



ECC-88-338-REP-26-D

ENVIRONMENTAL SCOPING REPORT PLUS IMPACT ASSESSMENT

EXPLORATION ACTIVITIES ON EPL 7789 FOR BASE AND RARE METALS, INDUSTRIAL MINERALS AND PRECIOUS METALS IN THE KUNENE AND OTJOZONDJUPA REGIONS, NAMIBIA

PREPARED FOR VOTORANTIM METALS (PTY) LTD



JUNE 2021



TITLE AND APPROVAL PAGE

Project Name:	Proposed exploration activities on EPL 7789 for base and rare metals, industrial minerals, and precious metals in the Kunene and Otjozondjupa regions.
Project Number	ECC-88-338-REP-26-A
Client Name:	Votorantim Metals Namibia (Pty) Ltd
Ministry Reference:	N/A
Status of Report:	Final for government submission
Date of issue:	April 2021 (updated in June 2021)
Review Period	N/A

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EXECUTIVE SUMMARY

Votorantim Metals Namibia (Pty) Ltd (herein referred to as Votorantim or the proponent), intends to undertake exploration activities on Exclusive Prospecting Licence (EPL) 7789 for base and rare metals, industrial minerals, and precious metals in the Kunene and Otjozondjupa regions.

The proposed project triggers listed activities in terms of the Environmental Management Act, No. 7 of 2007 and its Environmental Impact Assessment 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 scoping 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 exploration activities on EPL 7789 will likely include soil sampling, ground geophysical surveys (audio-magneto telluric, induced polarization and magnetic ground surveys), geological mapping, and exploration drilling. Some limited bush-clearing in bush encroached areas may be carried out, for the creation of working areas and access tracks where necessary. All sites of activity will be managed according to stringent environmental requirements that Votorantim upholds in its exploration projects. Access agreements will be entered into with all farmers / holders of private ground which may be accessed.

The exploration activities will commence as soon as an environmental clearance certificate has been granted by the Environmental Commissioner and activities are expected to be conducted over a 3-year period, which is the duration of the exploration licence. However, the period of each phase of the exploration programme may vary and will be refined as geological information becomes available.

EPL 7789 comprises a karstveld vegetation type under the Tree-and-Shrub Savanna Biome (Mendelsohn *et al.*, 2002). The vegetation structure in the proposed area can be broadly classified as mixed woodlands. The area supports a medium-high terrestrial diversity of animal and plant life, with the plant diversity in the area supporting between 400-499 species.

The impacts of exploration activities with respect 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. Additionally, there will be associated drilling and machinery noise, which could be a disturbance to immediate neighbours, 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 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.

EPL 7789 is located mainly on the Kunene south water basin and partially extends into the Owambo basin. The area is underlain by dolomites and limestones, which show a moderate potential of groundwater with an increased potential where fractures and faults occur on a local scale. In some areas over the Kunene south aquifer, complexes can be found. The aquifer is also moderately reliable, as it is frequently recharged and water quality is generally of a high standard (Mendelsohn *et al.*, 2002). The potential for contamination from the proposed activities is regarded as minimal. Protection of water quality is addressed in the EMP.

This study concluded that a potential environmental risk, which may require further investigation, is related to the cumulative impacts as a result of visual disturbance, nuisance of noise and the loss of sense of place. Receptors are farm owners, neighbours, tourists and visitors. The visual disturbance and loss of the sense of place is considered to be of moderate significance, however with additional mitigation, the significance can be reduced to minor. These additional mitigation measures include:

- Positioning of drill equipment in such a way that it is out of sight from human receptors;
- Barriers or fences shall be used if drilling occurs in locations that may affect residents or livestock;
- Residents need to be informed at least two weeks in advance that drilling operations are within 1km of their property; and
- Continuous engagement with residents to identify any concerns or issues, and appropriate mitigation and management measures agreed upon.

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 it 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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DEFINITIONS AND ABBREVIATIONS

AMT	Audio-Magneto telluric	
DEA	Directorate of Environmental Affairs	
ECC	Environmental Compliance Consultancy	
EIA	Environmental Impact Assessment	
EMP	Environmental Management Plan	
EPL	Exclusive Prospecting Licence	
NDP5	Fifth National Development Plan	
GDP	Gross Domestic Product	
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome	
IP	Induced Polarization	
I&AP	Interested and affected parties	
IFC	International Finance Cooperation	
MAWLR	Ministry of Agriculture, Water and Land Reform	
MET	Ministry of Environment and Tourism	
MEFT	Ministry of Environment, Forestry and Tourism	
MHSS	Ministry of Health and Social Services	
MME	Ministry of Mines and Energy	
NSA	Namibian Statistics Agency	
NTS	Non-Technical Summary	
RAB	Rotary Air Blast (drilling)	
RC	Reverse Circulation (drilling)	
ТВ	Tuberculosis	
WHO	World Health Organization	



1 INTRODUCTION

1.1 PROJECT OVERVIEW

Votorantim Metals Namibia (Pty) Ltd proposes to undertake mineral exploration activities on EPL 7789 for base and rare metals, industrial minerals and precious metals in Kunene and Otjozondjupa regions (refer to Figure 1). The bulk of the EPL is located in the Kunene Region with only a small portion situated in the Otjozondjupa Region.

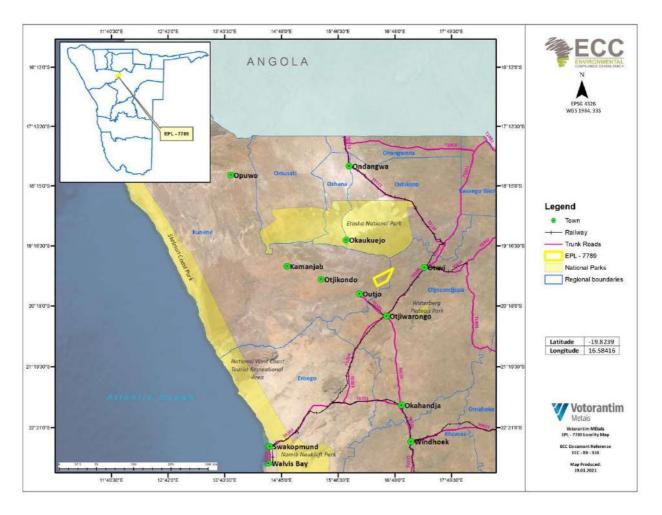


FIGURE 1 - LOCATION OF EPL 7789

Figure 2 provides more detail about the location of EPL 7789 in relation to access routes. The general EPL area can be accessed via the C39 trunk road connecting Outjo with Otavi further northeast of the EPL. One district road, the D2775 passes through the EPL in a north – south direction and can be used to access smaller farm tracks to the rest of the EPL (Figure 2).

The Etosha National Park is located north of the EPL 7789.



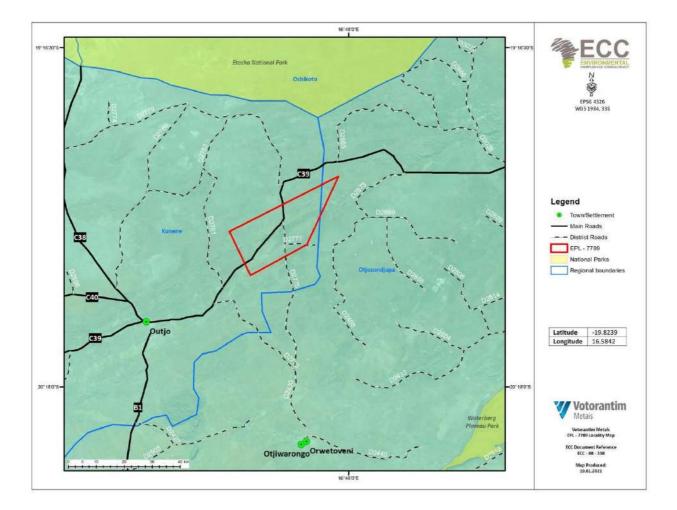


FIGURE 2 - LOCATION OF EPL 7789 IN RELATION TO ACCESS ROUTES

1.2 Scope of Work

Environmental Compliance Consultancy (ECC) has been engaged by the proponent, to undertake the ESIA and develop an Environmental Management Plan (EMP) in terms of the Environmental Management Act, 2007 and its regulations as part of the Environmental Clearance Certificate process.

The purpose of this report is to present the findings of the scoping study for the proposed project. This scoping report has been outlined in terms of the requirements of the Environmental Management Act, No. 7 of 2007 and its regulations, promulgated in 2012 (referred to herein as the EIA Regulations).

An environmental clearance application will be submitted to the relevant competent authorities; the Ministry of Mines and Energy (MME) and Ministry of Environment, Forestry and Tourism (MEFT).

ECC has prepared this report. 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 of environmental and social impact assessment on feasible alternatives that were considered; and
- Report the assessment findings, identifying the significance of effects, including cumulative effects.

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 and/or minimised as far as reasonably practicable, and that statutory requirements and other legal obligations are fulfilled.

1.3 The Proponent of the Proposed Project

The details of the proponent are set out in table 1.

TABLE 1 - PROPONENTS DETAILS

CONTACT	POSTAL ADDRESS	EMAIL ADDRESS	TELEPHONE
VOTORANTIM METALS NAMIBIA (PTY)	P O Box 97957,	efreyer@iway.na	+264 81 124 7342
LTD	Windhoek, Namibia	ext.yvonnenh@nexar	
Mr Eckhart Freyer Mrs Yvonne Hass		esources.com	

1.4 ENVIRONMENTAL 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 proposed project in terms of the Environmental Management Act, No. 7 of 2007 and its regulations are as follows:

LISTED ACTIVITY	SCREENING DETAILS RELEVANT TO THE PPOJECT
MINING AND QUARRYING ACTIVITIES (with relevance here only to exploration activities)	 The construction of facilities for any process or activities which requires a licence, right or other forms of authorisation, and the renewal of a licence, right or other forms of authorisation, in terms of the Minerals (Prospecting and Mining) Act, No. 33 of 1992. The proposed project operates under a licence that permits the construction of temporal exploration campsites, drill sites and access roads. Furthermore, this listed activity infers the provisions of the Act under a different licence category as a basis upon which certain activities qualify for an EIA. The Act defines prospecting and exploration activities, but includes activities strictly relating to exploration work. Hence the current project strictly focuses on exploration and not mining. Other forms of mining or extraction of any natural resources whether regulated by law or not. Ground exploration activities may include soil and stream sediment geochemical sampling, geophysical surveys, geological mapping and drilling within EPL 7789. Resource extraction, manipulation, conservation, and related activities.
WATER RESOURCE DEVELOPMENT	 precious metals. The abstraction of ground or surface water for industrial or commercial purposes Due to the exploration activities, groundwater will need to be abstracted, or sourced, particularly for the drilling phase. It is intended that water will be obtained from existing boreholes in the proposed project area, in liaison with landowners. Any additional borehole drilled for the intention of abstracting water for use on site should be permitted by the authorities in the form of an abstraction permit.
FOREST ACTIVITIES	 The clearance of forest areas, deforestation, timber harvesting or any other related activity that required authorisation in terms of the Forest Act, 2001 (Act No. 12 of 2001) or any other law The proposed project may require limited vegetation clearing in bush encroached areas for access tracks and site camps. Specially protected plant species will not be cleared without approval from the competent authority.

