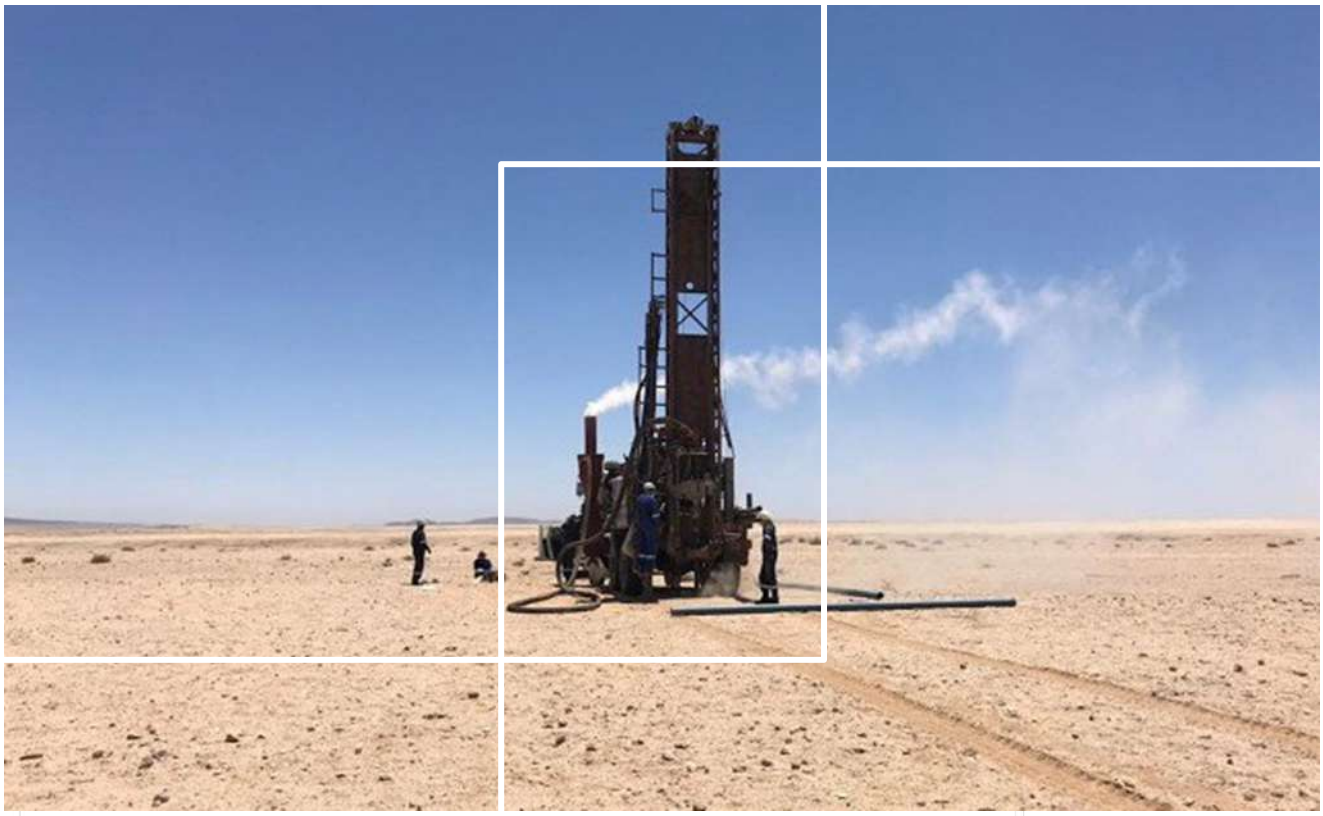


elevate uranium
carbon free energy

Submitted to: Marenica Ventures (Pty) Ltd.
Attention: Mr Murray Hill
P.O. Box 90242
Klein Windhoek
Windhoek, Namibia.

REPORT:

SCOPING PLUS IMPACT ASSESSMENT FOR EXPLORATION OF NUCLEAR FUELS ON EPL 8791, =/= GAINGU CONSERVANCY, ERONGO REGION

PROJECT NUMBER:	ECC-79-647-REP-07-D
REPORT VERSION:	REV 01
DATE:	28 JANUARY 2026

ECC ENVIRONMENTAL COMPLIANCE CONSULTANCY

TITLE AND APPROVAL PAGE

Project Name:	Scoping plus impact assessment for exploration of nuclear fuels on EPL 8791, =/= Gaingu Conservancy, Erongo Region
Client Company Name:	Marenica Ventures (Pty) Ltd.
Client Name:	Mr Murray Hill
Ministry Reference:	APP-006573
Authors:	Kelly Ochs, Monique Jarrett, Carlene Baufeldt and Stephan Bezuidenhout
Status of Report:	Final for Government Submission
Project Number:	ECC-79-647-REP-07-D
Date of issue:	28 January 2026
Review Period	N/A

ENVIRONMENTAL COMPLIANCE CONSULTANCY CONTACT DETAILS:

We welcome any enquiries regarding this document and its content. Please contact:

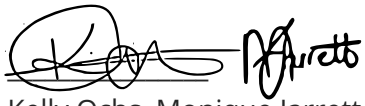
Environmental Compliance Consultancy
PO Box 91193, Klein Windhoek, Namibia
Tel: +264 81 669 7608
Email: info@eccenvironmental.com

DISCLAIMER

The report has been prepared by Environmental Compliance Consultancy (Pty) Ltd (ECC) (Reg. No. 2022/0593) on behalf of the Proponent. Authored by ECC employees with no material interest in the report's outcome, ECC maintains independence from the Proponent and has no financial interest in the Project apart from fair remuneration for professional fees. Payment of fees is not contingent on the report's results or any government decision. ECC members or employees are not, and do not intend to be, employed by the Proponent, nor do they hold any shareholding in the Project. Personal views expressed by the writer may not reflect ECC or its client's views. The environmental report's information is based on the best available data and professional judgment at the time of writing. However, please note that environmental conditions can change rapidly, and the accuracy, completeness, or currency of the information cannot be guaranteed.

Quality Assurance

Authors:



Kelly Ochs, Monique Jarrett
Environmental Compliance Consultancy

Checked By:

Carlene Baufeldt
Environmental Compliance Consultancy

Approved By:

Stephan Bezuidenhout
Environmental Compliance Consultancy

DISCLAIMER

The report has been prepared by Environmental Compliance Consultancy (Pty) Ltd (ECC) (Reg. No. 2022/0593) on behalf of the Proponent. Authored by ECC employees with no material interest in the report's outcome, ECC maintains independence from the Proponent and has no financial interest in the Project apart from fair remuneration for professional fees. Payment of fees is not contingent on the report's results or any government decision. ECC members or employees are not, and do not intend to be, employed by the Proponent, nor do they hold any shareholding in the Project. Personal views expressed by the writer may not reflect ECC or its client's views. The environmental report's information is based on the best available data and professional judgment at the time of writing. However, please note that environmental conditions can change rapidly, and the accuracy, completeness, or currency of the information cannot be guaranteed.

EXECUTIVE SUMMARY

Environmental Compliance Consultancy (Pty) Ltd (herein referred to as ECC or the environmental assessment practitioner (EAP)) has been engaged by Marenica Ventures (Pty) Ltd (Marenica Ventures or Proponent) to conduct an environmental and social scoping with impact assessment report for the exploration of the nuclear fuel minerals on exclusive prospecting licence (EPL) 8791.

Elevate Uranium Ltd (ASX: EL8) (Elevate Uranium or the Company) is an Australian exploration and development company focused on uranium projects in Namibia and Australia. Marenica Ventures is Elevate Uranium's Namibian subsidiary that holds and manages its local exploration licences (such as EPL 8791). Marenica Ventures is one of the largest uranium tenement holders in Namibia, with several prospecting projects in the Erongo Region, including Koppies, Namib IV, Hirabeb and Capri. The company has developed its U-grade™ process to reduce the development and operating costs for low-grade surficial ores.

In terms of the Namibian Environmental Management Act, 2007 and its regulations, the Ministry of Industries, Mines and Energy (MIME) is the competent authority for the proposed Project. Exploration activities trigger listed activities in terms of the Act, and as such, requires an environmental clearance certificate.

SCREENING PHASE

The first stages in the ESIA process are to register the Project with the DEAF:MEFT (completed) and undertake a screening exercise to determine whether it is considered a listed activity under the Environmental Management Act, No. 7 of 2007 and associated 2012 Regulations and if significant impacts may arise from the Project. The location, scale and duration of Project activities are considered against the receiving environment.

The screening phase determined that the most likely potential environmental and social impacts could include:

- Employment generation;
- Visual impacts;
- Noise impacts;
- Air quality impacts;
- Heritage and cultural artifacts;
- Occupational health and safety;
- Water use, contamination and management;
- Waste resource management;
- Biodiversity impacts; and
- Soil impacts.

The scoping plus impact assessment and appendices was submitted to I & AP's and the public for a 7-day public review period from 20 January 2026 to 27 January 2026. No comments, questions and concerns were submitted. The final scoping plus impact assessment and appendices is submitted to MIME and MEFT for a RoD.

The phases of the ESIA are provided in Figure 1.

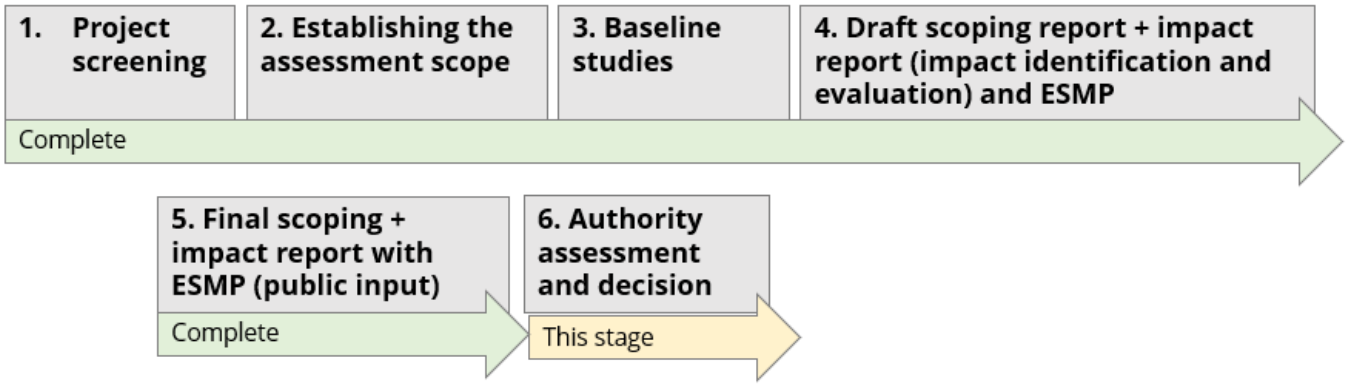


Figure 1 - Simplified scoping plus impact assessment of EPL 8791

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

ABBREVIATIONS

Abbreviation	Description
%	percentage
˚C	degree celcius
AQSR	Air quality sensitive receptor
ASX	Australian Securities Exchange
BID	background information document
CIA	cumulative impact assessment
CO	carbon monoxide
dB(A)	A-weighted decibels
DD	Diamond drilling
DEAF	Directorate of Environmental Affairs and Forestry
EC	Environmental Commissioner
ECC	Environmental Compliance Consultancy
EIA	environmental impact assessment
EMA	Environmental Management Act
EPL	exclusive prospecting licence
EPR	employment to population rate
ERP	emergency response plan
ESIA	environmental and social impact assessment
ESMP	environmental and social management plan
GDP	gross domestic product
GPS	Global Positioning System
HIA	heritage impact assessment
I&APs	interested and affected parties
IAEA	International Atomic Energy Agency
ICNIRP	International Commission on Radiological Protection
IFC	International Finance Corporation
km	kilometres
km/h	kilometres per hour
km^2	kilometres squared
$kWh/m^2/day$	kilowatt-hours per square metre per day
Ltd.	Limited
m	metre
m3	cubic metres
masl	metres above sea level
MAFWLR	Ministry of Agriculture, Fisheries, Water and Land Reform
MC	Mining Commissioner
MEFT	Ministry of Environment, Forestry and Tourism
MIME	Ministry of Industries, Mines and Energy
mm	millimetre

Mm^3	million cubic metres
MME	Ministry of Mines and Energy
mSv	millisieverts
NDP	national development plan
No	Number
NHC	National Heritage Council
NO_x	nitrogen oxides
NORM	naturally occurring radioactive material
NRPA	National Radiation Protection Authority
NSA	Namibian Statistic Agency
PM	particulate matter
PPE	personal protective equipment
Pty	proprietary
QGIS	Quantum Geographic Information Systems
RC	reverse circulation
Reg	registration
RH	relative humidity
RoD	record of decision
SHE	safety, health and environment
SOP	standard operating procedure
SO_2	sulphur dioxide
SW	southwest
TSP	Total suspended particulates
U-pgrade ™	Uranium concentration process developed by Elevate Uranium
VOC	volatile organic compounds
WHO	World Health Organization
WSW	west-southwest

1 INTRODUCTION

1.1 COMPANY BACKGROUND

Environmental Compliance Consultancy (Pty) Ltd (herein referred to as ECC or the environmental assessment practitioner (EAP)) has been engaged by Marenica Ventures (Pty) Ltd (Marenica Ventures or Proponent) to conduct an environmental and social scoping with impact assessment report for the exploration of the nuclear fuel minerals on exclusive prospecting licence (EPL) 8791.

