Low	Minor	Low (1)	<ul style="list-style-type: none"> - Develop and implement an operations manual or procedures to work on private farms and implement monitoring programmes thereafter - Maintain continuous engagement with residents to identify any concerns or issues, and appropriate mitigation and management measures agreed upon - Ensure appropriate supervision of all activities - Raise awareness and sensitize employees about contentious issues such as stock theft and poaching - Accidents and incidents need to be reported to project manager and recorded in incident register 	Low (1)
Exploration activities	Community	Triggers job creation, skills development and opportunities	Beneficial Direct Reversible Minor Short term	Low	Minor	Low (2)	<p>Maximize local employment</p> <p>As far as possible promote local procurement</p> <p>Enhance development of local skills where possible</p>	Low beneficial

Description of activity	Receptor	Description of impact	Effect or description of the magnitude	Value of sensitivity	Magnitude of change	Significance of impact	Impact management/control measures	Residual impact after mitigation
		for the local economy	Local Possible					

8 ENVIRONMENTAL MANAGEMENT PLAN

The EMP for the proposed project is presented in Appendix A. It provides management options to ensure the impacts of the proposed project are minimised. An EMP is a tool used to take proactive action by addressing potential problems before they occur. This should limit the corrective measures needed, although additional mitigation measures might be included if necessary.

The management measures should be adhered to during all stages of the exploration activities. All persons involved and partaking in the proposed activities should be made aware of the measures outlined in the EMP to ensure activities are conducted in an environmentally responsible manner.

The objectives of the EMP are:

- To include all components of the development and operations of the project;
- To prescribe the best practicable control methods to lessen the environmental impacts associated with the project;
- To monitor and audit the performance of operational personnel in applying such controls; and
- To ensure that appropriate environmental training is provided to responsible operational personnel.

9 CONCLUSION

ECC's ESIA methodology was used to undertake the environmental assessment for the proposed exploration activities on EPL 8408, to identify if there is potential for significant effects to occur as a result of the proposed Project.

Through the scoping process, impacts with respect to airborne dust are expected to be limited to vehicular traffic and RAB drilling activities (diamond drilling does not generate dust). There will be some release of exhaust fumes from machinery that will impact the immediate vicinity but will be of short duration. Additionally, there will be associated drilling and machinery noise, which could be a disturbance to immediate neighbours, but this will be of short duration as well. Through further analysis and identification of mitigation and management methods, the assessment concludes that the likely significance of effects on humans from the cumulative impacts of physical disturbance, noise, dust and emissions will be a temporary qualitative reduction in the sense of place and expected to be minor. Prior awareness and communication about the project shall be encouraged.

Due to the increased movements and presence of people, there is a potential that illegal and covert activities such as poaching, stock theft and the collection of organisms can be introduced to the area. Similarly, the potential of accidental veld fires may increase. In both cases, the terrestrial ecology and biodiversity of Namibia is the receptor, although local landowners and their neighbours may experience these adversities first-hand. Through this investigation, the significance of both impacts is indicated as moderate. In both cases, numerous mitigation measures, with proven national success, exist and were also applied to reduce the significance to minor.

All other social and environmental receptors were scoped out as significant effects were unlikely and therefore no further assessment was deemed necessary. Various best practices and mitigation measures have been identified to avoid and reduce effects as far as reasonably practical, as well as ensure the environment is protected and unforeseen effects and environmental disturbances are avoided.

REFERENCES

- Bubbenzer, O. (2002). Project E1 - Atlas of Namibia. [online] Available at: http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/e1_download_physical_geography_e.htm.
- Christelis, G. & Struckmeier, W. (Eds.) (2001). Groundwater in Namibia – an explanation to the hydrogeological map. Windhoek: Ministry of Agriculture, Water and Rural Development (Department of Water Affairs).
- Institute for Health Metrics and Evaluation (IHME) 2016. Namibia- State of the nation's health: Findings from the global burden of disease. Seattle: IHME
- IUCN 2021. The IUCN Red List of Threatened Species. Version 2021-1. <https://www.iucnredlist.org>. Downloaded on [20 05 2021].
- Kinahan, J., 2022. Archaeological Assessment Of EPL 8408, Otjozondjupa Region, Namibia
- Mendelshon, J., Jarvis, A., Roberts, C., & Robertson, T. (2002). Atlas of Namibia. A portrait of the land and its people. Cape Town: David Philip Publishers
- Ministry of Health and Social Services (MoHSS) (2020). Diseases. Retrieved from www.mhss.gov.na
- Ministry of Health and Social Services (MoHSS) [Namibi] and ICF Macro.2010. Namibia Health Facility Census 2009. Windhoek, Namibia. MoHSS and ICF Macro.
- meteoblue. (2021). Simulated historical climate & weather data for 20.42°S 16.68°E. [online] Available at: <https://www.meteoblue.com/en/weather/historyclimate/climatemodelled/-20.416N16.679E> [Accessed 2 Dec. 2021].
- MET/NACSO. 2018. The state of community conservation in Namibia – a review of communal conservancies, community forest and other CBNRM activities (Annual Report 2017). MET/NACSO, Windhoek.
- MEAC/MEFT. 2020. National Strategy On Sustainable Heritage Tourism Development & Employment Creation Opportunities At Community Level. MEAC/MEFT, Windhoek.
- Namibia Inter-censal Demographic Survey (2016). Report. Retrieved from https://cms.my.na/assets/documents/NIDS_2016.pdf
- Namibia Statistics Agency (NSA). (2017). Namibia inter-censal demographic survey 2016 report. Windhoek: NSA
- Namibia Statistics Agency (NSA). (2019). The Namibia labour force survey 2018 report. Windhoek: NSA