TABLE 2 - LISTED ACTIVITY RELEVANT TO THE ESIA



LISTED ACTIVITY	SCREENING DETAILS RELEVANT TO THE PPOJECT	
HAZARDOUS TREATMENT, AND STORAGE	 The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substance Ordinance, 1974. The storage and handling of hydrocarbons (diesel fuel) on site may trigger pollution events if done incorrectly. Any process or activity which requires a permit, licence or other 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. Quarrying activities will emit dust into the atmosphere. 	

1.6 TERMINOLOGIES APPLIED IN THIS REPORT

This section provides definitions of key terms to enable the reader to form a technical understanding of the type of work associated with exploration programmes.

- REMOTE SENSING techniques in mineral exploration enable explorers to evaluate large areas of the earth remotely without having to undertake ground-based exploration operations. Remote sensing may be used to map the geology and structure that potentially localise the ore deposits, or may be used to identify rocks, which have been hydrothermally altered. Remote sensing involves the use of aircraft and satellite-based equipment to obtain the data to record spectral data from the surface of the earth. Remote sensing includes a number of tools and techniques including geographical information systems, radar and sonar. Typically, satellites or a high-flying aircraft are used in the data collection process. It is a useful tool when searching for minerals and can give an indication of where deposits could be located. Remote sensing aids in narrowing down the field survey area and help to identify target areas that may be considered for mapping.
- GEOLOGICAL MAPPING of outcrops is used to describe the primary lithology and morphology of rock bodies as well as age relationships between rock units. Mapping is a crucial part of refining subsurface targets, as it provides structural information and can be used to predict the subsurface geology. This will be conducted concurrently with the geochemical sampling.
- GEOCHEMICAL SAMPLING (soil and rock sampling) is a non-invasive technique to determine the existence and extent of mineralization and a potential resource. Geochemical data are used to focus on areas of higher mineral potential as the project advances and help to define drill targets. They assist the company to drill more selectively and thereby increase the chances of intersecting mineralised zones during exploration and reduce the overall footprint of exploration and environmental impact in the area. Geochemical surveys will be the first ground exploration method to be undertaken by the proponent in the licence area.



- **SAMPLING** Selecting a fractional but representative part of the soil or rock for analysis.
- GROUND GEOPHYSICAL SURVEYS, including magnetic and Induced Polarization (IP) techniques, will be undertaken, as appropriate, to collect data that give an indication of essential rock properties, particularly at depth. They are also used to map the geological structures. IP surveys involve sending electrical currents into the ground, measured via electrodes along linear cutlines up to 3 km long to provide access to electrical cables. Small holes in the ground (0.2m x 0.2m x 0.3m) will be required for IP electrodes every 25 or 50m along a survey line. Copper sulphate solution will be used to improve the conduction of electrodes during the IP survey. The majority of EM techniques are completely non-invasive and operate by sending electromagnetically induced currents into the ground. EM surveys are conducted along the same linear traverse lines. A variation is the Audio-Magneto Telluric (AMT) technique, in which surveys utilize the same lines and small holes in the ground, but without the application of high voltage electrical currents.
- RAB DRILLING (Rotary Air Blast drilling) is an open-hole technique that injects compressed air down the drill pipe and recovers the drill-chip fragments, on the outside of the drill stem.
- DIAMOND DRILLING entails the use of a diamond-studded drill in order to obtain core samples of two cm or more in diameter. Bio-degradable drill additives will be used during diamond core drilling. Soil, rock and drill core samples will be temporarily stored at the site office. Exploration activities are usually undertaken in phases, with periods of no field activity between them, whilst awaiting analytical results, and the integration and interpretation of data to decide on the next phase of exploration.



2 APPROACH TO THE IMPACT ASSESSMENT

2.1 PURPOSE AND SCOPE OF THE ASSESSMENT

The aim of this assessment is to determine which impacts are likely to be significant (the main 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.

Scoping of the ESIA was undertaken by the ESIA team. The scope of the assessment was determined through undertaking a preliminary assessment of the proposed project against the receiving environment obtained through a desk-top review, available site-specific literature, monitoring data and site reports.

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.

2.2 THE ASSESSMENT PROCESS AND METHODOLOGY

The ESIA methodology applied here has been developed using the IFC standards and models (IFC, 2012; 2017), in particular Performance Standard 1: 'Assessment and management of environmental and social risks and impacts' 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 (GRN, 2008) as well as the international and national best practice documents to our disposal 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.

The process followed through the basic assessment is illustrated in Figure 3 and detailed further in the following sections.



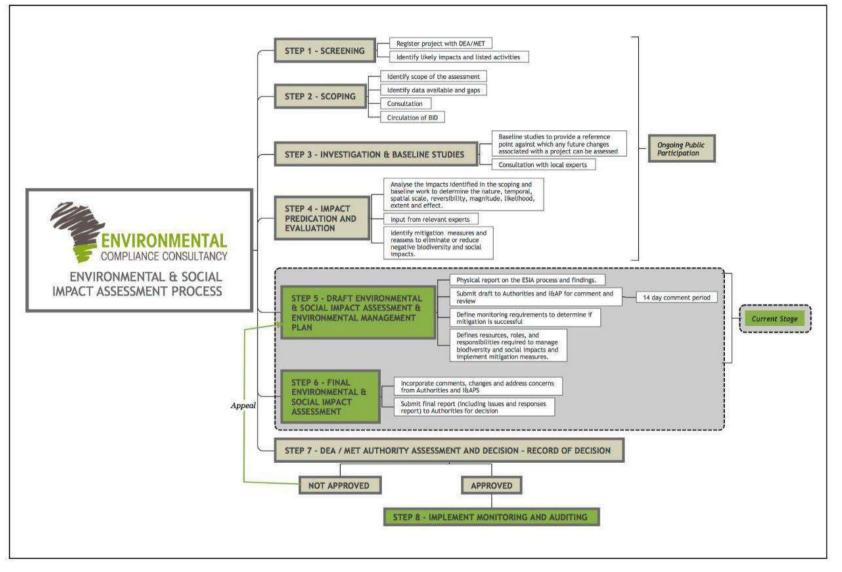


FIGURE 3 - ECC SCOPING PROCESS



2.3 SCREENING OF THE PROPOSED PROJECT

The first stages in the ESIA process are to register the project with the DEA / MEFT (completed) and undertake a screening exercise to determine whether it is considered as 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 as a listed activity and there may be potential for significant impacts to occur.

2.4 SCOPING OF THE 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 main 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 may interact 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 process. The details and outcome of the screening process are discussed further in sections 6 and 7.

Subsequently, scoping of the ESIA was undertaken by the ESIA team. The scope of the assessment was determined through undertaking a preliminary assessment of the proposed project against the receiving environment obtained through a high-level desktop review. Feedback from consultation with the client and stakeholders also informed 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 (potential cumulative impact). Water management suggestions are contained in the EMP.
- Cultural heritage

2.5 BASELINE STUDIES

Baseline studies are undertaken as part of the scoping stage, which involves collecting all pertinent information from 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, focussing on environmental receptors that could be affected by the proposed project, verified through site-specific information. The baseline information is covered in Section 5.

A robust baseline is required in order to provide a reference point against which any future changes associated with a project can be assessed, and it allows for suitable mitigation and monitoring actions to be identified.

The existing environment and social baseline for the proposed project were collected through various methods:

- Desk-top studies
- Consultation with stakeholders, and
- Engagement with Interested and Affected Parties (I&APs). See Appendix C.

2.6 IMPACT IDENTIFICIATION AND EVALUATION

Impact identification and evaluation involves predicting the possible changes to the environment as a result of the development/project. The ECC methodology was applied to determine the magnitude of an impact and whether or not the impact was considered significant and thus warrant further investigation. The impact prediction and evaluation methodology used is presented in Section 6 of this report. The findings of the assessment are presented in Section 7.

2.7 ESIA CONSULTATION

Public participation and consultation are a requirements in terms of Section 21 of the Environmental Management Act, No. 7 of 2007 and its regulations for a project that requires an environmental clearance certificate. Consultation is a compulsory and critical component in the ESIA process, aimed at achieving transparent decision-making, and can provide many benefits.

The objectives of the stakeholder engagement process are to:



- Provide information on the project to I&APs: introduce the overall concept and plan;
- Clarify responsibility and regulating authorities;
- Listen to and understand community issues, concerns and questions;
- Explain the process of the ESIA and timeframes involved; and
- Establish a platform for ongoing consultation.

2.7.1 INTERESTED AND AFFECTED PARTIES

EPL 7789 is located over 27 farms (Figure 4). The D2775 run through the EPL in a north to south direction and links to the C39 trunk road that connects to Outjo southwest of the EPL. The farms that overlap EPL 7789 were identified as I&APs, as well as the relevant authoritative bodies. Other I&APs were identified through invitations such as the newspaper advertisements and site notices.

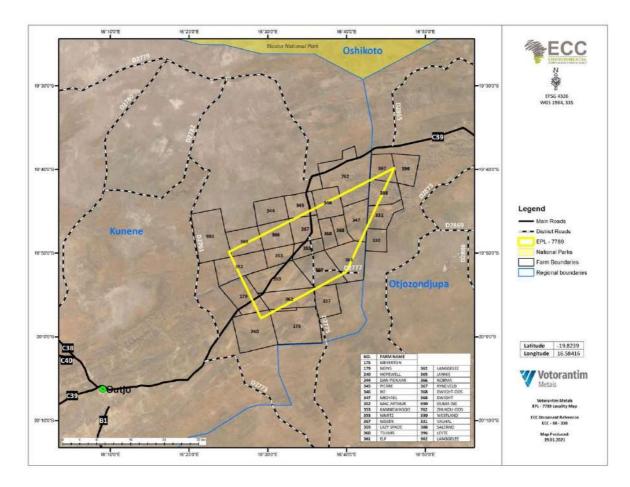


FIGURE 4 - LOCATION OF EPL 7789

2.7.2 NON-TECHNICAL SUMMARY

The Non-Technical Summary (NTS) presents a high-level description of the proposed project; sets out the EIA process and when and how consultation is undertaken; and provides contact



details for further project-specific inquiries to all registered I&APs. The NTS was distributed to registered I&APs and the NTS can be found in Appendix B.