Elevate Uranium Ltd (ASX: EL8) (Elevate Uranium or the Company) is an Australian exploration and development company focused on uranium projects in Namibia and Australia. Marenica Ventures is Elevate Uranium's Namibian subsidiary that holds and manages its local exploration licences (such as EPL 8791). Marenica Ventures is one of the largest uranium tenement holders in Namibia, with several prospecting projects in the Erongo Region, including Koppies, Namib IV, Hirabeb and Capri. The company has developed its U-grade™ process to reduce the development and operating costs for low-grade surficial ores.

Namibia is a leading global uranium producer, hosting major operations like Rössing Uranium Mine, Husab Mine and Langer Heinrich Uranium Mine. Elevate Uranium, through Marenica Ventures, is actively exploring in this established uranium province to expand its resource base and advance future development opportunities. The Project is located on EPL 8791, which is in the =/=Gaingu Conservancy, Erongo region. The EPL is located north of the D1918 road and east Henties Bay (Figure 2).

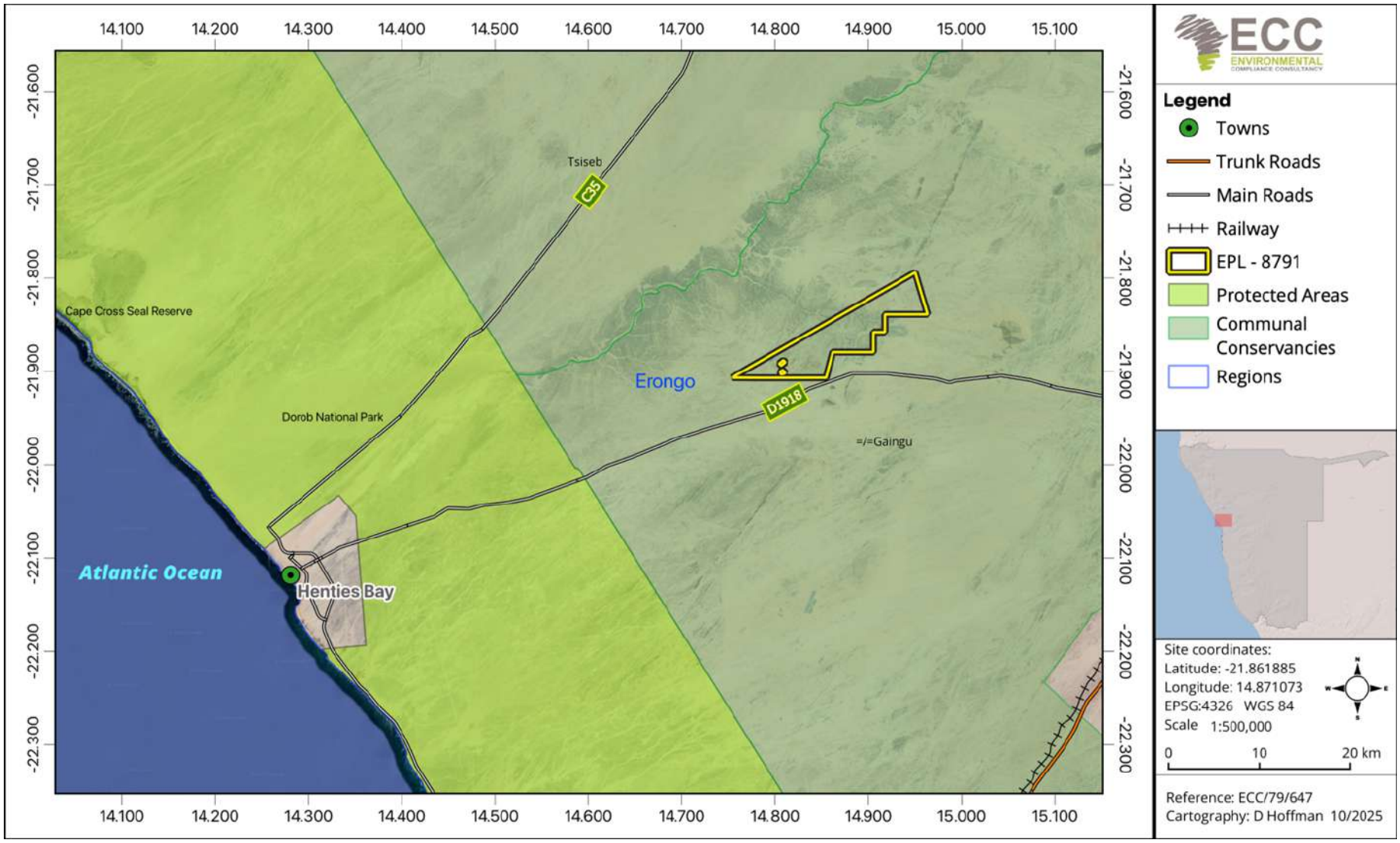


Figure 2 – Location of the proposed Project on EPL 8791

1.2 PURPOSE OF THE SCOPING WITH THE IMPACT ASSESSMENT REPORT

As per the Environmental Management Act, No. 7 of 2007 (EMA) and associated 2012 Regulations, any activity that triggers a listed activity requires an environmental clearance certificate. The Act defines a listed activity as a project or activity that is identified as having a significant potential impact on the environment and therefore requires an environmental clearance certificate before the activity can be undertaken. Mining and mineral exploration activities falls under those listed activities.

As part of the application for an environmental clearance certificate, an environmental and social impact assessment (ESIA) process needs to be conducted and an environmental and social management plan (ESMP) (Appendix A) needs to be compiled. However, before an ESIA can be conducted, the Project needs to be screened against the requirements on the Ministry of Environment and Forestry (MEFT) portal, and the scope of the assessment needs to be outlined. This includes determining the baseline biophysical and social environment and determining if there are any gaps in the available information, requiring the need for further specialist studies.

The proposed Project activities are then assessed against the social and biophysical baseline environment to identify and assess potential impacts (positive or negative) on the receiving baseline environment and what their impact may be on any identified sensitive receptors. An environmental and social management plan is then developed as a mitigation and management tool to reduce the results of any negative impacts.

As defined by the EMA and associated Regulations, due to the scale of this Project, it is only required to develop a scoping with impact assessment report, in order for the Environmental Commissioner (EC) to make a record of decision (RoD). This Project is relatively small, and the activities of the Project are deemed non- or minimally invasive. Furthermore, the impacts of Projects such as this are usually non-significant or low, additionally any identified impacts are usually easy to mitigate or manage. Therefore, a standalone ESIA with multiple detailed specialist studies is not required.

This final report and its appendices will be submitted to stakeholders and registered interested and affected parties (I&APs) for public review and input into the final assessment. The revised and final report will be submitted to the Mining Commissioner (MC) at the Ministry of Industries, Mines and energy (MIME), as the competent authority, who will then forward the report on to the EC at MEFT Department of Environmental Affairs and Forestry (DEAF) for review and a RoD.

The outline of this report is shown in Table 1.

Table 1 - Report outline

Chapter	Contents
Chapter 1	Introduction to the proposed Project and scoping with impact assessment report
Chapter 2	Provides details about the scoping with impact assessment approach, including the role of the public and specialists (if required)
Chapter 3	Provides details on the legal environment and requirements based on the Project
Chapter 4	Provides sufficient technical details about the Project activities to identify and assess potential impacts
Chapter 5	Provides an overview of the biophysical and social baseline environment
Chapter 6	Provides an overview of the methodology for identifying and evaluating impacts
Chapter 7	Details the assessment of the potential impacts before mitigation and may also provide mitigation measures, if warranted
Chapter 8	Concludes the report, summarising the findings and providing recommendations

1.3 PROPONENT'S DETAILS

The Proponent's details are provided in Table 2.

Table 2 – Proponent's details

Company representative:	Contact details:
Marenica Ventures (Pty) Ltd Jessica Bezuidenhout General Manager Namibia	Jessica.bezuidenhout@elevateuranium.com +264 81 669 7608 P O Box 90242 Klein Windhoek Windhoek, Namibia

1.4 ENVIRONMENTAL REQUIREMENTS

The Environmental Management Act, No. 7 of 2007, and its 2012 Regulations, stipulates that an environmental clearance certificate is required before undertaking any of the listed activities that are identified in the Act and its Regulations. Potential listed activities triggered by the Project are provided in Table 3.

Table 3 – Activities potentially triggered by the proposed Project.

Source: Environmental Management Act, No. 7 of 2007, and its 2012 regulations

Listed activity	As defined by the regulations of Act	Relevance to the Project
Waste management, treatment, handling and disposal activities	2.3 The importing, processing, use and recycling, temporary storage, transit, or exporting, of waste.	– Waste generated, which will be mainly solid waste and general waste during the exploration phase, will be removed by a skip and will be disposed of at the nearest registered landfill site. – A portable toilet, long drop hole for toilet or chemical toilets will be used during exploration activities.
Mining and quarrying activities	3.1 The construction of facilities for any process or activities that require a license, right or other form of authorisation, and the renewal of a licence, right or other form of authorisation, in terms of the Minerals (Prospecting and Mining) Act, 1992. 3.2 Other forms of mining or extraction of any natural resources, whether regulated by law or not. 3.3 Resource extraction, manipulation, conservation, and related activities.	– The proposed project requires environmental clearance from DEAF/MEFT for the exploration of nuclear fuel minerals. – Nuclear fuel minerals will be explored within the project's footprint. – The Proponent will also undertake shallow RC drilling and maybe diamond drilling if results permit it.
Forestry activities	4. The clearance of forest areas, deforestation, afforestation, timber harvesting, or any other related activity that requires authorisation in terms of the Forest Act, 2001 (No. 12 of 2001) or any other law.	– Limited vegetation clearing may be required for tracks and drilling access.