World Health Organization (WHO) 2016. WHO country cooperation strategy 2010 – 2015 Namibia. Windhoek: WHO

World population review. (2020). Namibian Population 2020 retrieved from <http://worldpopulationreview.com/countries/namibia-population/>

APPENDIX A – ENVIRONMENTAL MANAGEMENT PLAN

APPENDIX B – BACKGROUND INFORMATION DOCUMENT

8 Republic of Namibia Sun 21 February 2022 Market Watch MONDAY 21 FEBRUARY 2022

THE PROPOSED EXPLORATION ACTIVITIES ON EPL 8408 FOR BASE AND RARE METALS, INDUSTRIAL MINERALS, AND PRECIOUS METALS WITHIN THE OTJOZONDJUPA REGION, NAMIBIA.

Environmental Compliance Consultancy (ECC) hereby gives notice to the public that an application for an environmental clearance certificate in terms of the Environmental Management Act, No. 7 of 2007 will be made as per the following:

Applicant: B2Gold Namibia Minerals (Pty) Ltd
Environmental Assessment Practitioner (EAP): Environmental Compliance Consultancy
Location: Otjozondjupa Region, Namibia

Project: the proposed exploration for over the cobalt and vanadium formation of a central area, approximately a km north of Otjozondjupa, Otjozondjupa region, Namibia.

Proposed Activities: the proposed activity involves the exploration of base and rare metals, industrial minerals and precious metals on the area. The project will conduct low impact ground-truthing and mapping, hole drilling, sample ground and rock chip sampling and low scale and/or diamond drilling will be drilled.

Purpose of the review and registration period: the purpose of the review and registration period is to introduce the proposed project and to allow registered stakeholders and affected parties to give input to comment on the background information document (BID) to ensure that all issues and concerns are brought forward, captured and considered further in the assessment.

The registration period is effective from the 27th January 2022 to the 7th March 2022. Stakeholders are required to register for the project at: www.eccomentations.com/project. Stakeholders will then maintain contact with all registered stakeholders to keep them informed and engaged as the project develops. ECC will also provide registered stakeholders with a review document to review during the assessment period.

Environmental Compliance Consultancy
 registration number: EC/001/2015/12345
 members: Mr. J. van der Merwe and Mrs. J. van der Merwe
 P.O. Box 11444, Windhoek
 Tel: +264 61 457 7950
 E-mail: info@eccenvironmental.com
 website: www.eccomentations.com
 project id: EC/001/2022-01-06-0

EUROPEAN UNION
Vacancy Announcement
 Administrative Assistant: Administration Section

The European Union Delegation to Namibia is looking for an Administrative Assistant in the Administration Section. The successful candidate will serve as technical and support staff to Administration Section under the supervision and responsibility of the Head of Administration.

Please access more details about the vacancy and how to apply on the website of the EU Delegation to Namibia:
<http://www.europa.eu/delegation/namibia/en>

The due date for applications is: 3 March 2022

DHPS
 Deutsche Höhere Privatschule Windhoek

Please note: This vacancy is published in German only, as proficient knowledge of the German language is essential for this position. Thank you for your understanding.

Wir suchen ab April 2022 eine qualifizierte Lehrkraft (m/w) für die Grundschule

Der/die erfolgreiche Bewerber/in sollte

- ein Studium für das Lehramt an Grundschulen nachweisen können,
- über mehrjährige Unterrichtserfahrung im Anfangsstadium verfügen,
- Deutsch auf muttersprachlichem Niveau sprechen und sehr gute Englischkenntnisse vorweisen.

Die Deutsche Höhere Privatschule bietet Ihnen einen Arbeitsplatz in einem engagierten Team, ein leistungsgerechtes Gehalt sowie Beiträge zur Kranken- und eine Rentenversicherung.