2.7.3 NEWSPAPER ADVERTISEMENTS

Notices regarding the proposed project and associated activities were circulated in three newspapers namely the 'Republikein, The Namibian Sun, and Allgemeine Zeitung' on the 16th and 23rd of February 2021 (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.

2.7.4 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 C.

2.7.5 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, no public meeting was held during the public consultation period, as it was not deemed necessary for this project. Moreover, the public has not raised any interests or requests for a meeting to be held.

2.7.6 CONSULTATION FEEDBACK

The I&APs through the respective farmers association responsible for the farmers in the project area were encouraged to provide constructive input during the consultation periods. The initial round of consultation methods used as prescribed by the EM Act's regulations are presented in Appendix C. However, no issues or concerns were raised by the I&APs during the initial consultation period.

The public review period of the scoping report and the EMP was set between 28 April to 10 May 2021, providing the public an opportunity, to send any comments on the draft reports to be included and addressed, where applicable, in the final documentation. One comment was received form one I&AP stating that his farm falls outside the boundary of the EPL. No additional comments were received from the I&APs on the draft reports submitted for commentary.

2.8 DRAFT ESIA AND EMP

This report and EMP for the project's environmental clearance include an assessment of the biophysical and social environment, which satisfies the requirements of Step 5 (Figure 3).



The ESIA report documents the findings of the assessment process, provides stakeholders with the opportunity to comment and continue 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 ESIA report focuses on the significant impacts that may arise from the proposed project as described in Step 4 (Figure 3). These impacts are discussed in Chapter 6.

This ESIA report was open to stakeholders and I&APs for consultation, meeting the mandatory requirement of 7 days as set out in the Environmental Management Act, No. 7 of 2007 and its regulations, including the Environmental Impact Assessment Regulations, No. 30 of 2012. The aim of this stage was to ensure all stakeholders and I&APs have the opportunity to provide final comments on the assessment process and findings and register their concerns.

2.9 FINAL ESIA AND EMP

The final ESIA report and associated appendices are available to all stakeholders on the ECC website www.eccenvironmental.com. All I&APs are informed via email. The ESIA report and appendices were formally submitted to the Office of the Environmental Commissioner, DEAF as part of the application for an environmental clearance certificate.

2.10 AUTHORITY ASSESSMENT AND DECISION MAKING

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

2.11 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 REGULATORY FRAMEWORK

This chapter outlines the regulatory framework applicable to the proposed project. Table 3 provides a list of applicable legislation and the relevance to the project. An environmental clearance is required for any activity listed as per Government Notice No 29 of 2012 of the EMA.

3.1 NATIONAL LEGISLATION

TABLE 3 - LEGAL COMPLIANC	E
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NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Constitution of the Republic of Namibia of 1990	The Constitution of the Republic of Namibia, 1990 clearly defines the country's position in relation to sustainable development and environmental management. The constitution refers that the state shall actively promote and maintain the welfare of the people by adopting policies aimed at the following: "Maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present, and future"	The proponent is committed to engage the local community for the proposed project by providing local opportunities, as well as exploring for recourses that could be to the benefit of Namibians.
Minerals (Prospecting and Mining) Act, No. 33 of 1992	 Provides for the reconnaissance, prospecting and mining for, disposal of, and the exercise of control over minerals in Namibia. Section 50 (i) requires <i>"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"</i> Section 50 sets out that in addition to any term and condition contained in a mineral agreement and any term and condition contained in a mineral in any mineral licence, it shall be a term and condition of any mineral licence that the holder of such mineral licence shall: Exercise any right granted to him or her in terms of the provisions of this Act 	The proposed activity is prospecting for minerals; hence it requires an EIA to be carried out as it triggers listed activities in the Environmental Management Act and its regulations. This report presents the findings of the EIA. Work shall not commence until all conditions in the Act are met, which includes an agreement with the landowners and conditions of compensation have been agreed. The project shall be compliant with Section 76. With regards to records, maps, plans and financial statements, information, reports, and returns submitted.



NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
	reasonably and in such manner that the rights and interests of the owner of any land to which such licence relates are not adversely affected, except to the extent to which such owner is compensated. Section 52 sets out that the holder of a mineral licence shall not exercise any rights conferred upon such holder by this Act or under any terms and conditions of such mineral licence (a) In, on or under any private land until such time as such holder.	As the proponent will need to access privately owned land the proponent will ensure Sections 50 and 52 are complied with.
	(i) Has entered into an agreement in writing with the owner of such land containing terms and conditions relating to the payment of compensation, or the owner of such land has in writing waived any right to such compensation and has submitted a copy of such agreement or waiver to the Commissioner.	
Environmental Management Act, (No. 7 of 2007) and its regulations, including the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2012)	The Act aims to promote sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the environment. It sets the principles of environmental management as well as the functions and powers of the Minister. The Act requires certain activities to obtain an environmental clearance certificate prior to project development. The Act states an ESIA may be undertaken and submitted as part of the environmental clearance certificate application.	This environmental scoping report (and EMP) documents the findings of the environmental assessment undertaken for the proposed project, which will form part of the environmental clearance application. The assessment and report have been undertaken in line with the requirements under the Act and associated regulations.
	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.	
Water Act, No. 54 of 1956	Although the Water Resources Management Act, No 11 of 2013 has been billed, but not promulgated, it cannot be enacted as the	The Act stipulates obligations topreventpollutionofwater.Shouldwastewaterbe



NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
	regulations have not been passed – so the Water Act 54 of 1956 is still in effect. This act provides for <i>"the control, conservation and use of water</i> <i>for domestic, agricultural, urban and industrial</i> <i>purposes; to make provision for the control, in</i> <i>certain respect and for the control of certain</i> <i>activities on or in water in certain areas"</i> . The Department of Water Affairs within the Ministry of Agriculture Water and Land Reform (MAWLR) is responsible for the administration of the Act. The Minister may issue a permit in terms of the regulations 5 and 9 of the government notice R1278 of 23 July 1971 as promulgated under section 30 (2) of the Water Act no. 54 of 1956, as amended.	discharged, a permit is required. The EMP sets out measures to avoid polluting the water environment. Measures to minimise potential groundwater and surface water pollution are contained in the EMP. Abstraction of water from boreholes requires an abstraction permit. Abstraction rates need to be measured and reported to the authorities in accordance with the requirements of this legislation. In addition, annual reporting on the environmental impacts of water abstraction is recommendable. Should the project require drilling and abstraction of water from underground sources, an application should be submitted to the authorities.
Soil Conservation Act, No. 76 of 1969) and the Soil Conservation Amendment Act, No. 38 of 1971)	Makes provision for the prevention and control of soil erosion and the protection, improvement and the conservation, improvement and manner of use of the soil and vegetation.	This will be taken into consideration during the intention of the works to be undertaken within EPL 7789 site. Measures in the EMP set out methods to avoid soil erosion.
The Forestry Act, No. 12 of 2001 as amended by the Forest Amendment Act, No. 13 of 2005	Section 22 requires a permit for the cutting, destruction or removal of vegetation that are classified under rare and or protected species; clearing the vegetation on more than 15 hectares on any piece of land or several pieces of land situated in the same locality which has predominantly woody vegetation; or cut or remove more than 500 cubic metres of forest	The planned project activities will include minimal vegetation clearing to support exploration activities. The necessary permit should be obtained from the MEFT, where the application should satisfy that the cutting and removal of vegetation will not



NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
	produce from any piece of land in a period of one year.	interfere with the conservation of soil, water or forest resources.
National Heritage Act, No. 27 of 2004.	The Act provides provision of the protection and conservation of places and objects with heritage significance. Section 55 stipulates that exploration companies must report any archaeological findings to the National Heritage Council after which a heritage permit needs to be issued	There might be potential for heritage objects to be found on site, therefore the stipulations in the Act have been taken into consideration and are incorporated into the EMP. Section 55 compels exploration companies to report any archaeological findings to the National Heritage Council after which a permit needs to be issued before the find can be disturbed. In cases where heritage sites are discovered the 'chance find procedure' will be used

3.2 NATIONAL REGULATORY REGIME

TABLE 4 - NATIONAL POLICIES

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Vision 2030	Vision 2030 sets out the nation's development programmes and strategies to achieve its national objectives. It sets out eight themes to realise the country's long-term vision. Vision 2030 states that the overall goal is to improve the quality of life of the Namibian people to a level in line with the developed world.	The planned project shall meet the objectives of Vision 2030 and shall contribute to the overall development of the country through continued employment opportunities.
The Fifth National Development Plan (NDP5)	NDP5 is the fifth in the series of seven five-year national development plans that outline the objectives and aspiration of Namibia's long-term vision as expressed in Vision 2030. NDP5 is structured on the pillars of economic progression, social transformation, environmental sustainability and good governance. Under the social transformation pillar is the goal of improved education.	The planned project supports meeting the objectives of NDP5 by creating specialised or skilled opportunities for employment to the nearby community and the Namibian nation.



NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Minerals Policy	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. It sets out to achieve several objectives in line with the sustainable development of Namibia's natural resources. 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, amongst others. The objectives of the Minerals Policy are in line with the objectives of the Fifth National Development Plan that include reduction of poverty, employment creation and economic empowerment in Namibia.	The objectives of the Minerals Policy are in line with the objectives of the NDP5, e.g., reduction of poverty, employment creation, and economic empowerment in Namibia. The proposed project conforms to the policy, which has been considered through the EIA process and the production of this report.
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)	The proposed project will comply with stringent health and safety policies (including noise control), including the compulsory use of specific PPE in designated areas to ensure adequate protection against health and safety risks. Proper storage and labelling of hazardous substances are required. The project will ensure employees in charge of and working with hazardous substances needs to be aware of the specific hazardous substances in order not to compromise worker and environmental safety.

3.3 PERMITS AND LICENCES

3.3.1 EXCLUSIVE PROSPECTING LICENCE

The EPL 7789 was granted on the 13th of November 2020 and expires on the 12th of November 2023. In terms of the Minerals (Prospecting and Mining) Act, No. 33 of 1992, an EPL may be renewed; however, it may only be extended twice for two-year periods if demonstrable progress is shown. Renewals beyond seven years require special approvals from the Minister MME, 2018.



Such renewals are subject to a reduction in the size of the EPL. When a company applies for renewal of an EPL, the application must be lodged 90 days prior to the expiry date of the EPL or, with good reason, no later than the expiry date (MET & MME, 2018).