Listed activity	As defined by the regulations of Act	Relevance to the Project
Hazardous substance treatment, handling, and storage	(9.1) The manufacturing, storage, handling or processing of a hazardous substance is defined in the Hazardous Substances Ordinance, 1974.	– Portable toilets, long drop holes for toilets or chemical toilets will be used during exploration activities. – Potential release of fuels, oils and lubricants during exploration activities. – Exploration activities may expose mineralised waste that contains traces of radioactive materials

2 APPROACH TO THE ASSESSMENT

2.1 PURPOSE AND SCOPE OF THE SCOPING WITH IMPACT ASSESSMENT

This scoping with impact assessment report aims to scope the available data and identify any gaps that need to be filled, determine which impacts are likely to be significant, determine the spatial and temporal scope to identify the assessment methodology and assess the potential significant impacts.

The scope of the assessment was determined by undertaking a preliminary assessment of the proposed Project against the receiving environment (MEFT screening tool), obtained through a desktop review and available site-specific literature. The terms of reference for this report and appropriate competent authority were determined based on this aforementioned screening exercise.

2.2 THE ASSESSMENT PROCESS

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

- Integrated assessment to identify the environmental and social aspects, impacts 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 Proponent's management of environmental and social performance throughout the life of the Project.

Furthermore, the Namibian Draft Procedures and Guidance for ESIA and ESMP (Republic of Namibia, 2008), as well as international and national best practice, and over 25 years of combined ESIA experience, were also drawn upon in the assessment process. This scoping with impact assessment report is a formal process in which the potential effects of the Project on the biophysical, social and economic environments are identified, assessed and reported on 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.

2.3 SCREENING OF THE PROJECT

The first stages in the ESIA process are to register the Project with the DEAF: MEFT (completed) and undertake a screening exercise to determine whether it is considered a listed activity under the

Environmental Management Act, No. 7 of 2007 and associated 2012 Regulations and if significant impacts may arise from the Project. The location, scale and duration of Project activities are considered against the receiving environment. The full scoping plus impact assessment process is described in Figure 3.

The proposed Project is a listed activity and potential impacts could occur, however due to the scale of the size of the Project, on a lower scale. Thus, it was concluded that a scoping with impact assessment report would suffice for the exploration Project and that a ESMP (Appendix A) would be submitted with the scoping with impact assessment report as part of the application process for the environmental clearance certificate.

1. Project screening

Complete

The first stage in the scoping plus impact assessment process is to undertake a screening exercise to determine whether the Project triggers listed activities under the Environmental Management Act, 2007, and its regulations. The screening phase of the Project is a preliminary analysis, to determine ways in which the Project might interact with the biophysical, social, and economic environments.

Stakeholder engagement:
- Registration of the project
- Preparation of the BID

2. Establishing the assessment scope

Complete

The second stage is to scope the assessment. The main aim of this stage is to determine which impacts are likely to be significant; to scope the available data and any gaps that need to be filled; to determine the spatial and temporal scope; and to identify the assessment methodology.

The scope of this assessment was determined through undertaking a preliminary assessment of the proposed Project against the receiving environment. Feedback from consultation with the public and the Proponent informs this process. The following environmental and social topics were scoped into the assessment, as there was the potential for significant impacts to occur. Impacts that are identified as potentially significant during the screening and scoping phase are taken forward for further assessment in the process. These are:

SOCIOECONOMIC ENVIRONMENT
- Employment
- Visual
- Noise
- Air quality
- Heritage and cultural artifacts
- Occupational health and safety

BIOPHYSICAL ENVIRONMENT
- Water use, contamination and management
- Waste resource management
- Biodiversity
- Soil

3. Baseline studies

Complete

A robust baseline is required, to provide a reference point against which any future changes associated with a Project can be assessed, and to allow suitable mitigation and monitoring to be identified.

The region and general area have been studied for various projects and assessments. The available literature will be referenced. The Project site-specific area has been studied as part of the scoping plus impact assessment process, and the following has been conducted as part of this assessment:

- Desktop studies
- Consultation with stakeholders
- Specialist studies

The environmental and social baselines are provided in chapter 5 of this report.

4. Draft scoping + impact report (impact identification and evaluation) and ESMP

Complete

The scoping report plus impact assessment documents the findings of the current process and provides stakeholders with an opportunity to comment and continue the consultation that forms part of the environmental assessment. The ESMP provides measures to manage the environmental and social impacts of the proposed Project, and outlines the specific roles and responsibilities required to fulfil the plan.

The key stage of the ESIA process is the impact identification and evaluation stage. This stage is the process of bringing together project characteristics with the baseline environmental characteristics and ensuring that all potentially significant environmental and social impacts are identified and assessed. It is an iterative process that commences at project inception and ends with the final design and project implementation. The impact identification and evaluation stages will be updated in the assessment phase.

This report will be issued to stakeholders and I&APs for consultation, for a period of 7 days, meeting the mandatory requirement as set out in the Environmental Management Act, 2007. The aim of this stage is to ensure that all stakeholders and I&APs have an opportunity to provide comments on the assessment process, and to register their concerns, if any.

5. Final scoping + impact report and ESMP

Complete

All comments received during the I&AP public review period will be collated in a comments and response table in the final scoping report plus impact assessment when submitted to the MIME and MEFT: DEAF. All comments will be responded to, either through providing an explanation or further information in the response table, or by signposting where information exists, or where new information has been included in the report or appendices. Comments will be considered, and where they are deemed to be material to the decision-making, or might enhance the ESIA, they will be incorporated.

The final ESIA report and appendices, will be available to all stakeholders, and all I&APs will be informed of its availability for review.

The scoping report plus impact assessment and appendices will be formally submitted to the competent authority (MIME) and the MEFT: DEAF as part of the application for an environmental clearance certificate.

6. Authority assessment and decision

This Stage

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

7. Monitoring and auditing

Future Phase

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

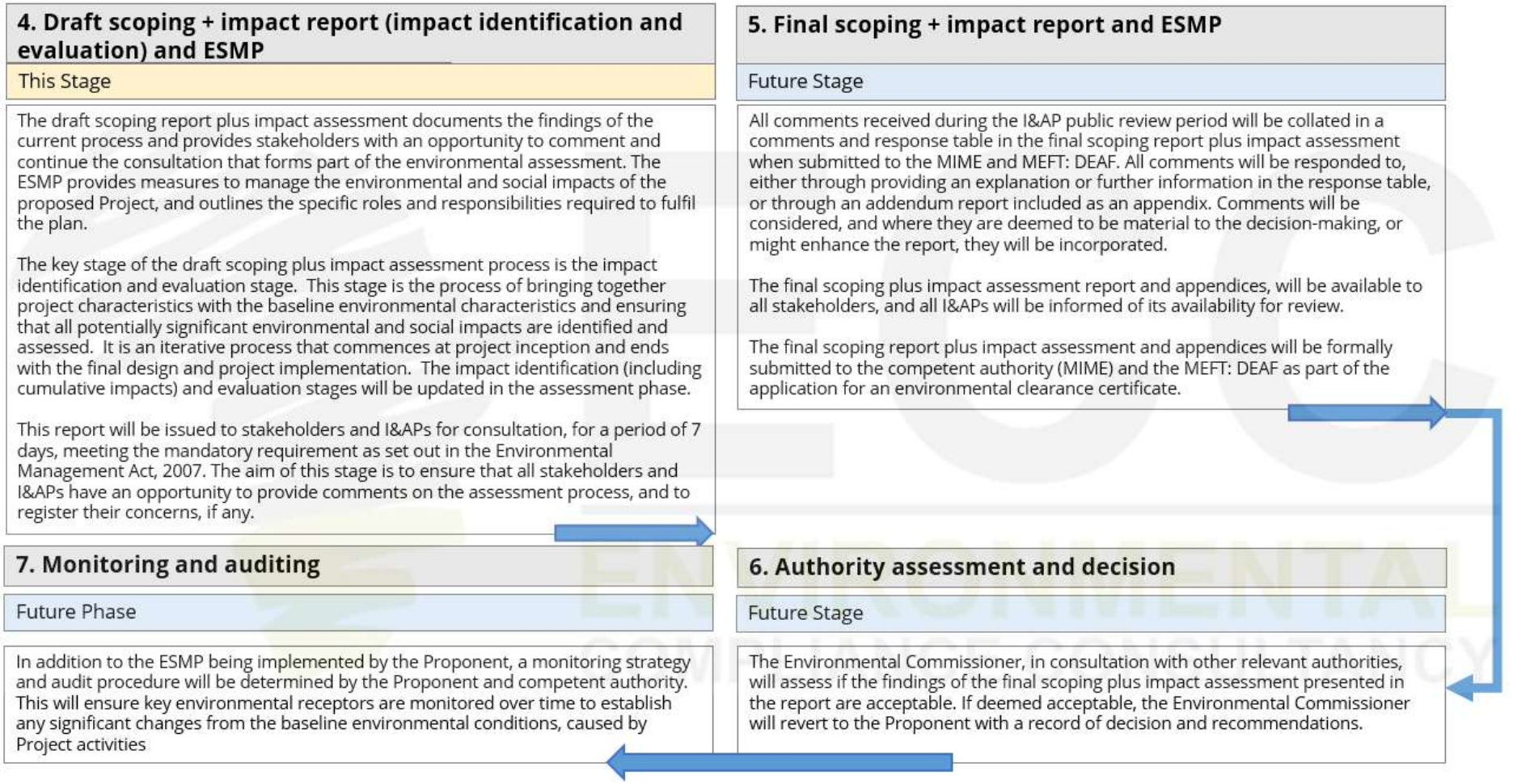


Figure 3 - The full scoping with impact assessment process

2.4 SCOPING AND THE ENVIRONMENTAL ASSESSMENT

The scoping phase of the Project is a preliminary analysis to determine ways in which the Project interacts with the biophysical, social and economic environment. Potential impacts are identified and the significance is assessed during the screening and scoping phase. The details assessment methodology and impact assessment of significant impacts are described in chapter 6 and 7 of this scoping report with impact assessment, respectively. Feedback from consultation with the Proponent and stakeholders also informs the review of the impacts. The following environmental and social aspects were considered for this scoping with impact assessment process, including cumulative impacts:

SOCIO-ECONOMIC ENVIRONMENT

- Employment
- Visual
- Noise
- Air quality
- Heritage and cultural artifacts
- Occupational health and safety

BIOPHYSICAL ENVIRONMENT

- Water use, contamination and management
- Waste resource management
- Biodiversity
- Soil

2.5 BASELINE STUDIES

Baseline studies are undertaken as part of the scoping stage, which involves collecting all pertinent information from the status of the receiving environment. This provides a baseline against which changes that occur as a result of the proposed Project can be measured. For the proposed Project, baseline information was obtained through a desktop study, consultation and engagement with stakeholders, focusing on social and environmental receptors that could be affected by the proposed Project, and verified through site-specific information. The baseline information is covered in chapter 5.

2.6 PUBLIC CONSULTATION

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

provide many benefits and is ongoing throughout the process. The objectives of the public participation and consultation process are to:

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

2.6.1 IDENTIFICATION OF KEY STAKEHOLDERS AND INTERESTED AND AFFECTED PARTIES

A stakeholder mapping exercise was undertaken to identify individuals or groups of stakeholders and the method by which they will be engaged during the scoping with impact assessment process. Stakeholders were approached through direct communication (letters and phone calls), the national press or directly by email. A summarised list of stakeholders for this Project is given below:

- The =/=Gaingu Conservancy
- The relevant farm owners;
- The general public with an interest in the Project;
- Ministry of Environment, Forestry, and Tourism (MEFT);
- Ministry of Industries, Mines and Energy (MIME);
- Erongo Regional Council; and
- Henties Bay Municipality.

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

2.6.2 BACKGROUND INFORMATION DOCUMENT

The background information document (BID) presents a high-level description of the proposed Project, sets out the scoping with impact assessment process and outlines when and how consultation will be undertaken. It also provides contact details for further Project-specific inquiries to all registered I&APs. The BID was distributed to registered I&APs on the 24 October 2025 and it can be found in Appendix B.