Bei Interesse richten Sie bitte Ihre aussagekräftige Bewerbung mit vollständigen Lebenslauf und Lichtbild an:

Die Personalabteilung **Bewerbungsschluss: 4. März 2022**
 P.O. Box 76, Chanhuisweg 11 - 15 **Tele: 065-323 936**
 Windhoek **E-mail: hr@dhs-windhoek.com**

Tender

MTC hereby invites appropriately qualified companies to apply for the following tender:

• **MTC17-22-RF1**

REQUEST FOR INFORMATION FOR A RADIO ACCESS NETWORK CROWD SOURCING SOLUTION FOR MOBILE TELECOMMUNICATIONS LIMITED (MTC)

CLOSING DATE: Friday, 4th March 2022 by 14:30 PM

THE TERMS AND REFERENCE DOCUMENTS ARE AVAILABLE AT:
<https://www.mtc.com.na/corporate/procurement>

WHAT IS MULTIPLE SCLEROSIS?

OFFICE HOURS: Monday - Friday:
 09h00 - 17h00
info@msnamibia.org

A chronic disease of the brain and central nervous system

Invitation

Invitation for Bids (IFB) Open National Bidding (ONB)

The Namibia Trading Authority (NTA) hereby invites bids through the Open National Bidding (ONB) in line with Section 27 (1) (a) (i), Section 28 (b) and Section 2 (b) of the Public Procurement Act, 16 of 2015. These bids are for entities incorporated in Namibia with 100% shareholding or equity vested in Namibian citizens.

Procurement Reference Number: NCS/ONB/NTA – 01/2022
Description of Bid: Provision of Network Support Services for the NTA ICT Systems for a Period of Twenty-Four (24) months.

Procurement Reference Number: NCS/ONB/NTA – 02/2022
Description of Bid: Provision of Public Advertising Agency Services to the NTA for a Period of Twenty-Four (24) months.

Interested bidders may obtain the bidding documents upon payment of a non-refundable fee of N\$200,00.

Bids must be deposited in the Bid Box at NTA Village, 10 Rand Street, Khomasdal, Windhoek.

Closing Date: Wednesday, 23 March 2022, 11H00 AM

Late and crossed bids will not be considered.

Enquiries: procurement@nta.com.na

APPENDIX D - SITE NOTICES





APPENDIX E - STAKEHOLDER LETTER



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info@eccenvironmental.com

www.eccenvironmental.com



ECC Ref: ECC-132-382-LET-03-A
19 April 2022

Identified Stakeholder and Potentially Interested Party for:

The proposed exploration activities on EPL 8408 for base and rare metals, industrial minerals, and precious metals within the Otjozondjupa Region, Namibia

Dear Sir or Madam:

RE: NOTIFICATION OF AN ENVIRONMENTAL ASSESSMENT OF THE PROPOSED EXPLORATION ACTIVITIES ON EPL 8408 FOR BASE AND RARE METALS, INDUSTRIAL MINERALS, AND PRECIOUS METALS WITHIN THE OTJOZONDJUPA REGION, NAMIBIA.

Environmental Compliance Consultancy (ECC) has been engaged by B2Gold Namibia Minerals (Pty) Ltd, the Proponent, as their environmental assessment practitioner to conduct the environmental clearance certificate application process in terms of the Environmental Management Act, No. 7 of 2007 for the proposed exploration of base, rare, precious, and industrial metals over the Kuiseb and Karibib formation of the Damara Belt.

This letter is intended to engage potentially Interested and Affected Parties (I&APs) for the Project and provides a communication channel to ECC whilst the ESIA is ongoing. You have been identified as an interested or affected party and therefore ECC wishes to inform you of how you can interact with the ESIA.

The proponent proposes to conduct early exploration activities such as low-impact ground-truthing and mapping, followed by soil, termite mound, and rock chip sampling. This may be followed up by RAB drilling and/or diamond drilling in the second year which will take a couple of years to complete.

Public participation is an important part of the ESIA process, as it allows the I&APs to obtain information about the proposed project and provide feedback. Communication with the I&APs occurs at various stages throughout a project lifecycle including:

- Advertising in newspapers; public notice boards;
- Distributing a Background Information Document (BID) to identified I&APs; available online at (<https://eccenvironmental.com/projects/>)
- Registered I&APs will also be informed of the available draft scoping report for a review period, during this period I&APs will have the opportunity to review the draft document and raise any issues or concerns, and
- I&APs who wish to register as such must do so on the ECC website as per the link provided below: <https://eccenvironmental.com/projects/>

If you are unable to complete the registration form online, please contact us via email for assistance. info@eccenvironmental.com

ECC values community input and participation in our projects and we look forward to working with you as the project develops.

ENVIRONMENTAL COMPLIANCE CONSULTANCY CC
PO BOX 91193 WINDHOEK, NAMIBIA
MEMBERS: J L MOONEY & JS BEZUIDENHOUT
REGISTRATION NUMBER: CG/2013/11404



Should you have any questions or require additional information, please do not hesitate to contact either of us.

Yours sincerely,



pp

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APPENDIX F – EAP CVS

APPENDIX G – HERITAGE ASSESSMENT