If renewal is applied for, the MME must review the renewal application and make any comments and/or recommendations for consideration by the Minerals (Prospecting and Mining Rights) Committee (MPMRC). Amendments and revisions may be required for the EIA and EMP. Due consideration must be given when renewing the licence to ascertain whether there is justification to renew the licence. Once an EPL expires and a new EPL is issued, even if it is to the previous holder, the full screening process must be followed with a full EIA process, before operations may commence (MET & MME, 2018).

The permits and license that may be relevant to the proposed projects are outlined in Table 5.

PERMIT AND LICENCES	RELEVANT AUTHORITY	VALIDITY/DURATION
WATER ABSTRACTION PERMITS	Ministry of Agriculture, Water and	Permit dependent
	Land Reform	
EXCLUSIVE PROSPECTING	Ministry of Mines and Energy -	3 years
LICENCE	Windhoek	
NOTICE OF INTENTION TO DRILL	Ministry of Mines and Energy -	To be submitted prior
	Windhoek	to drilling

TABLE 5 - PERMITS AND LICENCES REQUIREMENTS

3.4 WORLD BANK STANDARDS

The IFC is a member of the World Bank Group and is the largest global development institution focusing on the private sector in developing countries. Its standards have become a global benchmark for environmental and social performance. They form the basis for the Equator Principles (IFC, 2013), a voluntary environmental and social risk-management framework used by 77 financial institutions worldwide. The Equator Principles are a framework and set of guidelines for evaluating social and environmental risks in project finance activities and apply to all new projects with a total capital cost of US\$10 million or more, no matter what industry sectors, without geographic requirement. The Equator Principles are not applicable to this specific project.



4 **PROJECT DESCRIPTION**

4.1 NEED FOR THE PROPOSED PROJECT

Namibia is relatively rich in a variety of minerals, and mining has always been a critical sector of the Namibian economy. The sector contributes significantly to the country's Gross Domestic Product (GDP), through taxation, royalties, fees and equities as well as 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 the development.

The proposed project is in line with this vision and has the potential to create short term and limited employment and to contribute to the national income. In the event that exploration activities are successful, and a resource with commercially viable mineral concentrations can be defined, the exploration operations can potentially transcend into mining operations which can result in multiple socio-economic benefits to the region and the country at large.

4.2 EXPLORATION

It is the process of sampling / collecting fragments of the earth's layers for testing of each sample's mineral composition, grade, and spatial dispersion to acquire an informed perspective of the target area's ore potential. Deep probing is achieved through ground geophysical surveys and drilling.

4.3 EXPLORATION METHODOLOGY

Exploration work will be entirely conducted by dedicated professional geological, geophysical consultants as well as drilling consultants and companies.

The exploration activities are executed and managed from the Votorantim Exploration Office in Otavi. Field exploration activities, using techniques as discussed below, are anticipated to be carried out over the licence validity period.

Existing tracks shall be used as far as reasonably practical. In the event that 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, if necessary and site camps, 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). Any established or large trees or specially protected plant species shall not be removed, and access tracks will be routed to avoid these wherever possible and permits will be obtained as necessary. Impacts and effects of the geochemical surveys and drilling programmes are likely to be low.



4.3.1 EXPLORATION SCHEDULE

The schedule of activities that may be undertaken for the project is presented in Table 6.

TABLE 6 - SCHEDULE OF ACTIVITIES THAT MAY BE UNDERTAKEN

PHASE	DATE	ACTIVITY DESCRIPTION
Phase 1	Exact commencement date unknown	Planning – Remote sensing studies and planning phases for the prospecting program will require two-six months.
Phase 2	Exact commencement date unknown	Geochemical sampling will be undertaken concurrently with geological mapping for approximately two-six months.
Phase 3:	Exact commencement date unknown	Geophysical surveys will then be carried out over a period of about two (2) months after which the project will advance to reverse circulation or core drilling. Diamond drilling and possible Rotary Air Blast (RAB) drilling may occur, and the number of holes and aerial extent will be determined by the geochemical and geophysical anomalies obtained. AMT, IP and magnetic ground surveys shall be undertaken to measure chargeability, conductivity and magnetic susceptibility of the rocks. 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

During the exploration phase double and single cab vehicles will be used to transport workers to, from and around the site. Field activities will be organized from the exploration office in Otavi. Contractor's camp infrastructure may include tents and chemical toilets, to be temporarily set up on the site. 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, and RC compressor) for use during drilling. Drilling equipment, diesel fuel and consumables shall be brought to the exploration site to support exploration activities as and when needed.



4.3.3 WORKERS AND ACCOMMODATION

Four to eight possible job opportunities are foreseen during the exploration phase and workers will be sourced from the nearest town i.e., Outjo. The workers will be deployed at various stages of exploration including soil sampling, geological mapping, geophysical surveys and drilling operations.

It is envisaged that for most of the exploration programme workers will reside in Outjo (+/-70 km from EPL 7789) 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 or in existing housing rented from the property owner. The proponent shall provide suitable living facilities during this period.

4.3.4 WATER DEMAND

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 water will most likely be sourced from an existing water source on site, after permission has been obtained from the custodian of the land (Kunene Regional Council through the relevant traditional authority), of which they will be compensated for water usage. Limited water will be needed for the first stage of exploration (e.g., soil sampling), 1m³/day water will be required for geophysical surveys in the second stage of exploration and approximately a volume of 30 m³ / day of water may be required for diamond drilling in the third stage of exploration.

4.3.5 WASTE MANAGEMENT

Waste produced on site will include sewerage and solid waste such as packaging material. Wastewater (e.g., water with drill additives) used during drilling is recycled, contained in a lined sump and allowed to evaporate after use. The drill-sludge will be disposed of at the Outjo municipal waste disposal site. In case of the provision of mobile toilets to be used on site, sewerage generated shall be managed by the toilet contractor. Wastewater that is discharged into the environment must comply with wastewater discharge specifications.

4.3.6 SITE REHABILITATION

Once exploration activities are completed the areas shall be rehabilitated to a condition as close to the original state of the site as far as possible. Rehabilitation shall be determined during the exploration programme and shall be agreed with the traditional authorities as implied by legislation (discussed in Section 3). Before and after photographs will be used to monitor rehabilitation success.



4.4 ALTERNATIVES CONSIDERED

The proposed project has been subject to a process of design evolution, informed by both consultation and an iterative environmental assessment. 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 ESIA 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 following more invasive technique is envisaged at strategic locations as informed by new data:

- Diamond core drilling.

The most suitable options and methods shall be identified to ensure the impacts on the environment and society from these activities are minimised.

4.4.1 NO-GO ALTERNATIVE

Should exploration activities within EPL 7789 not take place, the anticipated environmental impacts from exploration activities would not occur, however, the social and economic benefits associated with the project for the Kunene and Otjozondjupa regions would also not be materialized.

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



5 ENVIRONMENTAL AND SOCIAL BASELINE

5.1 INTRODUCTION

This section provides an overview of the existing biophysical environment through the analysis of the baseline data regarding the existing natural and socio-economic environment. Desktop studies on the national database are undertaken as part of the scoping stage to get information of 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.

5.2 SITE AND SURROUNDING ENVIRONMENT

The town of Outjo is the closest town to the EPL, situated approximately 70 km southwest of the project area and can be accessed via the C39 trunk road in an east-west direction and from the D2775 from the south (Figure 5). A network of tracks provide access to the farms from the district road (Figure 5).

The Kunene region's economy relies mostly on tourism and a strong farming community as both commercial and subsistence farming operations.

EPL 7789 overlaps with 27 commercial farms (Figure 5). The tracks within the general area can be used for access and movements during the course of exploration activities. The EPL lies in a region that receives between 400-450ml annual rainfall, which allows for mainly commercial livestock rearing and to a lesser extent, crop production in the area.

Pro-active communication between the proponent, and the farm owners, need to be maintained when planning to access the EPL and to keep them updated on exploration activities.



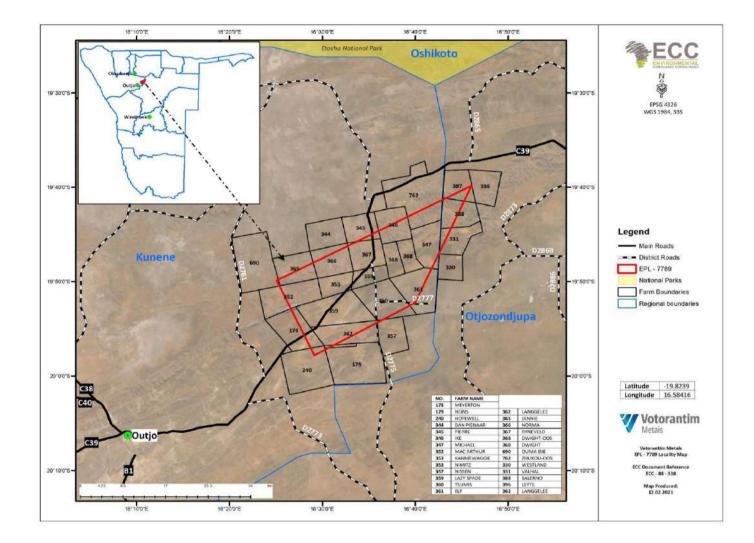


FIGURE 5 - ACCESSIBILITY MAP OF EPL 7789



5.3 CLIMATE

EPL 7789 receives between 400-450mm of rainfall per year, with a high variation coefficient of 30-40%. Rainfall events are limited to the summer months, mainly between January and March, in the form of thunderstorms often associated with heavy downpours. Potential evaporation is between 1,960 and 2,100 mm per year, meaning an average water deficit of between 1,700 and 1,900 mm per year may occur. Relative humidity is low, rarely more than 20% in winter but may reach 85% in summer before or after thunderstorm build-up. Maximum temperatures average around 32-34°C, while minimum temperatures are around 11-13°C during summer months. During winter months temperatures can range between 5-26°C. Deviations from these averages are common. Occasional frost can occur (Mendelsohn et al., 2002).

Prevailing wind over EPL 7789 is expected to be from the east, with occasional airflow from southeast, north and west. Wind speed is expected to be low with more than two-thirds of the time lower than 10 km/h. The stronger air movements during the afternoons and evenings are the result of the ground being heated more in some places than others, in combination with the orographic effect of the mountains. During the winter months wind speed is slightly higher (Mendelsohn, et al., 2002).

The average wind speed of 1.7 mps (meters/second), and a calm of 42.9% (Figure 6) (Iowa State University, 2021).