2.6.3 NEWSPAPERS AND ADVERTISEMENTS

Notices regarding the proposed Project and associated activities was circulated in three newspapers, namely the 'Republikein, Sun, and Allgemeine Zeitung' on 12 November 2025 and 19 November 2025 (Appendix C). The purpose of this was to commence the consultation process by informing the public about the Project and enabling I&APs to register any comments and interest raised for the Project.

2.6.4 SITE NOTICES

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

2.6.5 PUBLIC MEETINGS

In terms of Section 22 of the Environmental Management Act, No. 7 of 2007 and its regulations, to register I&APs. A public meeting is not a requirement during the public consultation process for all projects. No public meetings were held for the Project as I&APs were invited to register and raise their concerns in writing, however no one from the public registered as an I&AP or contacted the EAP. A stakeholder letter was provided to inform I&APs of the Project (Appendix E).

3 REVIEW OF THE LEGAL ENVIRONMENT

As stated in chapter 1, an environmental clearance certificate is required for any activity listed in the Government Notice No. 29 of 2012 of the EMA 2007. A thorough review of relevant legislation has been conducted for the proposed Project. Table 4 below identifies relevant legal requirements specific to the Project. Table 5 provides the national policies and plans. Table 6 specifies permits relevant to the Project. This chapter outlines the regulatory framework applicable to the proposed Project.

3.1 NATIONAL REGULATORY FRAMEWORK

Table 4 - Details of the regulatory framework as it applies to the proposed exploration on EPL 8791

National Regulatory Regime	Summary	Applicability to the Project
Constitution of the Republic of Namibia (1990)	The constitution defines the country's position about sustainable development and environmental management. The constitution says 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 the utilisation of living, natural resources on a sustainable basis for the benefit of all Namibians, both present, and future."	The Proponent is committed to the sustainable use of the environment and has aligned its corporate mission, vision and objectives with this ambit of the Constitution of the Republic of Namibia (1990).
Minerals (Prospecting and Mining) Act No. 33 of 1992	The Act provides for the granting of various licences related to mining and exploration. Section 50 (i) requires: "An environmental impact assessment indicating the extent of any pollution of the environment before any prospecting operations or mining operations are being carried out, and an estimate of any pollution, if any, likely to be caused by such prospecting operations or mining operations." The holder of the mineral licence is required to comply with its terms and conditions. The Act also contains relevant provisions for pollution control related to mining activities and land access agreements and provides provisions that mineral licence holders are liable for any damage to land,	Preparedness to grant for EPL 8791 was issued to the Proponent in June 2025. The proposed prospecting activity on EPL 8791 requires an ESIA process to be carried out, as it triggers listed activities as defined in Government notice 29 in the Environmental Management Act, No. 7 of 2007. Prospecting activities in EPL 8791 shall not commence until an environmental clearance certificate has been issued in accordance with the provisions of the EMA. The Proponent shall be compliant with Section 76 of the Minerals Act with regard to records,

National Regulatory Regime	Summary	Applicability to the Project
	water, plant, or animal life, caused by spilling or pollution, and must take all such steps as may be necessary to remedy such spilling, pollution, loss, or damage, at its own costs.	maps, plans and financial statements, information, reports and returns submitted.
Environmental Management Act, 2007 (Act No. 7 of 2007) and its regulations (2012), including the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2011)	The Act aims to promote sustainable management of the environment and the use of natural resources. The Act requires certain activities to obtain an environmental clearance certificate prior to Project development. The Act states that an EIA should be undertaken and submitted as part of the environmental clearance certificate application process. 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.	This scoping report with impact assessment report provides the findings of the scoping phase and includes an environmental and social impact assessment sufficient for the associated activities (chapter 7). The process has been undertaken in line with the requirements of the EMA and its 2012 Regulations. Activities on EPL 8791 will not commence until an environmental clearance certificate has been issued in accordance with the provisions of the EMA.
Hazardous Substances Ordinance, No. 14 of 1974	This Ordinance provides for the control of toxic substances and can be applied in conjunction with the Atmospheric Pollution Prevention Ordinance, No. 11 of 1976. This applies to the manufacture, sale, use, disposal, and dumping of hazardous substances, as well as their import and export.	The Proponent must handle hazardous substances such as potential radioactive particles and chemicals in a safe and responsible way, thereby avoiding any pollution or harm to the environment.
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 Proponent must adhere to all labour provisions and guidelines, as stipulated in the Labour Act. The Project shall also develop and implement a comprehensive occupational health and safety plan to ensure

National Regulatory Regime	Summary	Applicability to the Project
		adequate protection for its personnel throughout the Project lifecycle.
Petroleum Products and Energy Amendment Act, No.3 of 2000	Provides provision for the Minister to regulate the cleaning up of petroleum product spills, leaks and related incidents. The Proponent is required to carry all costs associated with such incidents.	The Proponent must take into consideration the requirements that are stipulated in both the Act and its Regulations. Measures in the ESMP (Appendix A) sets out methods to comply with the Regulations, specifically waste disposal during exploration.
Atomic Energy and Radiation Protection Act, Act 5 of 2005.	Annual reporting on the implementation of the Radiation Management Plan to ensure radiation safety and protection on site.	The Proponent must take into consideration the requirements that are stipulated in both the Act and its Regulations. Measures in the ESMP (Appendix A) sets out methods to comply with the Regulations, specifically waste disposal during exploration.
Water Resource Management Act No. 11 of 2013 and the Water Resource Management Regulations of 2023	The Water Resources Management Act (No. 11 of 2013) and its regulations were promulgated in 2023. This Act provides for the control, conservation and use of water for domestic, agricultural, urban, and industrial purposes; and to make provision for the control of certain activities on or in water. The Department of Water Affairs, within the Ministry of Agriculture, Fisheries, Water and Land Reform (MAFWLR), is responsible for the administration of the Act	The Act stipulates obligations to prevent the pollution of water and measures to minimise potential surface and groundwater pollution are contained in the ESMP (Appendix A).

National Regulatory Regime	Summary	Applicability to the Project
Radiation Protection & Waste Disposal Regulations (No 221 of 2011)	This Regulation makes provision for proponents to prepare and implement a Radiation Management Plan, commensurate with the activities of operations	The Proponent must take into consideration the requirements that are stipulated in both the Act and its Regulations, the Radiation Protection and Waste Disposal Regulations. Measures in the ESMP (Appendix A) sets out methods to comply with the Regulations, specifically waste disposal during exploration.

3.2 NATIONAL POLICES AND PLANS

Table 5 - National policies and plans applicable to the proposed exploration on EPL 8791

Policy or plan	Description	Relevance to the Project
Vision 2030	Vision 2030 sets out the nation's development targets and strategies to achieve its national objectives. Vision 2030 states that the overall goal is to improve the quality of life of the Namibian people aligned with the developed world.	The Proponent is encouraged to meet the objectives of Vision 2030 and shall contribute to the overall development of the country through continued employment opportunities and ongoing contributions to the gross domestic product (GDP).
Sixth National Development Plan (NDP6)	The NDP6 is the sixth plan in the series of seven five-year national development plans that outline the objectives and aspirations of Namibia's long-term vision as expressed in Vision 2030. There are four pillars on which NDP6 is built, these are: – Economic growth, transformation and resilience; – Human development and community resilience; – Environmental sustainability; and – Effective governance and public service delivery.	The Proponent is encouraged to support Government's objectives of the NDP6 through creating opportunities for continued employment.
Namibia's Green Plan, 1992	Namibian has developed a 12-point plan for integrated sustainable environmental management to ensure a safe and healthy environment and to	The Proponent is encouraged to adhere to best practise during operational activities.

Policy or plan	Description	Relevance to the Project
	maintain a viable economy. Clause 2 (f) makes specific mention to guidelines related to Mining and Sustainable Development.	
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. 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. 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 Proponent must conform to the Policy and where applicable support local spending and procurement. The Proponent must comply with the general guidelines of the Policy through the adoption of various legal mechanisms to manage all aspects of the environment effectively and sustainably from the start. The scoping with impact assessment is one such mechanism to ensure environmental integrity throughout the planned Project's lifecycle.

Table 6 - Specific permit and licence requirements for the proposed exploration on EPL 8791

Permit or licence	Act or Regulation	Related activities requiring a permit	Relevant Authority
Environmental clearance certificate	Environmental Management Act, No. 7 of 2007	Required for all listed activities. Requires issuance of environmental clearance certificate by the Environmental Commissioner.	Ministry of Environment, Forestry and Tourism (MEFT)

Permit or licence	Act or Regulation	Related activities requiring a permit	Relevant Authority
Exclusive prospecting licence	Section 90 (2) (A) of the Minerals Act, No. 33 of 1992	Written permission has to be received from the Mining Commissioner in the form of an Exclusive Prospecting Licence (EPL 8791).	Ministry of Industries, Mines and Energy (MIME)
Vegetation clearing	Forestry Act No. 12 of 2001	A permit is required for the removal or clearing of any vegetation.	Ministry of Environment, Forestry and Tourism (MEFT)
Letter of consent from the =/=Gaingu conservancy	Nature Conservation Ordinance, 1975 Environmental Management Act (Act No. 7 of 2007) (EMA), with EIA Regulations (2012)	Written consent/permission is required from the landowner or legal custodian - the conservancy committee or traditional authority, ensuring local rights are honoured.	=/=Gaingu Conservancy
Radiation Protection Permit	Radiation Protection and Waste Disposal Regulations (GN No. 221 of 2011)	A requirement by national regulatory bodies for handling, transporting, importing, or using radioactive materials and radiation-producing equipment, ensuring public, worker, and environmental safety through training and safety protocols.	National Radiation Protection Authority (NRPA)
Notice of Intention to drill	Water Resources Management Act, No. 11 of 2013 and 2023 regulations	Despite any other law to the contrary, a person who proposes to drill a new borehole, or to improve any existing borehole, for the purpose of searching for or extracting minerals or other substances, or for road construction or any other purposes other than exploring for groundwater must inform the Minister of such proposal; furnish the Minister with such data and	Ministry of Industries, Mines and Energy (MIME)

Permit or licence	Act or Regulation	Related activities requiring a permit	Relevant Authority
		information as the Minister may require in connection with such borehole drilling or improvement; and take such measures as may be required by the Minister for conserving and protecting groundwater. Any excess water collected as a result of any operation contemplated in subsection (1) must be disposed of as prescribed.	

4 PROJECT DESCRIPTION

4.1 NEED FOR THE PROJECT

Namibia's mining industry plays a vital role in national economic growth, contributing significantly to gross domestic product (GDP), tax revenue and export earnings. As a result, the country actively promotes mineral exploration. This aligns with the Minerals Policy, which aims to "attract investment and enable the private sector to take the lead in exploration, mining, mineral beneficiation and marketing," thereby supporting ongoing exploration and responsible mineral development.

The proposed Project supports this national vision and presents an opportunity to generate local employment within the Erongo Region. Should exploration activities prove successful and identify a commercially viable mineral resource, the Project could contribute meaningfully to socio-economic development of the area.

4.2 ALTERNATIVES CONSIDERED

In terms of the Environmental Management Act, No. 7 of 2007 and its regulations, alternatives considered should be analysed and presented in the scoping plus impact assessment 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 intensive methods such as closely spaced drilling. The methods that will be used for EPL 8791 are based on the exploration programme, which is adjusted as more information and data is obtained. At this stage of the Project, the exploration programme is yet to be finalised and therefore a range of options still exist. All the options and methods have been identified to ensure all the potential impacts on the environment and society are minimal.

4.2.1 NO-GO ALTERNATIVES

Should exploration activities within EPL 8791 not take place, the anticipated environmental impacts from exploration activities would not occur. However, the social and economic benefits associated with the Project would also not materialise. Additionally, there would not be an opportunity to define resources within the Project area, which would be a missed opportunity for geological mapping and data collection that typically adds to regional knowledge of Namibia's mineral wealth and, if found to be viable for mining, would benefit the Namibian economy.

4.3 EXPLORATION METHODOLOGY

All geological and geophysical work will be conducted by Marenica Ventures geologists and contractors if needed.

Exploration activities on EPL 8791 could or is anticipated to include the following:

- Geological mapping/reconnaissance and flying drones;
- Geophysics (magnetic surveys and gamma-ray spectrometry);
- Geochemical analysis (soil and rock sampling and assays) and;
- Drilling, which may consist of reverse circulation (RC) or diamond drilling (DD).

4.3.1 REMOTE SENSING AND GEOPHYSICAL SURVEYS

During mineral exploration, remote sensing and geophysical surveys enable explorers to identify the potential for mineralisation without having to undertake massive exploration operations. Remote sensing may be used to map the geology and existing faults and fractures that localise the ore deposits or may be used to recognise rocks which have been hydrothermally altered. Remote sensing includes a few tools and techniques including geographical information systems, radar, geographical information systems and sonar.

4.3.2 ELECTROMAGNETIC SURVEYS

Electromagnetic surveys are non-destructive geophysical surveys that can detect subsurface features without drilling, probing or digging. This method is likely to be the preferred method for exploration activities within the EPL. This will most likely be undertaken on foot.

4.3.3 REVERSE CICULATION (RC) DRILLING AND DIAMOND DRILLING (DD)

Drilling is to be undertaken in order to obtain drill samples. The collected samples from RC will be temporarily stored in plastic bags on site while the recovered core from DD is placed sequentially into labelled core trays**.** The samples will be transported to a sample preparation laboratory in Swakopmund.

All exploration activities will be undertaken in programmed segments. Equipment used during drilling shall include a trailer-mounted rig towed by a truck. Pitting and trenching is not planned for this exploration Project, so it has not been included in the impact assessment of this scoping report.

Existing tracks shall be used as far as reasonably practicable. If new tracks are required, they will be developed by hand or by use of a 4x4 vehicle. The chosen method will depend on the terrain. Vegetation clearing will be limited to clearing for access tracks and site camps.

4.3.4 EXPLORATION SCHEDULE

The exploration activities are executed and managed from the Proponents Exploration Office in Swakopmund. Field exploration activities, using techniques as discussed above, are likely to occur throughout the licence validity period.

The duration of drilling programs is variable and usually depends on the information that is gained from drilling. Renewal applications for the environmental clearance certificate and other permits/licences will be made should a renewal of the EPL be required.

4.3.5 EQUIPMENT AND MATERIALS

During the exploration phase, double- and single-cab vehicles will be used to transport materials and equipment to the site. A drill rig will be mobilised for drilling activities, accompanied by a water tank and supporting equipment, including drill rods, fuel, and a compressor, all of which are integrated with or transported alongside the drill rig.

4.3.6 POWER SUPPLY

The individual contractors will be responsible to supply their own energy needs throughout the duration of their stay within the field camps. The Proponent encourages the use of small-scale generators to meet these energy needs.

4.3.7 WATER SUPPLY

Water will be required for a range of purposes during the exploration programme, including human consumption and operational needs such as RC and diamond drilling. All water required for the exploration activities will be transported to site by the drilling support vehicles.

4.3.8 WORKFORCE AND ACCOMMODATION

Water will be required for a range of purposes during the exploration programme, including human consumption and operational needs such as RC and diamond drilling. All water required for the exploration activities will be transported to site by the drilling support vehicles.

4.3.9 WASTE MANAGEMENT

Waste produced on-site will include solid waste such as packaging material and field camps' household waste. Hazardous waste if any, such as (hydrocarbon contaminated soil, etc.) will be disposed of at the Walvis Bay municipal waste handling site. The Proponent shall ensure waste is collected in categorised bins and that the waste hierarchy (reduce, reuse, and recycle) is practised as practically as possible.

During exploration, any recovered core or rock samples containing naturally occurring radioactive material (NORM) shall be managed as regulated radioactive waste in line with the Atomic Energy and Radiation Protection Act, 2005 (Act No. 5 of 2005) and the Radiation Protection and Waste Disposal Regulations (No 221, 2011).

4.3.10 REHABILITATON

Once exploration activities are completed the areas will be rehabilitated to a condition as close to the original state as far as possible. Rehabilitation methods will be determined prior to the

commencement of the exploration programme and shall be disclosed to the =/=Gaingu Conservancy beforehand. Before and after photographs will be captured to monitor rehabilitation success and will be incorporated in bi-annual reports submitted to MEFT. The Proponent is committed to restoring all disturbed areas from their activities.

5 ENVIRONMENTAL AND SOCIAL BASELINE

A detailed environmental and socio-economic baseline is provided in this chapter. A description of the existing biophysical environment is given. This section has been compiled from a desktop study, followed by site verification.

5.1 LAND USE

EPL 8791 is situated ~55 km from Henties Bay and within the =/=Gaingu Conservancy in the Erongo Region. The =/=Gaingu Conservancy covers an area of 7731 kilometre squared (km^2) with a population of 3050 (Namibian Association of CBNRM Support Organisations (NACSO), 2024). Landmarks within the conservancy include the Spitzkoppe National Monument area. Additionally, the EPL is located ~ 8 km from the Omaruru Game Park, 20 km east of the Dorob National Park (Table 4). The Dorob National Park was proclaimed in 2010 and covers the central Namib desert to protect the fragile coastal and desert ecosystems. It is bordered in the north by the Ugab River and the Skeleton Coast Park. The Omaruru River bisects it, while the Swakop River is situated to the south of its boundary.

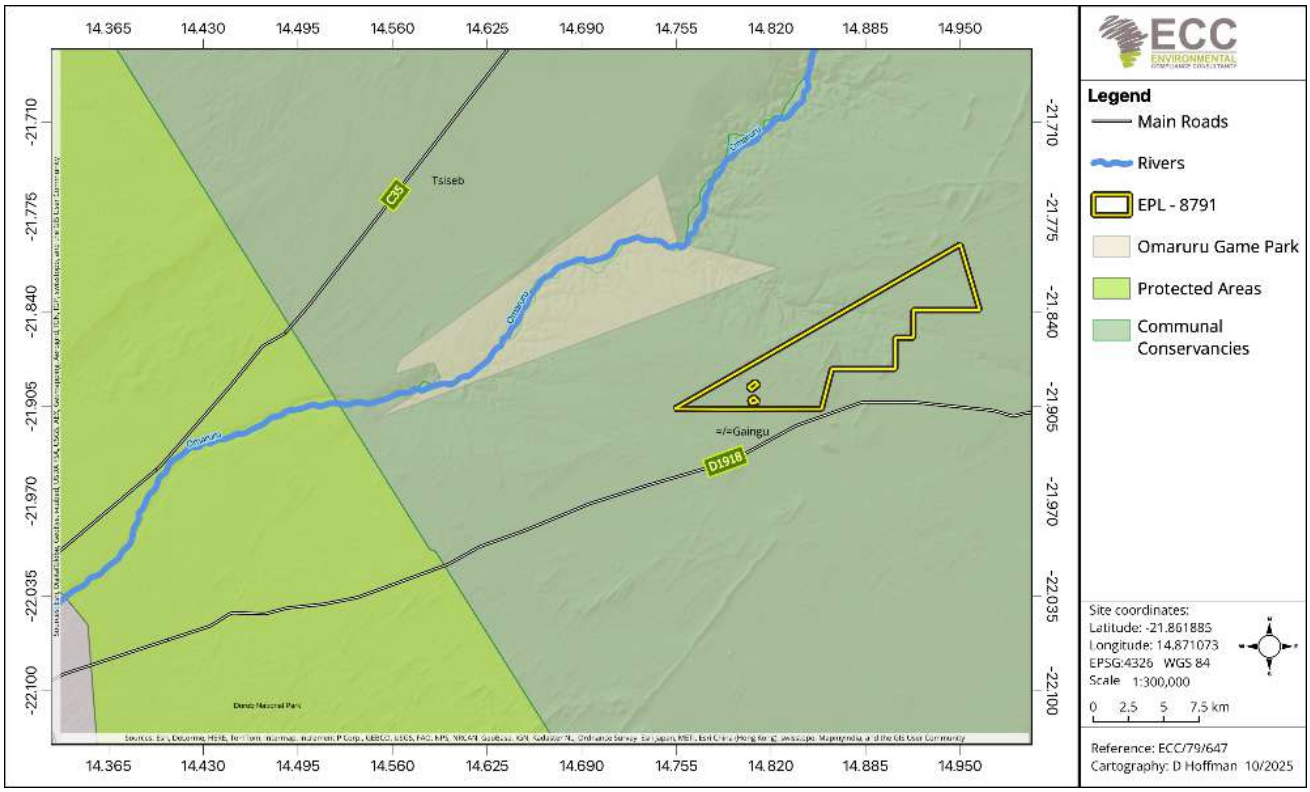


Figure 4 - A map of the communal conservancy, protected areas and park within the general EPL 8791 area.

5.2 CLIMATE

Climate and weather data from meteoblue (2023), along with desktop QGIS data for the site, has been used to give the most accurate data for the EPL area. The climatic condition characterising the

EPL area is warm summers and cool winters. The mean annual temperature ranges between 19˚C and 20˚C, mean maximum temperatures of 28˚C and mean minimum temperatures ranging between 10˚C and 12˚C. The warmest months of the year are between March and May and the coolest months of the year are between August and September, as shown in Figure 5.

The months with the highest solar radiation are May, June and July, experiencing between 20 to 25 sunny days in each of the months Figure 6 - Average annual cloud cover and precipitation in EPL 8791 area (Source: Meteoblue, 2025)(Figure 6). The average solar radiation is between 5.6 and 5.8 kWh/m^2/day. While the month with the highest humidity, February, has a humidity of between 80% and 90% relative humidity (RH) and the driest month, which is June, has a humidity of approximately 40% and 60% RH. The average rainfall in this area was less than 12 mm. The potential evaporation for the area is between 1680 to 2100 mm per year.

The EPL area receives an average wind speed between 10 - 20 kilometre per hour (km/h), with strongest winds reaching between 40 - 50 km/h. The most predominant wind direction is southwest (SW) and west-southwest (WSW) and as shown in Figure 7.