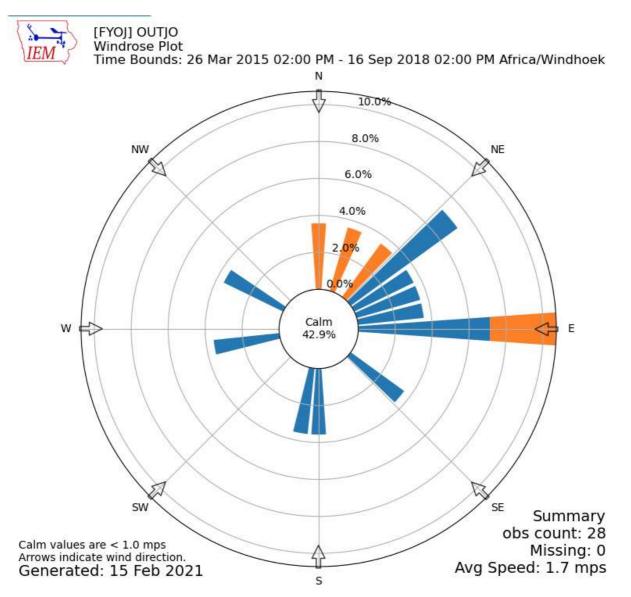


FIGURE 6 - PREVAILING WIND DIRECTION AND WIND SPEED IN THE GENERAL AREA OF THE PROPOSED PROJECT (SOURCE: IOWA STATE UNIVERSITY, 2021).

5.4 GEOLOGY AND GEOMORPHOLOGY

The local geology of EPL 7789 comprises a combination of units of the Swakop group which forms part of the Damara Supergroup (which is the oldest lithological unit in Namibia (2 600-1 650 Ma) (Figure 7) and observed in the middle of the EPL) and rocky outcrops of the Otavi group. The southern part of the EPL is covered by the more recently aged Kalahari and Namib sands. The Damara Supergroup (850-600 Ma) covers the largest part of the northwest quarter of Namibia and is oriented in a predominantly SW-NE direction with an extension into what is known as the Otavi Mountains (Mendelsohn et al, 2002). It is within these older lithological units that base and rare metal deposits may be found.



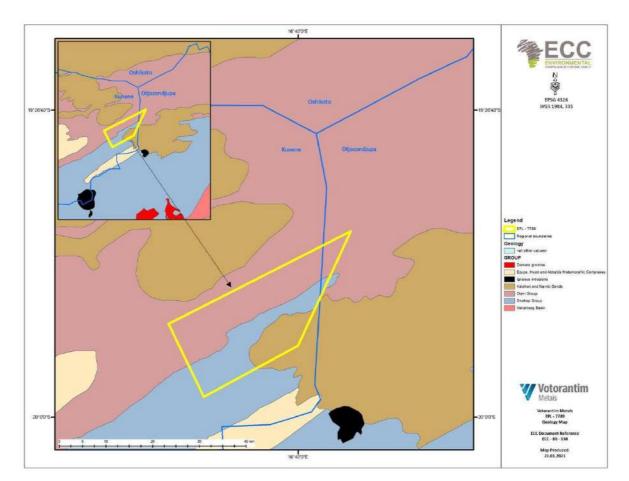


FIGURE 7 - EPL 7789 REGIONAL AND LOCAL GEOLOGY

5.5 TOPOGRAPHY AND SOIL

EPL 7789 is located on an elevation varying between 1254m and 1,822m above mean sea level (Figure 8). The landscape is rugged with some sharp topographical contrasts on the northern and south-western fringes of the EPL with incised streams. Generally, there is a fall in elevation from north to south, with the highest readings on the outcrops north of the EPL.



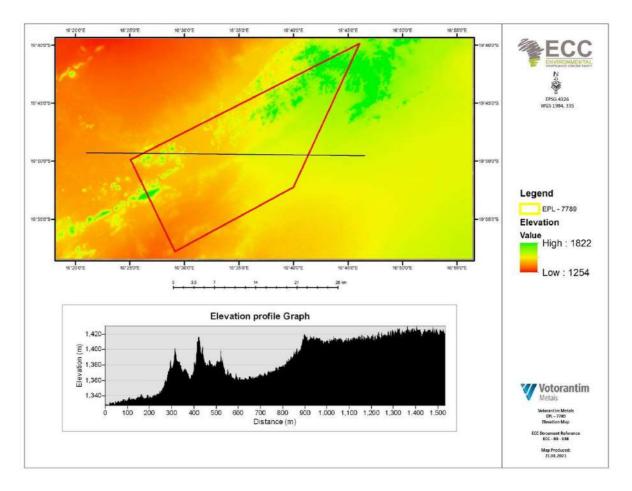


FIGURE 8 - ELEVATION PROFILE ALONG EPL 7789

Topsoil is largely absent where the surface is covered with rocky outcrops as is the case within the northern half of the EPL. Most of the surface area of the EPL is covered with chromic cambisols, which have a medium to high fertility characterised by bright colours within the middle section of the EPL (Figure 9). Eutric regosols are interjected between the rocky outcrops of the EPL and are typically associated actively eroding landscapes with a thin structure (Mendelsohn et al., 2002). The coarse-textured mollic leptosols are mainly concentrated in the eastern corner of the EPL and is characterised by its good structure, but limited depth (Mendelsohn et al., 2002).

The sources of dust associated with the proposed exploration activities are land clearing and the creation of access roads if necessary. These activities may have a minor impact on the neighbouring farming community.



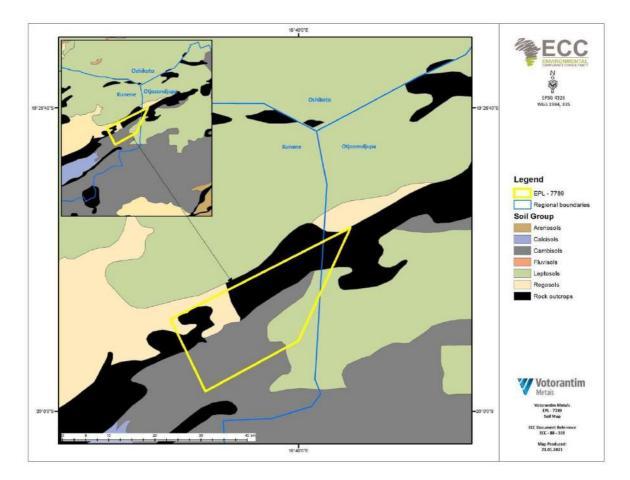


FIGURE 9 - EPL 7789 REGIONAL AND LOCAL SOIL MAP

5.6 Hydrology

The surface hydrology through EPL 7789 follows a relatively dendritic pattern which develops on relatively uniform surface materials and branches off from the main Ugab ephemeral river, which means that well-defined surface drainage systems are absent, or follow only short distances before surface water penetrates the surface. Although a drainage pattern can be identified, the flow of surface water is more defined by topographical valleys than the presence of streambeds.

5.6.1 GROUNDWATER

More than 20 registered boreholes are present within the EPL. It is assumed that water will be obtained from some of these existing boreholes during the exploration activities. Considering the nature and scale of the proposed exploration, drilling is unlikely to impact groundwater. Should the project require the drilling and abstraction of water from an additional borehole, an application must be submitted to the MAWLR.



5.6.2 GROUNDWATER FLOW

Groundwater flow in the area takes place mainly along fractures and contact zones within hard rock formations. Groundwater in the area flows in a northeasterly direction as inferred from historical groundwater data and the presence of a watershed along the northern boundary of the EPL.

EPL 7789 is located mainly on the Kunene south basin (Figure 10) and overlaps marginally onto the Owambo basin. The area is underlain by a moderately productive but fractured aquifer with an increased potential where fractures and faults occur on a local scale. The aquifer is also reliable, as it is frequently recharged and water quality is generally of a high standard (Mendelsohn et al., 2002).

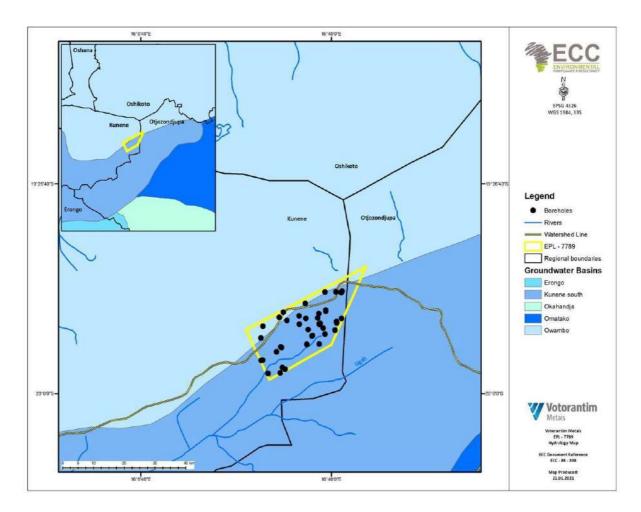


FIGURE 10 - HYDROLOGY MAP OF THE EPL 7789

5.7 **BIODIVERSITY**

5.7.1 VEGETATION

EPL 7789 falls within the Tree-and-shrub Savanna Biome (Figure 11). The dominant vegetation type over the EPL is characterised as kartsveld. The karstveld landscape over the EPL is dominated by a mixed woodland structure (*Colophospermum mopane*). Plant growth become



progressively shrubby towards the rocky outcrops to the north of the EPL, especially where the soils are shallower, slopes are steeper and where it is hillier and rockier (Mendelsohn et al, 2002). Thorny Acacia species dominate but a number of species are closely associated with the higher elevations only.

The most important environmental variable affecting the vegetation is rain, but micro-habitat conditions and rangeland management practices determine bush density and grass composition. Grazing resources are made up of a wide variety of grass species, which vary widely in palatability and in their abundance in the project area.

Plant diversity is estimated to be between 400-499 species (Mendelsohn et al, 2002), although local differentiation as a result of topography and the availability of water is possible. This is a relatively high occurrence of plant diversity in Namibia, and some endemics, near-endemics and protected species may occur. Biophysical baseline information does not accentuate the uniqueness of mountain vegetation and the diversity of plants species may converge on relatively small areas in which there are several habitats and niches offered by micro-climate, elevation and sheltered spaces.

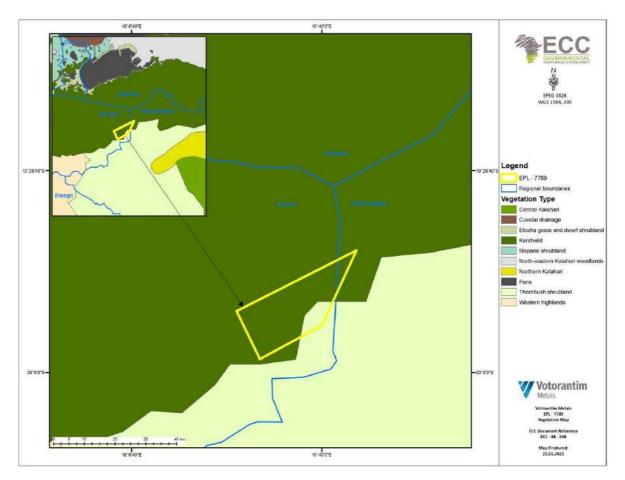


FIGURE 11 - EPL 7789 REGIONAL VEGETATION MAP



5.7.2 FAUNA SPECIES

Overall terrestrial biodiversity of the EPL area falls within the medium-high range. The number of mammal species ranges between 76 and 90, the number of bird species is between 171 and 200 with 61 - 70 reptile species, 12 - 15 frog species and 12 - 13 scorpion species that could be expected (Mendelsohn et al, 2002). On a local scale it is expected that diversity increases with the increase in habitats, which is closely coupled to shelter, food and water availability and migration routes. The micro-climate associated with an increase in elevation plays a prominent role in this regard and is directly related to the increase in terrestrial diversity.