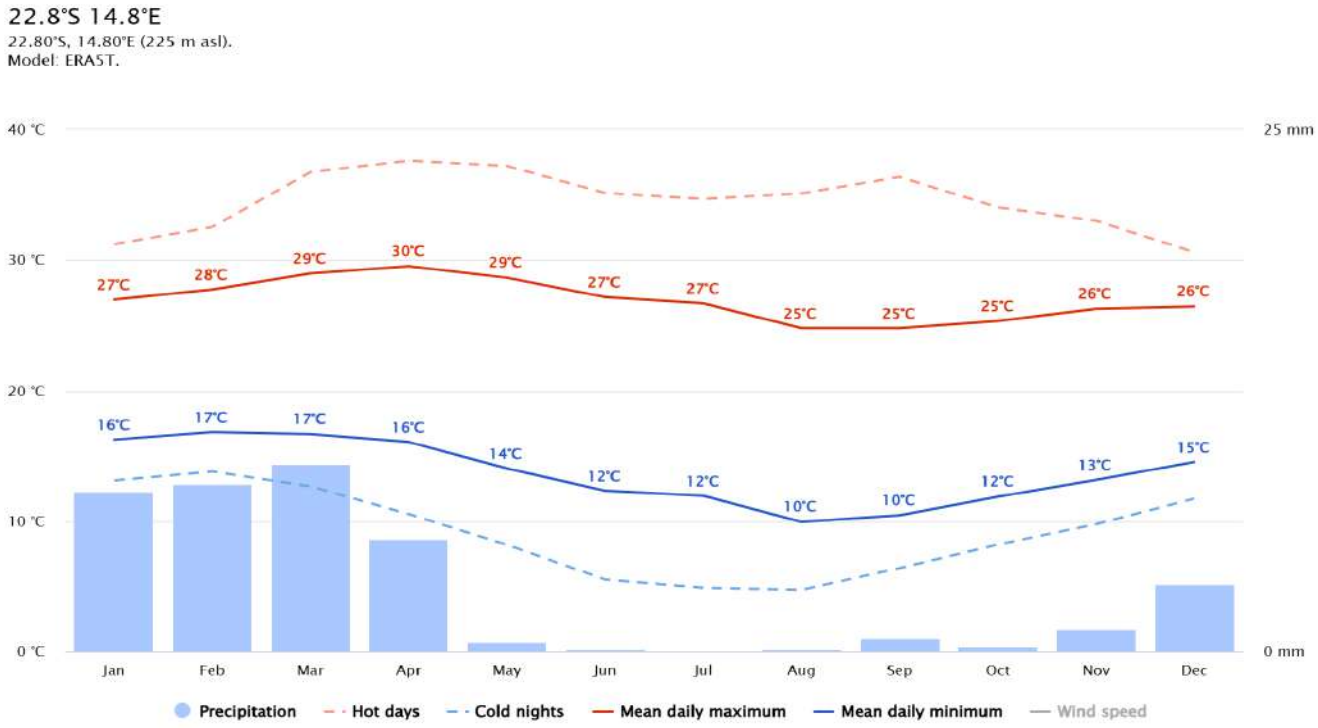


Figure 5 - Average annual temperatures and precipitation in EPL 8791 area (Source: Meteoblue, 2025)

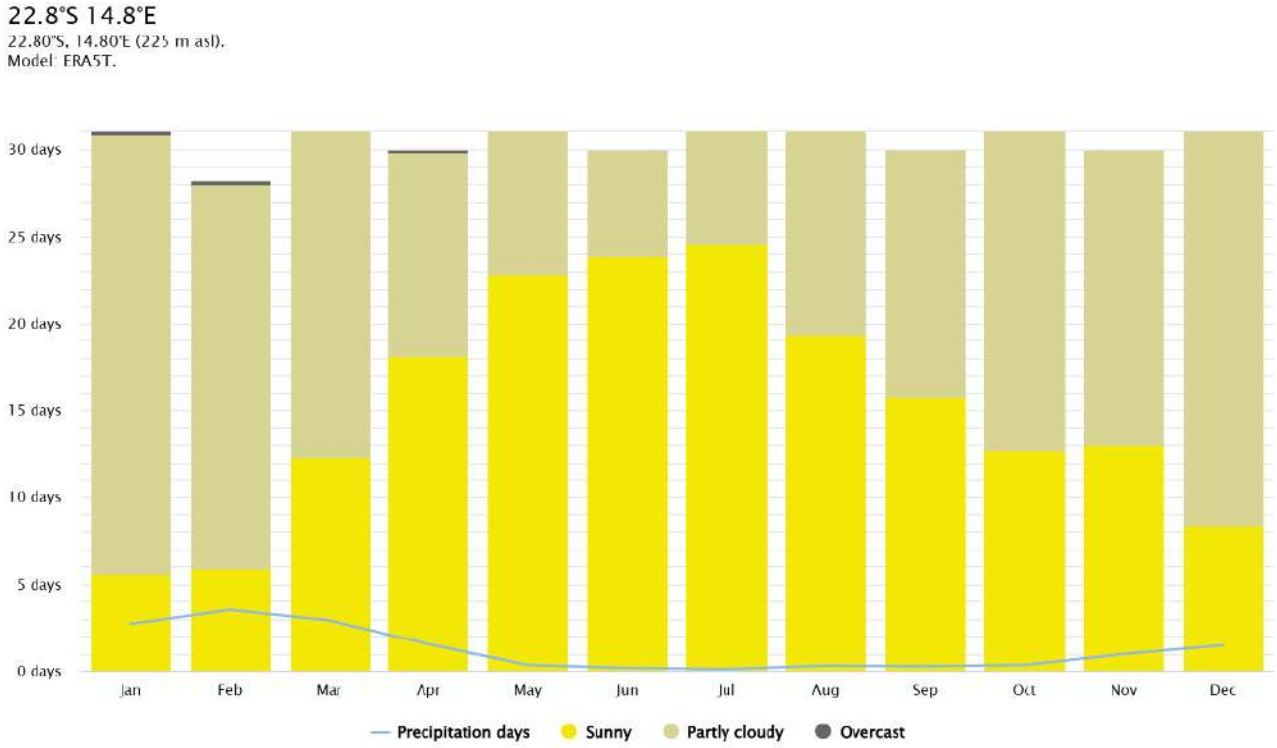


Figure 6 - Average annual cloud cover and precipitation in EPL 8791 area (Source: Meteoblue, 2025)

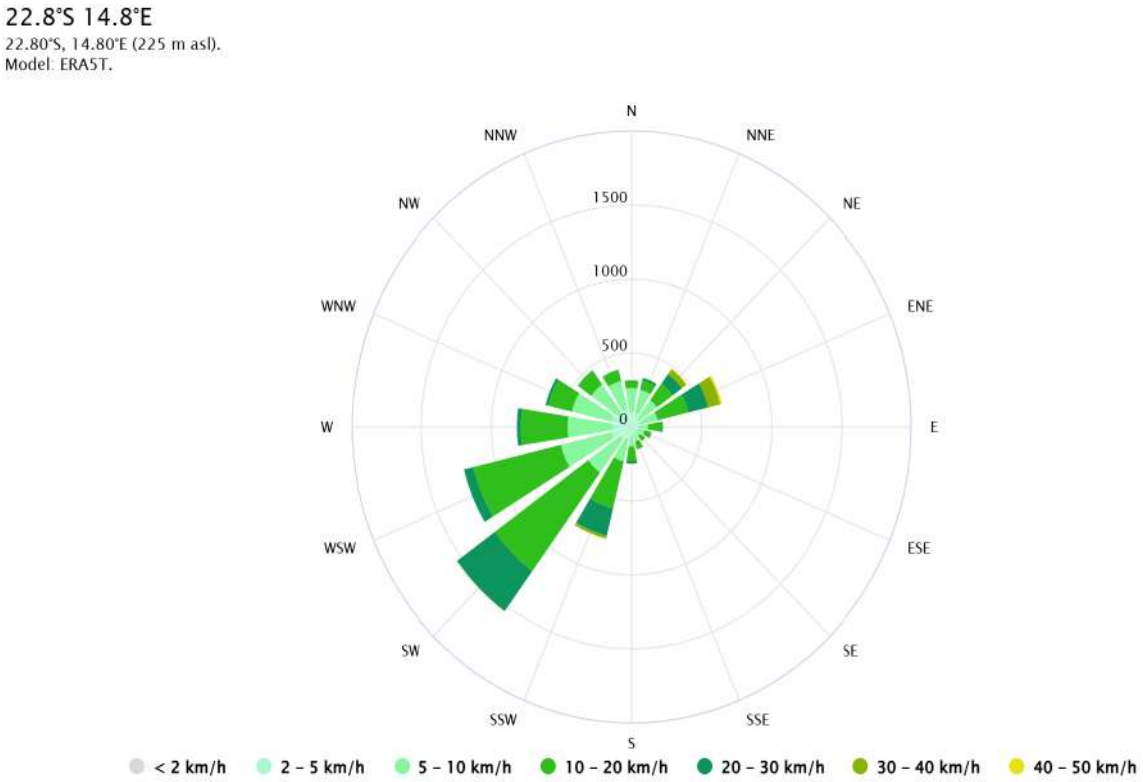


Figure 7 - Average wind speed and direction in EPL 8791 area (Source: Meteoblue, 2025)

5.3 SOILS, GEOLOGY AND TOPOGRAPHY

The regional geology of this area consists mainly of the Swakop Group and the Kalahari and Namib sands, with minor portions consisting of Damara Granites with Etendeka intrusions. The licence area consists dominantly of the Swakop Group with a very small section of Damara granites (Figure 8). The Swakop Group comprises a thick sequence of marine and continental metasedimentary rocks deposited during the late Proterozoic within the Damara Belt. It conformably overlies the Nosib Group and is, in turn, overlain by the younger Kuiseb Formation. The lithostratigraphy of the Swakop Group reflects the progressive evolution of the Damara Basin, transitioning from shallow-water platform carbonates to deeper-water pelitic and psammitic deposits (Miller, 1983).

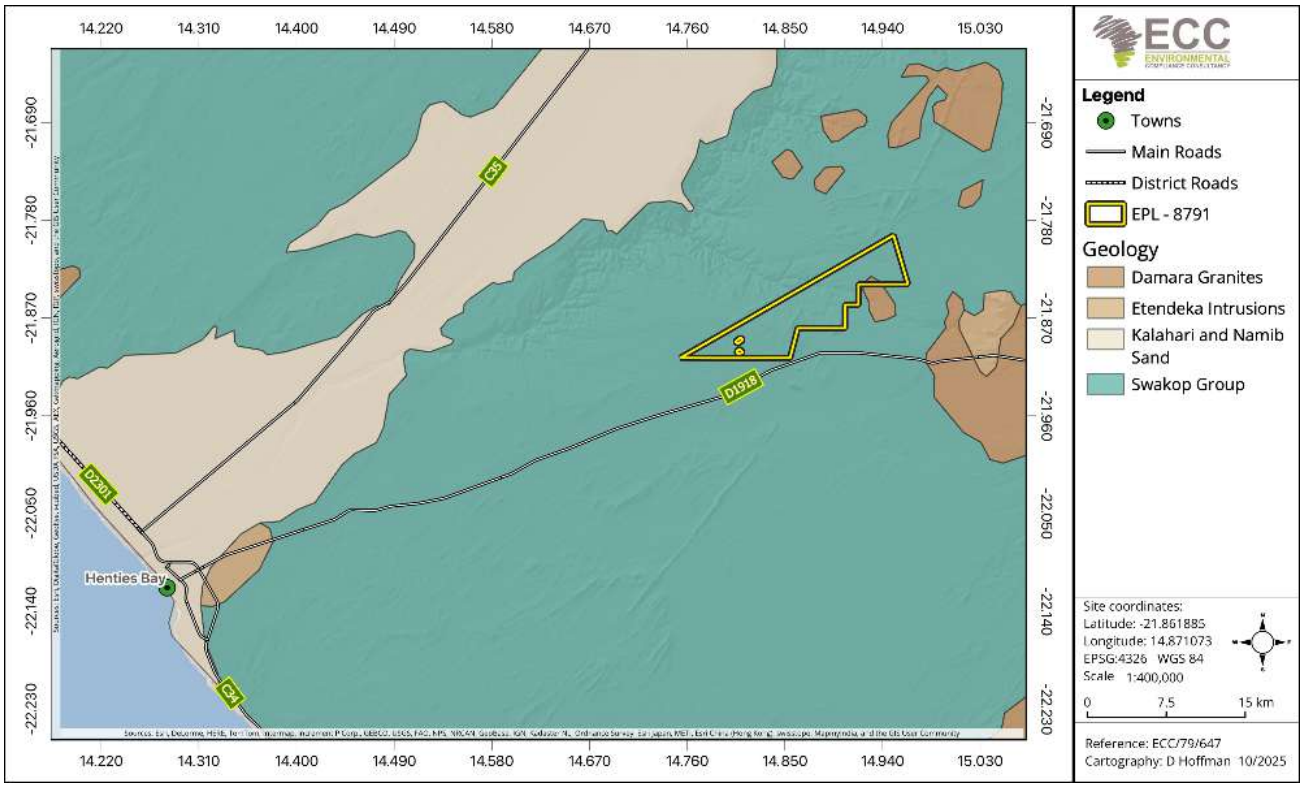


Figure 8 - Geology of study area for EPL 8791

The soils within the area are predominantly classified as Nudilithic Leptosols (Figure 9), which are typically shallow, stony soils developed over hard rock with limited profile development and low water-holding capacity. These soils are common in arid and semi-arid environments such as central and western Namibia, where limited rainfall restricts soil formation processes (Mendelsohn, Jarvis, Roberts, & Robertson, 2002). Minor occurrences of Petric Calcisols and Calcic Petric Gypsisols are also present, particularly in low-lying or gently sloping areas where secondary carbonates and gypsum have accumulated through evaporation and limited leaching. These soil types generally exhibit low fertility and support sparse vegetation, influencing land use potential and ecosystem productivity in the region (IUSS Working Group WRB, 2015).

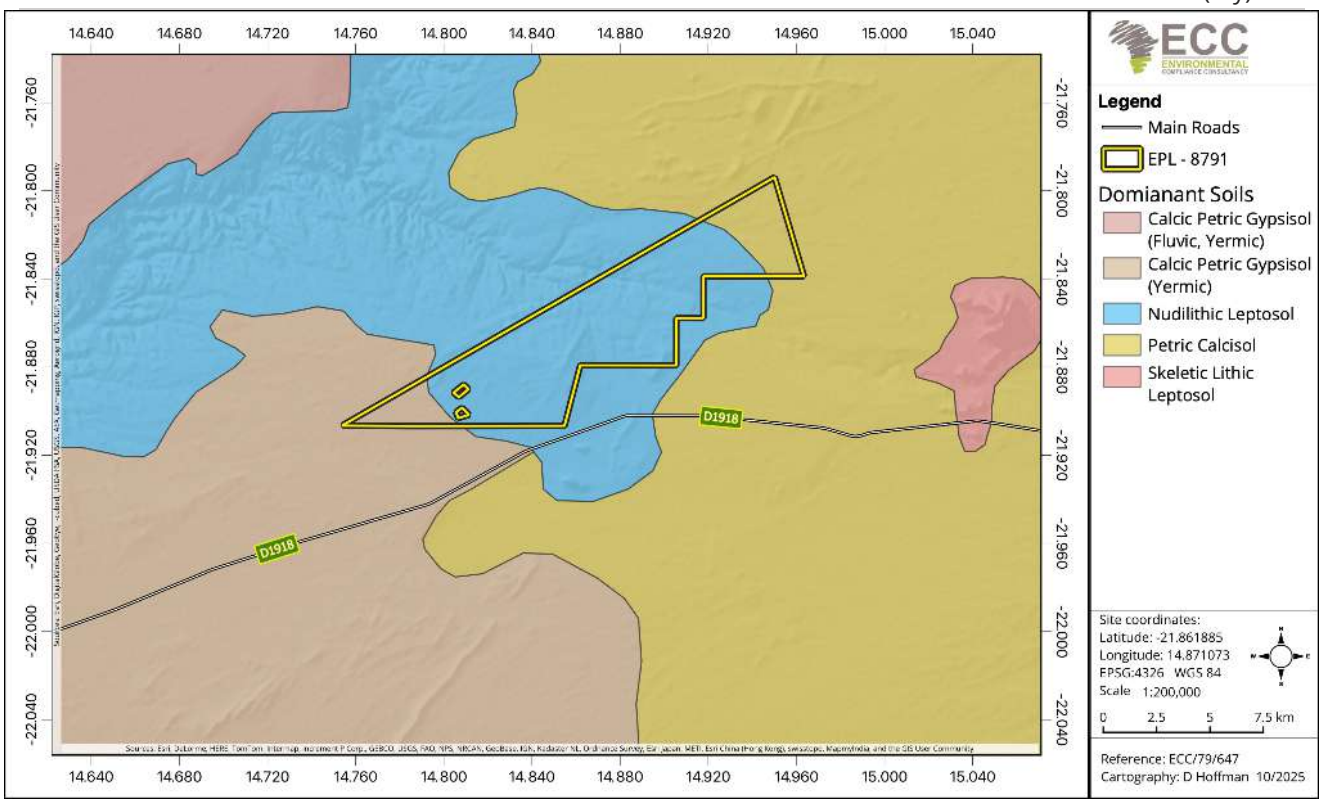


Figure 9 - Soil type of the area of EPL 8791

The topography of the Project site shows a gradual elevation. The elevation increases from the western side of the EPL towards the eastern side from 500 masl to 900 masl (Figure 10).

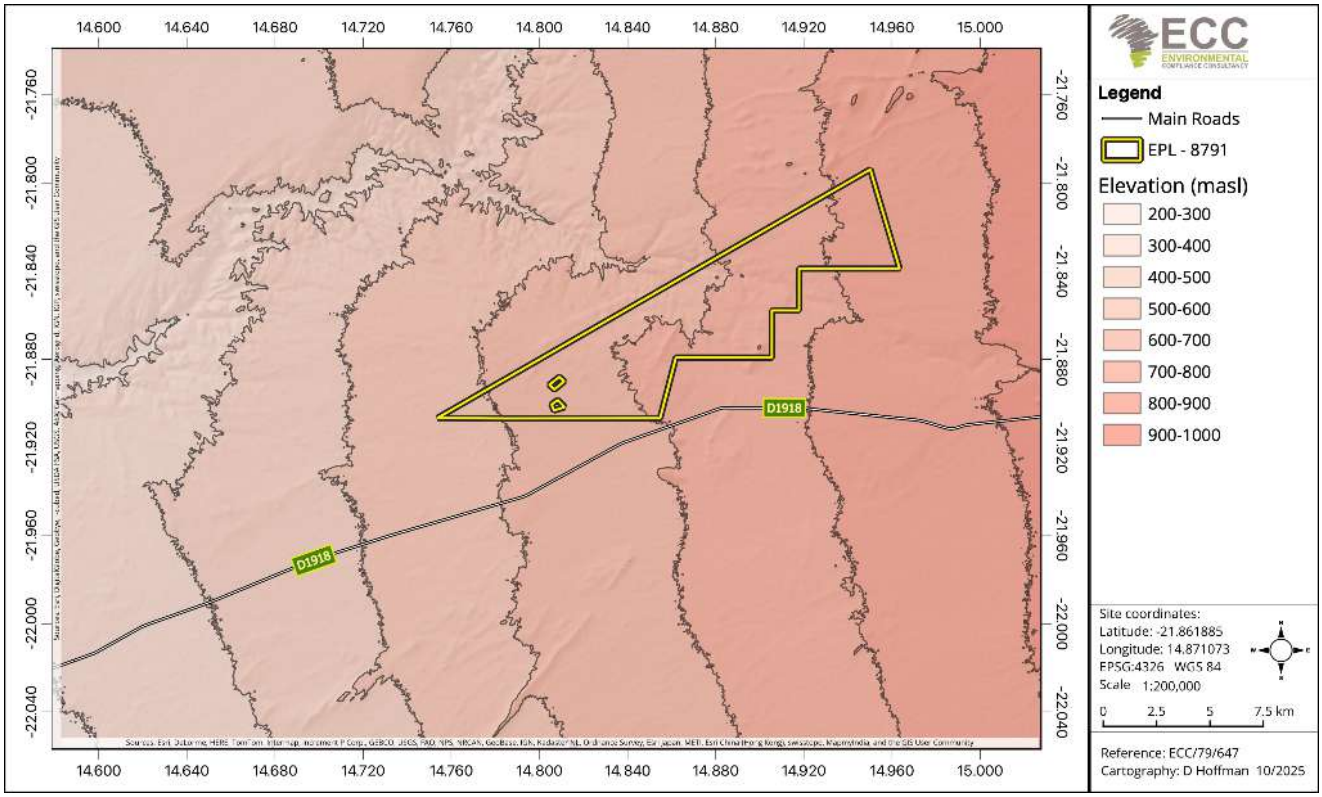


Figure 10 - Elevation of the study area for EPL 8791

5.4 HYDROGEOLOGY

The EPL covers the Kunene south groundwater basin. The entire EPL falls over rock bodies with very low and limited groundwater potential (Figure 11). This water may be explored as an emergency water supply; however, it is unlikely that groundwater will be found in this area. The groundwater quality along this area is unknown or limited information may be available (Mendelsohn, Jarvis, Mendelsohn, & Robertson, 2022).

The northern edge of the EPL is ~12 km from the Omaruru main river channel and is found within the Omaruru river catchment (Figure 12). Medium river channels and small streams may flow or discharge within the EPL.