The dominant land use within and on the surroundings of the EPL is subsistence livestock farming, in particular large livestock farming and to a lesser degree crop production and tourism.

5.8 SOCIO-ECONOMIC BASELINE

The EPL is located mainly within the Kunene Region and a small portion located in the Otjozondjupa Region in the central northern half of the country, bordering the Oshana Region - north, and the Erongo Region - southwest.

5.8.1 DEMOGRAPHIC PROFILE

Namibia is one of the least densely populated countries in the world (2.8 people per km²). Vast areas of Namibia are without people, in contrast to some fairly dense concentrations, such as the central-north and along the Kavango River. The Kunene Region has the least amount of people per square kilometre and home to the nomadic Himba ethnic group.

National population growth rate is estimated at less than 2%, lower than most African countries. Namibia's population is young - although 57% falls in the age group 15 – 59, 37% of the total population is younger than 15 (NSA, 2017). Since 2005 there has been a steady improvement in life expectancy, currently estimated at 65 years. In 2018 it was estimated that 50% of all Namibians are urbanized, in other words living in an urban settlement (retrieved from www.worldpopulationreview.com). The last national census was conducted in 2011 and counted 2.1 million Namibians. An inter-censal demographic survey was conducted in 2016 and estimated the total population at 2.3 million (NSA, 2017).

The population density of the Kunene Region, where the project is located, is low (0.8 persons per km²) when compared to the national average and the current total population of the region was estimated at 97 865 in 2016 (NSA, 2017). Opuwo is the biggest town in the region, recording 27 272 residents in 2011 growing at an average of 2.7 % per annum. In 2011 the population within Outjo was counted at 12 400 persons.

5.8.2 GOVERNANCE

Namibia is divided into 14 regions, subdivided by 121 constituencies. The Kunene Region is divided into six constituencies. Each region has a regional council, elected during regional



elections per constituency. Towns and villages are governed through local authorities, in the form of town or village councils respectively.

Opuwo is the capital and also the largest town of the Kunene Region. Many of the region's head offices are located in the town. Other towns of the region are Outjo, Fransfontein, Khorixas, Sesfontein, and Okanguati.

5.8.3 HEALTH

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. Despite the progress, the World Health Organization (WHO) in 2015 recommended strategic priorities for the health system in Namibia which include improved governance, an improved health information system, emergency preparedness, risk reduction and response, preventative health care and the combating of HIV/AIDS and TB (WHO, 2016).

HIV/AIDS remains a major reason for low life expectancy and is one of the leading causes of death in Namibia. There is a high HIV prevalence among the whole population, but since the peak in 2002 (15,000 new cases of HIV per year, and 10,000 yearly deaths due to AIDS) the epidemic started to stabilise (UNICEF, 2011). Although new infections as well as fatalities halved during the next decade, life expectancy for females returned to pre-independence levels but for males it did not reach pre-independence levels yet. 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 - 44 years in 2013 (IHME, 2016).

Tuberculosis (TB) is a leading killer of people infected by HIV/AIDS, and Namibia has a high burden – in 2018, 35% of people notified 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).

There are 28 recorded health facilities in the Kunene Region that provide basic health services at a minimum frequency and facility based 24-hour delivery services, with qualified staff. The basic services include outpatient curative care services for sick children and for adult STIs, temporary methods of family planning, antenatal care, child immunisation, and growth monitoring (HFC, 2009). One district hospital and one state hospital is located in Outjo.

As of the beginning of 2020 the coronavirus disease (COVID-19), a communicable respiratory disease, has caused illness in humans at a pandemic scale and has resulted in an increasing number of deaths worldwide. The viral outbreak is adversely affecting various socio-economic activities globally, and with reports of the 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 and lockdown mode, with dire economic consequences.



5.8.4 Employment

Kunene's labour force participation rate was 67.1%, compared to the average of 71.2% for Namibia. At a constituency level, the labour force participation rate was highest in Kamanjab (77.6%) and lowest in Epupa (60.6%). Skilled agriculture/fishery is the economic sector with the most employees – about 46.5%, while 12% of those employed fell in the service workers occupational group. Wages and salaries represented the income source of 41.0% of households (NSA, 2018). As a whole the region was marked by low education levels, which affected employability and prevented many households to earn a decent income. 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 rates in Namibia, particularly among the youth are high. According to the Namibia Labour Survey (2018), the unemployment rate of the Kunene Region was 41.6%, while the unemployment rate for people between 15 and 34 years of age was 53% in 2018, slightly higher than the national average of 46.1% (Namibian Statistics Agency, 2018).

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) is the economic sector with 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 prevents 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 fall in the category "elementary occupation" and 15.2% in the category "skilled agriculture" (NSA, 2019).

Overall, the rate of 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. The highest unemployment rates are found amongst persons with education levels lower that junior secondary. The unemployment rate of persons with no formal education is 28.6%, with primary education 34.6% and with junior secondary education 32.7% (NSA, 2019).

5.8.5 ECONOMIC ACTIVITIES

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. The main commodities are uranium, gold, diamonds, copper, zinc, lead, salt and dimension stone. Also, a major employer, about 1.7% of the formal labour force of Namibia is directly employed by the mining sector.

In the Kunene Region, extensive mineral exploration activities are underway in and around the mountainous areas in the region (Kunene regional development profile, 2015) that contain large reserves of mineral deposits and resources.

Although the region is rich in mineralised rock formations, no tangible large scale extractive operations are present. Small scale extraction, value addition and marketing of crystal rocks for the local tourism market takes place though (KRDP, 2015). The Kunene Regional Council (KRC) has since identified small scale mining as a key sector that should be promoted to address the region's economic growth challenge. In addition, Community Based Natural Resource Management (CBNRM) operations within the region promote various forestry products and the consumptive use of their wildlife for economic gain via the tourism and conservation sectors.

Since 2016, Namibia 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 an average growth of not more than 1% annually since 2017.

5.8.6 CULTURAL HERITAGE

A review of the National Heritage Council database was conducted, and within EPL 7789 there are no known recorded heritage sites and confirmed by Dr Kinahan's desktop assessment. In cases where heritage sites are discovered the chance find procedure will be used as recommended in the attached archaeological desktop study (Appendix E).

The immediate area covered by EPL 7789 has never been subjected to archaeological surveys in the past, therefore the area is not well known archaeologically (Kinahan, 2021). In contrast, the wider area between Outjo and Otjiwarongo are historically known for their heritage significance owing to the Ovaherero uprising that left sites of heritage significance behind, post 1904. Therefore, an inference can be made that similar sites of heritage significance linked to the events during and after the 1904 uprising could potentially be found in the area covered by EPL 7789. These might include dwellings and other infrastructure on farms, many of which have formal family grave plots (Kinahan, 2021).

If any historical or heritage sites(s) of importance, including burial sites, on the project area are encountered during exploration activities these will be reported to the Monument's Council in Windhoek, and the site will be left untouched.

5.8.7 Noise and Sense of Place

EPL 7789 is located where the predominant land use is commercial farming activities with the only signs of human influence is in the form of agricultural infrastructure, e.g., water



installations, fences, tracks and buildings. Sensitive receptors associated with the EPL area may include farm owners and farm workers, neighbours, visitors and tourists passing through on the C39 trunk road.

The naturalness of the area can be disrupted by the combined and amplified effects of exploration activities – in the form of noise, dust, movements of heavy machinery, landscape scars and visual obtrusions. This may alter and affect the lifestyle of receptors, although the exploration activities are short-term and reversible.

EPL 7789 lies over private farmland, and it is likely that noise will become a nuisance to farmers / residents of the area. The proponent will continue to communicate with the farmers, should this be a pertaining issue, and further mitigation measures will be applied.

Additionally, work will be planned in advance and an agreement will be met with the farm owners on the most suitable timing of work and amelioration noise during drilling activities.



6 IDENTIFICATION AND EVALUATION OF IMPACTS

6.1 INTRODUCTION

This chapters 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.

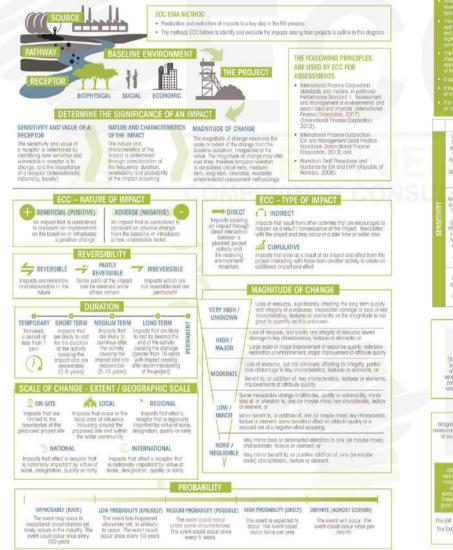
This chapter provides the following:

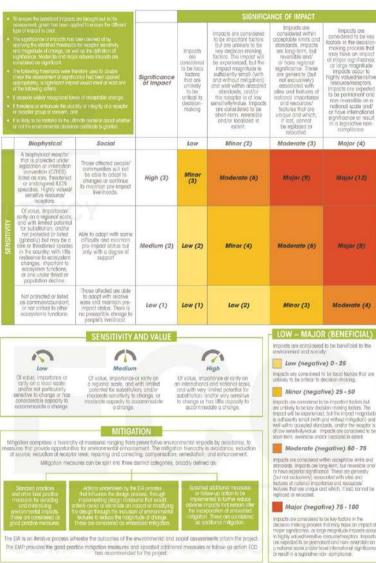
- Details on the assessment guidance used to assess impacts;
- Lists the limitations, uncertainties and assumptions with regards to the assessment methodology;
- Details how impacts were identified and evaluated, and how the level of significance was derived; and
- Details how mitigation was applied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





IMPACT PREDICATION AND EVALUATION





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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 ESIA 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.

A number of 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 7 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 limitation and uncertainties exist, assumptions have been made and applied during the assessment process. These have been clearly described in the baseline section.

LIMITATION / UNCERTAINTY	ASSUMPTION
Number of access roads and	The making of new tracks or access roads will be avoided, and
temporary drill campsites	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 of vegetation to have access to some parts of the EPL.
The program of exploration works is	It is assumed that exploration work shall take a couple of months
not confirmed	with two-to-three-week sampling projects at different times on
	different sites and with follow-up exploration drilling projects
	possible. Activities involve drilling; aerial or remote sensing;

TABLE 7 - LIMITATIONS, UNCERTAINTIES AND ASSUMPTIONS



LIMITATION / UNCERTAINTY	ASSUMPTION
	geophysical surveys; and mineral sampling. Pitting and trenching are unlikely and generally not favoured. If commercially viable concentrations can be defined by preliminary drilling, a next phase of advanced resource drilling operations is possible.
Number of workers, area they will come from and accommodation	It is planned that approximately four to eight people will be contracted for the proposed project. Most of the employees will stay in Outjo; contractors may camp on exploration sites / farms, depending on approval from farm owners.
Structures	No permanent infrastructure development will take place in the greenfield phase of operations which will span the 3-year award period. Depending on 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 field work.



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 Chapter 2 and Chapter 6. A range of potential impacts have been identified that may arise as a result of the proposed project. The aim of this ESIA report is 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).

Table 7 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 has 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 relate 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 8.



Cumulative impacts as a result of physical disturbance, the nuisance of noise and dust and the loss of sense of place may be experienced as well; in this case the receptors are the landowners, neighbours, visitors and tourists. Noise may have an effect on some organisms as well, though. Mitigation measures are recommended and contained in Table 8.

All precautions must be taken to prevent damage to possible heritage sites that may be stumbled upon on site, in particular when a site with archaeological or paleontological remains are 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 8), the significance of the impact reduces from moderate to minor.



TABLE 8- SCOPING ASSESSMENT FINDINGS AND PROPOSED MITIGATION MEASURES

DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L 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)	 Good housekeeping 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 	Low (2)





DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							 areas (non-porous surface, bunded) No damaged containers in use Preventative measures will be in place when service and maintenance activities are done (drip trays, non-porous 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 spill kits and preventative measures (e.g. drill pads) are in place at exploration sites Consider alternative sites when water table is too high Drill system should be dug to direct any 	Low (1)





DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							 accidental spills into sumps Extraction volumes of water shall be minimal during exploration and where possible, water from existing water sources shall be used 	
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 Ensure prompt clean- up of spills 	Low (1)
Inadequate management of solid waste	Water	Waste items and litter can pollute drainage channels	Adverse Cumulative Reversible Minor Temporary On-site Unlikely	Low	Low	Low (1)	 Good housekeeping Training and awareness through toolbox-talks and induction Implement a Standard Operational Procedure 	Low (1)





DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
Inadequate management of hazardous and hydrocarbon waste	Soil	Pollution of soil	Adverse Direct Reversible Minor Short term On-site Possible	Low	Minor	Low (2)	 (SOP) on waste management, for all kinds of waste possible on-site (e.g., domestic, mineral, hydrocarbons, hazardous) Avoid hazardous waste on site Implement a culture of correct waste collection, waste segregation and waste disposal 	Low (1)
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)	 Use existing roads for access to avoid new tracks and cut lines Minimise clearance areas through proper planning of the exploration activities Where necessary, rescue and relocate plants of significance Promote revegetation of cleared areas upon completion of exploration activities 	Low (1)



DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
Ambient noise as a result of machinery and equipment-use and movement (e.g., drill rigs, generators, vehicles) and movement (also through the use of airborne equipment)	Terrestrial ecology and biodiversity	Residing, slow- moving and nesting organisms can be disturbed	Adverse Direct Reversible Minor Short term On-site Likely	Low	Minor	Low (2)	 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, Respect civic aviation regulations about the use of a drone 	Low (1)
Increased movement of vehicles,	Terrestrial ecology and biodiversity	Residing and nesting organisms such as	Adverse Direct Partly reversible	Low	Minor	Low (2)	 Restrict movements to areas of activities only Use existing tracks and routes only 	Low (1)





DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
machinery and		reptiles can be	Moderate				- Identify rare,	
equipment		disturbed,	Short term				endangered,	
		injured or	On-site				threatened and	
		killed	Possible				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	



DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
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	Minor	Low (2)	 All project equipment arriving on site from an area outside of the project or coming from an area of known weed infestations (not present on the project site) should have an internal weed and seed inspection completed prior to equipment being used Monitor areas of activity for weed and alien species Eradicate weeds and alien species as soon as they appear Make workers aware about alien species and weeds 	Low (1)
Vegetation clearing	Soil	Increased exposure due to possible vegetation clearance can	Adverse Direct Reversible Moderate Short term	Low	Minor	Low (2)	 Ensure erosion control and prevention measures are in place when vegetation clearance is required 	Low (1)





DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
		cause soil erosion	On-site Possible				 Where necessary, 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 	
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	Minor	Low (2)	 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 	Low (1)





DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							 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 Limit the possibility to mix mineral waste with topsoil 	
Terrestrial ecology and biodiversity	Accidental and uncontrolled fire	Destroys grazing and kill living organisms	Adverse Direct Reversible Moderate Temporary Local Possible	High	Minor	Moderate (6)	Restrict movements of people to areas of activities only Train people and raise awareness about veld fires and firefighting No open fire outside designated areas Ensure proper cooking facilities at fly camps No cigarette buds are discarded but contained	Minor (3)





DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							and disposed of at an appropriate facility Proper fire hazard	
							identification signage to be placed in areas that store flammable material (i.e. hydrocarbons and	
							gas bottles) Control and reduce the potential risk of fire by	
							segregating and safe storage of materials Avoid potential sources of	
							ignition by prohibiting smoking in and around facilities	
							 Firefighting equipment and fire breaks should always be at designated areas and should be maintained regularly 	



DESCRIPTIO ACTIVI		RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
Community livestock	and	Airborne surveying over the EPL, possible low flying	Perceived impact from surveying activities on livestock and humans	Adverse indirect Reversible Minor Temporary Local Unlikely	Low	Minor	Low (2)	 Prior to conducting aerial surveying, both directly and indirectly affected parties should be informed in writing of exploration activities at least 2 weeks prior to conducting the aerial surveys. The following information is to be included in the written communication sent Company name, Survey dates, time and duration, Purpose of the survey, Flight altitude, Survey location, Map of survey area and flight lines, and 	Low (1)





DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							 Contact details for enquiries. Compliance with all applicable laws and agreements 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 Restrict surveying activities to daytime hours (7 am to 5 pm weekdays and 7 am until 1 pm on Saturday) 	
Drilling activities, movement of	Heritage	Potential damage to	Adverse Direct Partly	High	Minor	Moderate (6)	 Implement a Chance Find Procedure 	Minor (4)





DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
machinery and vehicles		cultural heritage sites	Reversible High Permanent On-site Possible				 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 has to be requested for a professional assessment and the necessary protocols of 	





DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							the Chance Find	
							Procedure have to be followed,	
							- Archaeologist will	
							evaluate the	
							significance of the	
							remains and identify	
							appropriate action,	
							(record and remove; 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.	
Drilling activities,	Community	Visual	Adverse	Lligh	Minor	Moderate (6)	- Position drill	Minor (4)
resulting into dust emissions	Community	disturbance	Direct Reversible	High	Minor		equipment in such a way that it is out of	



DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
 Windblown dust from exposed/cleared land during exploration activities		and loss of Sense of Place	Moderate Temporary Local Likely				 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 Residents need to be informed at least two weeks in advance that drilling operations are 	



DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							 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)	 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 	Low (1)





DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							 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 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	Low	Low (1)	 Develop and implement an operation 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 	Low (1)





DESCRIPTION OF ACTIVITY	RECEPTOR	DESCRIPTION OF IMPACT	EFFECT/DESCR IPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANC E OF IMPACT	IMPACT MANAGEMENT/CONTRO L MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							 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 	
Exploration activities	Community	Triggers job creation, skills development and opportunities for the local economy	Beneficial Direct Reversible Minor Short term Local Possible	Medium	Low	Low (2)	 Maximize local employment As far as possible promote local procurement Enhance development of local skills where possible 	Low beneficial



7.1.1 FURTHER CONSIDERATION: NOISE AND VISUAL IMPACTS

Exploration and mining activities have the potential to disrupt the sense of place, a collective term to describe the special and uniqueness of an area, mostly through the amplifying effects of noise, dust, machinery movements, and visual intrusion. Collectively, the activities have a negative impact on the naturalness of the landscape with the result to temporarily alter and affect the lifestyles of receptors (neighbours, farmers, tourists). Such disturbances brought about by exploration activities are often-short term and reversible. For the duration of the proposed project, communication with the affected parties and key stakeholders shall be maintained. In the event where the drill site is located in proximity to the receptors, measures will be taken to reduce the visual impacts.

Through the application of the ESIA methodology presented in Section 2 the conclusion of the assessment is that with additional mitigation, the significance of effect is expected to be minor. No additional studies are considered necessary to further assess this impact.

ACTIVITY	RECEPTOR	IMPACT	NATURE OF IMPACT	VALUE & SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICA NCE OF IMPACT
Placement and operations of heavy machinery and drill rigs, equipment and the creation of laydown areas on site	Neighbour s / farmers / tourists	Visual impacts (obscure views, create visual contrast, dust, intrusive objects), movement of heavy machinery, nuisance (noise), loss of naturalness	Adverse Direct Reversible Local / on- site Short term Certain	Medium	Minor	Minor Adverse

TABLE 9 - SUMMARY OF EFFECTS

The following additional mitigation measures have been identified in addition to those presented in the EMP and shall be communicated to the proponent to ensure environmental effects are minimised as reasonably practicable:

- Interested and affected parties will be communicated to prior to the commence of the exploration activities
- Reasonable time frames for duty will be place e.g., no drilling when it is dark
- Site notice of project will be available at the site during the course of the proposed project
- Adequate procedures for drilling activities will be encouraged e.g., no hammering of drill rods with steel hammers





- Drill equipment shall be suitably positioned to ensure that noisy equipment is as far away from human receptors as possible
- Noise suppression measures shall be applied by all drilling staff (e.g. earmuffs are mandatory) and if drilling occurs in locations that may affect residents
- Residents shall be provided at least two weeks' notice of drilling operations within 1km of their property, and
- The proponent shall undertake continual engagement with residents.

The potential impact therefore is not considered significant as it does not widely exceed recognised levels of acceptable change; does not threaten the integrity of the receptors, nor is it material to the decision-making.



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 pro-active 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 7789, to identify if there is potential for significant effects to occur as a result of the proposed project.

Through the scoping process, the only risk to the environment is related to the cumulative impacts as a result of physical disturbance, nuisance of noise and dust and the loss of sense of place, thereby impacting human receptors in the area. Impacts with respect to airborne dust are expected to be limited to vehicular traffic and drilling activities. 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 practice 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 effect and environmental disturbances are avoided.



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APPENDIX A – EMP



APPENDIX B - NON-TECHNICAL SUMMARY

Environmental Compliance Consultancy website:

www.eccenvironmental.com

ECC		SERVICES PROJECTS ABOUT US TEAM CONTACT Q
	omas, Kunene and Otjozondjupa	n activities on EPLs 7212, 7789, 7964, 7970, 7971, 7972 and Regions for base and rare metals, industrial minerals and cious metals
	Details Proponent: Votorantim Metails Namibia (Pty/LLd Status: Open for Public Participation Sector: Mining & Minerals Country: Namibia	Background Documents



APPENDIX C- EVIDENCE OF PUBLIC CONSULTATION

The following was advertised in the 'Republikein, Sun, and Allgemeine Zeitung' newspapers on the 16th February 2021.

TUESDAY 16 FEBRUARY 2021

Nigeria creates US\$2.6 bn infrastructure company

Nigerian President Muhammadu Buhari's government has approved the creation of a company to fast-track development of critical in-frastructure, with around US\$2.0 billion in initial financing. Africa's most populous country slipped into recession in its third quarter for the second time in four vears, hit by the coronavirus penquarter for the second time in four years, hit by the coronavirus pan-demic and a fall in oil prices, and faces a huge infrastructure deficit. "It is envisaged that, over time, the entity will grow to naira 15 tril-ion (USS392 billion), in assets and capital," aspokesman for Vice President Yemi Osinbajo said in a statement on Friday.



It is envisaged that, over time, the entity will grow to naira 15 trillion (US\$39.3 billion), in assets and capital

Spokesman for Vice President Yemi Osinbajo

The company. Infra-Co, will be one of the top infrastructure finance entities in Africa and will be wholly dedicated to Nigeria's infrastruc-ture development, the statement said. Infra-Co will operate as a pub-lic-private partnership and will be initially funded by the Central Bank of Nigeria, the Nigerian Sov-ereign Investment Authority and the Africa Finance Corporation.

ereign Investment Authority and the Africa Finance Corporation. It will focus on developing public assets and reconstruction as well as new roads, rail, power and other key infrastructure sector projects. The IMF expects Nigeria's economy to contract by at least 3 percent this year, a situation many fears will further deepen the country's infrastructure crisis and worsen a economy already and worsen an economy already struggling with the impact of the

strugging with the impact of the pandemic. Nigeria's senate last year approved nearly US\$23 billion (18.9 billion euros) in foreign loan requests by Buhari to support a series of large-scale projects, which the govern-ment hopes will revamp the coun-try's crumbling infrastructure. Buhari early this week also launched a US\$1.96 billion rail project linking to neighbouring project linking to neighbouring Niger as the country looks to boost its gro wth





was contributing between 12 to 15 percent of GDP. It is now

The agriculture sector is at the heart of Namibia's development agenda going forward.

Which nine years to go before the expiration of Namibia's grand development plan, Vision 2030, the government is re-viewing the plan with a view to re-

Vision 2030, the government is re-viewing the plan with a view to re-placing it with one that speaks to the realities of the day. This was announced by National Planning Commission (NPC) di-rector, Obeth Kandjoze, at a recent media conference meant to inform the nation about the government's decision to liquidate the cash-strapped Air Namibia. At this event, Kandjoze said: "We must actually craft a grand-visioning statement that will replace Vision 2030. We must review NDP 5 to ba able to fit into the economy post-Covid-19." Vision 2030 stipulates that Namibia plans to be a prosperous and industrialised nation, developed by her human resources, enjoying peace, harmony, and political sta-



National Planning Commission (NPC) director, Obeth Kandjoze. PHOTO NAMPA bility by 2030. "We have assembled

bility by 2030. "We have assembled ateam of experts led by the National Planning Commission, assisted by the Ministry of Finance and Bank of Namibia. We have solicited the efforts and advice of Harvard University Growth Lab experts led by Professor Ricardo Hausmann, a very well renowned

professional in the business of protessional in the busiless of helpingcountries identify pitfalls in their setups from an economic struc-tural point of view," Kandjoze said. The growth lab works to under-stand the dynamics of growth and to translate those insights into more effective policymaking in develop-ing countries.

Agriculture Kandjoze also said Namibia must position itself strategically to benefit from the African Continental Free Trada Area Agreement (AfCFTA). The former mines minister addee We must have a stake in that vision. Going forward the economy is actu-ally put at a display as to "what is ag-riculture achieving?" "Agriculture was contributing between 12 to 15 percent of GDP. Today agriculture is reduced to less than 4 percent. What are the skytok come in to begin to help the sector," he questioned? Additional-tof Namibia development agenda going forward.Other sectors such as minime are also under review.

"The idea is to understand where "The idea is to understand where the impediments are in our econom-icstructural set-ups owe can do away with those impediments, review the policies, understand the future of the particular sort of market in agricul-ture, mining and so forth so that we can position the economy post-Cov-id-19," he noted.

- N:

ECC TORGA OPTICAL NAMIBIA TICE OF AN ENVIRONMENTAL ASSESSMENT AND PUBLIC PARTICIPATION PROCESS FOR EXPLORATION ACTIVITIES ON EPLs 7212, 7789, 7964, 7970, 7971, 7972 AND 7974 KUNENE, OTJOZONDJUPA AND KHOMAS REGIONS, NAMIBIA nce Consultancy CC (ECC) hereby gives earance certificate in terms of the En s notice to the public that ASSION FOR CLISTOMER SERVICE ÷ ran and 721 ERSONAL SKILLS T TO CONTINUOUS ch 2021 informed and engaged as t Votorantim



The following was advertised in the 'Republikein, Sun, and Allgemeine Zeitung' newspapers on the 23th February 2021.

2 Republikein Sun Mallgemeine Zeitung CHRISTER FRISCARTINGS Market Watch

>> More tax revenue, minimised social welfare SA's economic rebound to trim budget deficits



has a population of about 58.6 million. -++> <: r.

There are speculations that the national treasury could raîse taxes more aggressively this year.

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cial year to 9.7% of gross domestic product to 8.5% for 2022/23 and 7.5% in 2023/34.

problem to the SS-for 2022/23 and 7:59-in 2023/24. As its other countries: Covid-10-spending covided the South Adriant-budges last year. The 2020/24 defaint was estimated at 13,950, of GDP for the pell of the trip about Six weeks left. In October, the Natio cal Prote-ury's consultational budget estimat-rel at 1.756 defails (GDP in the year anding March 1018) for once, year, and 5.657 and 7.397 for the following years ropped relation.

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Paratus welcomes Demshi in subsea cable project



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Votorantim



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SITE NOTICE



NOTICE OF AN ENVIRONMENTAL ASSESSMENT AND PUBLIC PARTICIPATION PROCESS FOR EXPLORATION ACTIVITIES ON EPL 7789

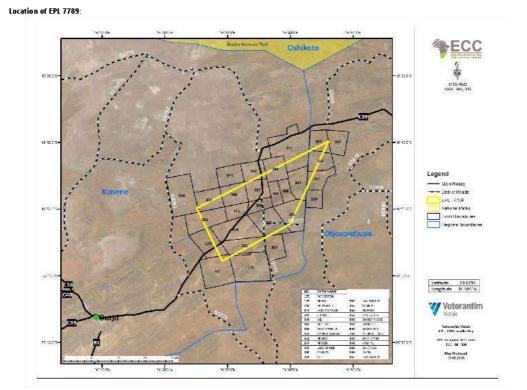
KUNENE AND OTJOZONDJUPA REGIONS, NAMIBIA

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

Applicant: Environmental Assessment Practitioner (EAP): Project ID: Yotorantim Metals Namibia (Pty) Ltd Environmental Compliance Consultancy ECC-88-338

Project: Exploration activities on EPL 7789 for base and rare metals, industrial minerals, and precious metals in the Kunene and Otjozondjupa regions, Namibia.

Proposed activity: The proponent proposes to carry out exploration activities for base and rare metals, industrial minerals, and precious metals on EPL 789. The EPL fields within the Kunene and Otiozondjupa regions. Exploration methods may include geochemical surveys (soil and rock sampling), geophysical surveys (electromagnetic surveys), drilling and drill-core sampling.



Application for environmental clearance certificate: In terms of the Environmental Management Act No. 7 of 2007, ECC on behalf of the proponent is required to submit an application for environmental clearance to the competent authority and the Ministry of Environment, Forestry and Tourism for the above-mentioned project.

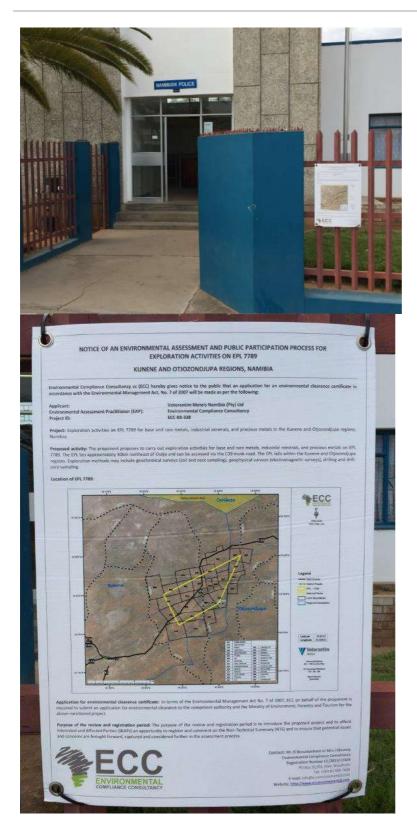
Purpose of the review and registration period: The purpose of the review and registration period is to introduce the proposed project and to afford Interested and Affected Parties (I&APs) an opportunity to register and comment on the Non-Technical Summary (NTS) and to ensure that potential issues and concerns are brought forward, captured and considered further in the assessment process.



Contact: Mr JS Bezuidenhout or MrsJ Mooney Erwirormental Compliance Consulta noy Registration Number CC/2013/11404 PO Bax 91193, Klein Windhoek Tel: + 26483 666 7608 E-mail: Info@eccenvironmental.com Website:[http://www.eccenvironmental.com



ENVIRONMENTAL SCOPING REPORT EPL 7789 VOTORANTIM METALS NAMIBIA (PTY) LTD





APPENDIX D - ECC CVS





APPENDIX E: HERITAGE SPECIALIST DESKTOP STUDY