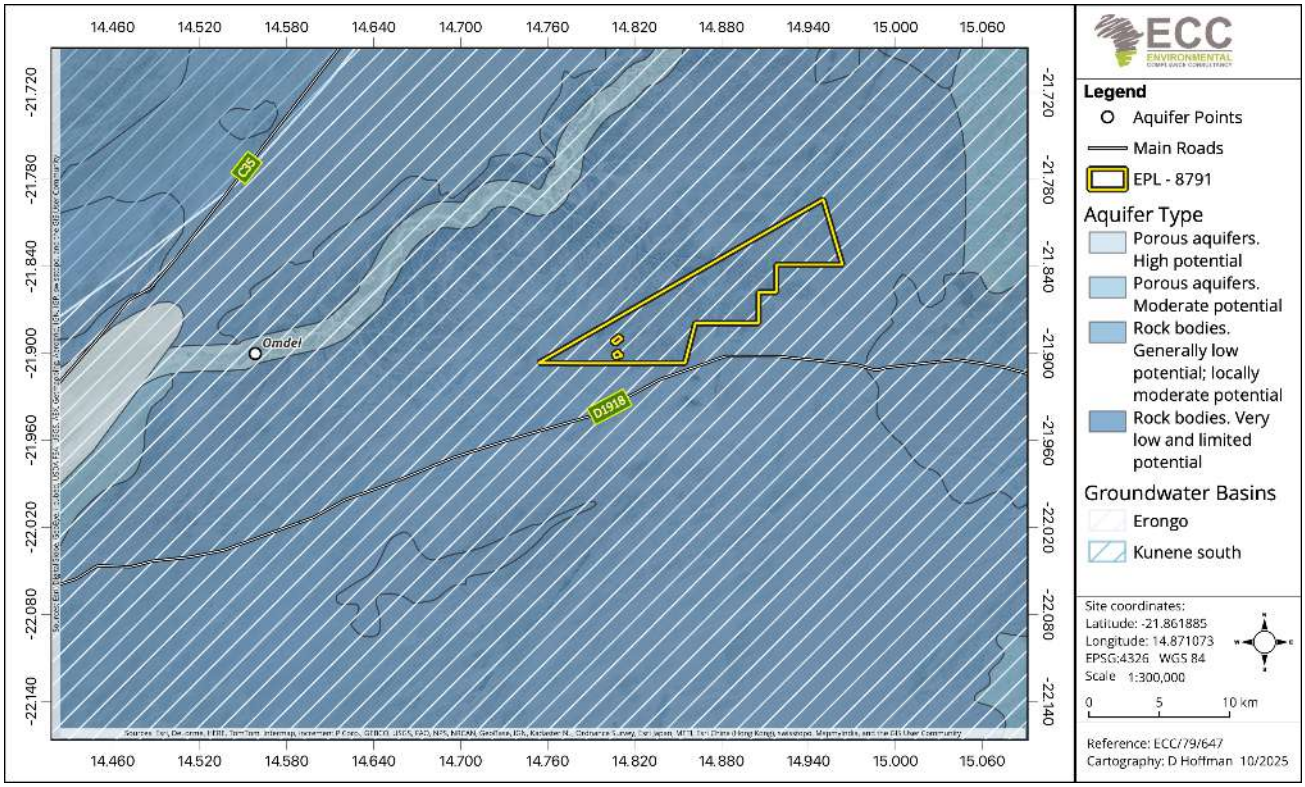


Figure 11 - Geohydrology map of the EPL 8791 area

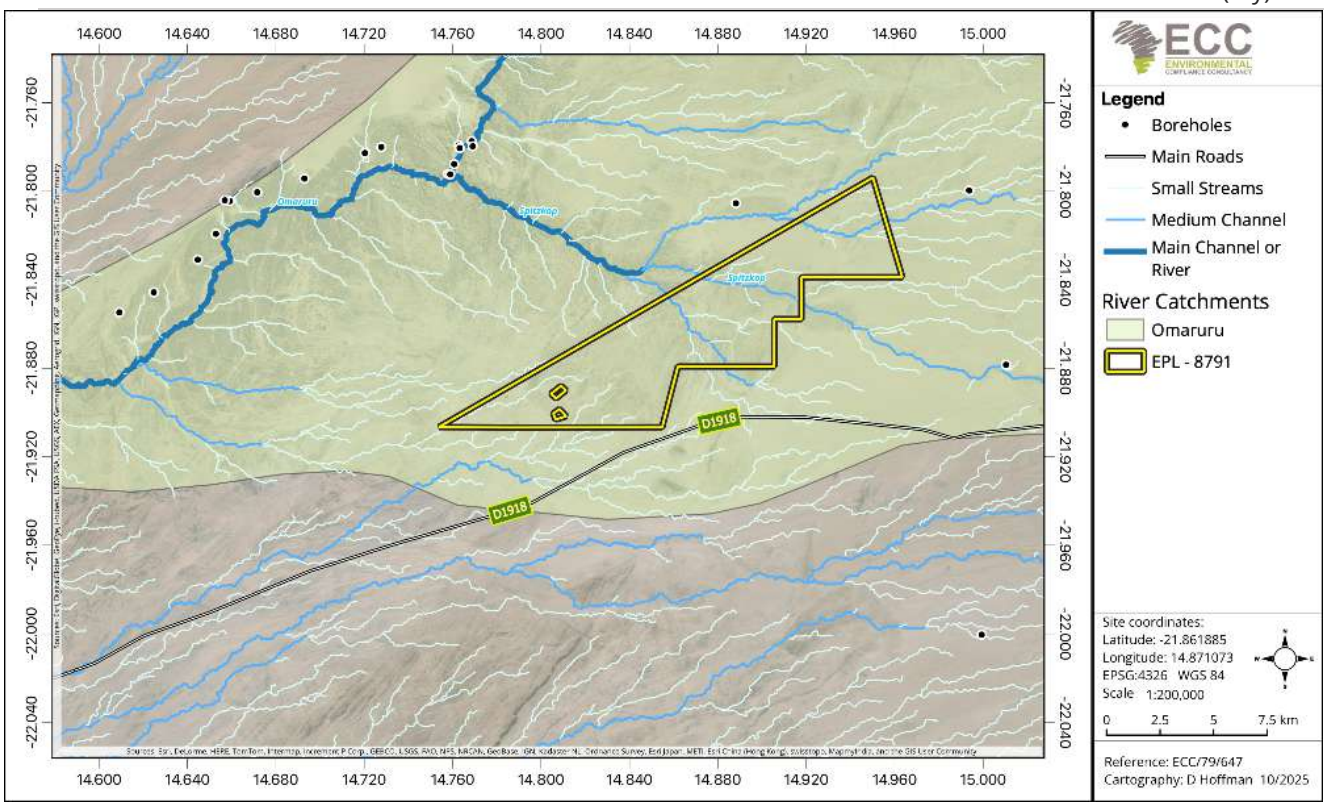


Figure 12 - Hydrology map of the EPL 8791

5.5 BIODIVERSITY BASELINE

5.5.1 FLORA

The EPL is situated mostly in the central-western escarpment and inselbergs area and partly in the Central desert (Figure 13). The dominant landscape for the area is mainly central western plains. The dominant type of vegetation in this area is sparse drought tolerant shrubs and grassland. These include *Vachellia gerrardi*, *Senegalia mellifera, Boscia albitrunca*, *Commiphora glaucescens* and *Euphorbia virosa*. Lichen species are prominent in the central desert area. Grass species are dominated by *Stipagrostis uniplumis* and *Eragrostis* spp. The plant diversity is characterised as low (50 - 99 species) and a low plant endemism (2 - 15 species) (Mendelsohn, Jarvis, Roberts, & Robertson, 2002).

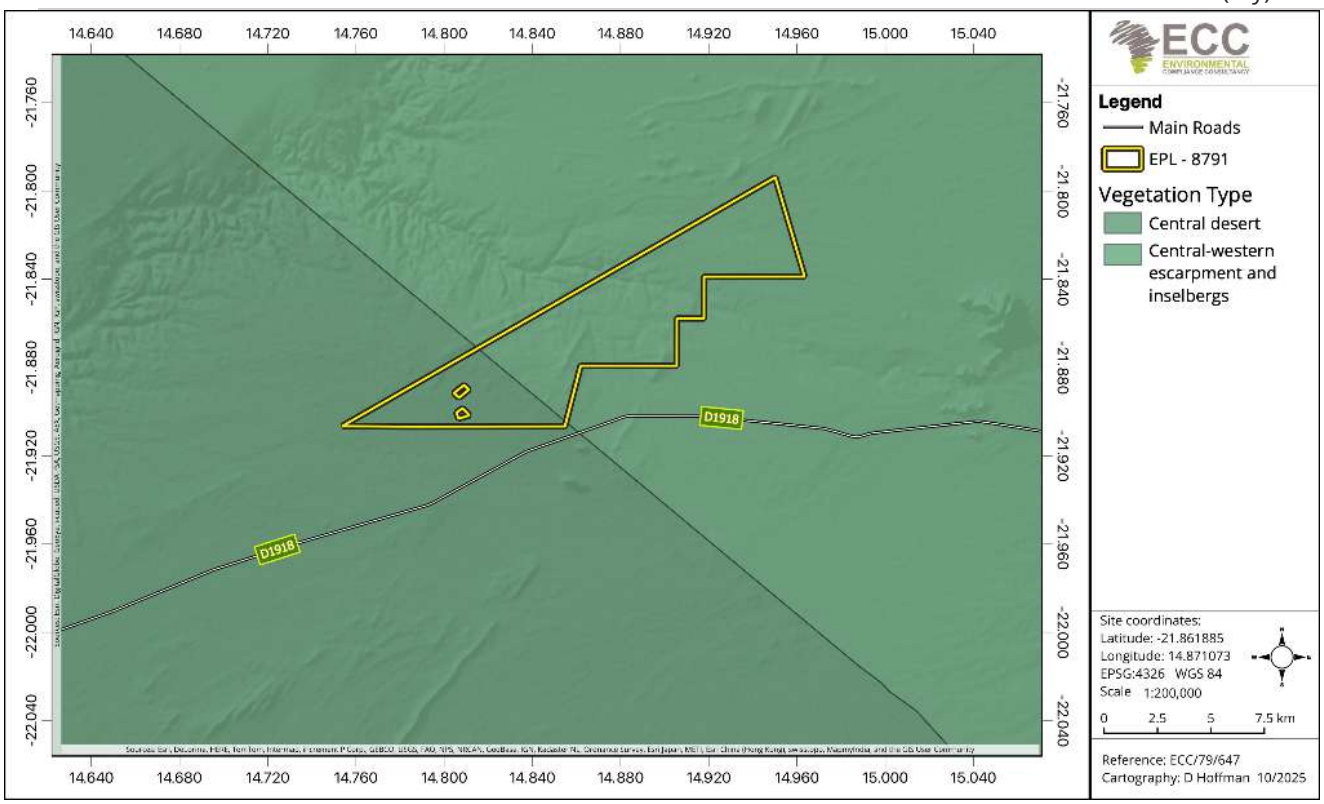


Figure 13 - Vegetation cover of this area

5.5.2 FAUNA

The overall diversity for this area is relatively low compared to other parts of the country. The area within the EPL has a moderate bird diversity between 111 - 140 species and a bird endemism of 1 - 3 species. There is a moderate diversity of reptiles of between 51 - 60 species, a low to moderate diversity of lizards ranging between 28 - 35 species and low snake diversity between 15 – 24 species. Reptile endemism is considered high with 21 - 24 species. The number of frogs in the area is between 1 - 7 which is considered low diversity compared to the northeastern parts of Namibia. The area within the EPL has a moderate mammal diversity of 46 - 60 species with rodents representing 12 -19 species (Mendelsohn, Jarvis, Roberts, & Robertson, 2002).

5.6 SOCIAL AND SOCIO-ECONOMIC

The Erongo region consists of seven (7) constituencies (Arandis, Daures, Karibib, Omaruru, Swakopmund, Walvis Bay Rural and Walvis Bay Urban). The region's capital town is Swakopmund. Local authorities govern the towns in a form of municipalities. The Erongo region occupies 10563.5 km^2 of Namibia's 824 292 km^2 total surface area and lies 270 km northwest of the central Khomas region. To the east and northeast, the region is boarded by Kunene and Otjozondjupa regions and Hardap region to the south (NSA, 2014). The region has a population of 240 206, with most people situated in Walvis Bay and Swakopmund, respectively (Namibia Statistic Agency, 2025).

5.6.1 EMPLOYMENT

In Namibia the employment to population rate (EPR) is 29.1%. The urban population has an EPR of 36.4 %, while rural areas have an EPR of 20.7%. The industries in which most of the population is employed are the following:

- Agriculture, forestry and fishing;
- Wholesale and retail trade; repair of motor vehicles; and
- Manufacturing

Overall, the rate of unemployment is estimated at 36.9% compared to the total labour force. The lowest unemployment rate was recorded in the //Kharas region with 29.7%. Erongo region has the fourth lowest unemployment rate among the 14 regions of Namibia. The overall rate of youth (ages 15 - 34) unemployment is 44.4% in Namibia with Omaheke recording the lowest youth unemployment rate (35.5%). Erongo region has the fifth lowest youth unemployment rate at 40.7% (Namibia Statistic Agency, 2025).

5.6.2 ECONOMIC ENVIRONMENT

Mining is a cornerstone of Namibia's economy, contributing significantly to the gross domestic product (GDP), export earnings and employment. It was recorded that in 2024, mining contributed 13.3% towards the GDP (Chamber of Mines of Namibia, 2025). The sector's success is underpinned by a well-developed legal and regulatory framework, geological diversity and significant foreign investment in commodities such as uranium, diamonds, gold and base metals (Ministry of Mines and Energy, 2022). Namibia's stable political environment and modern mining practices have further enhanced its reputation as a leading African mining destination, supporting sustained economic development and employment creation (Chamber of Mines of Namibia, 2024).

5.7 CULTURAL HERITAGE

A heritage impact assessment (HIA) was conducted in October 2025 by Dr Eliot Mowa from ESM Archaeological and Cultural Heritage Consultants (Appendix F). The methodology used consisted of a field survey and desktop study. The field survey made use of both primary and secondary data sources to ensure a comprehensive understanding of the potential heritage context of the Project area.

No archaeological or cultural heritage materials were recorded within the boundaries of the EPL during the field assessment. The identified features within the EPL primarily consist of evidence from previous exploration activities, including drill holes and related surface disturbances. Sites of cultural or historical value were observed outside the EPL boundary, mainly in areas associated with past or existing community settlements (Mowa, 2025). Figure 14 represents a map of the two archaeological findings recorded during the field survey.

A historical unfinished stone-built structure was identified just outside the EPL boundary (Figure 15). Additionally, a family grave site was located ~ 37 km away from the EPL (Figure 16). Therefore,

the chance find procedure, as described in the ESMP (Appendix A) will be enforced during exploration activities for any potential chance finds.

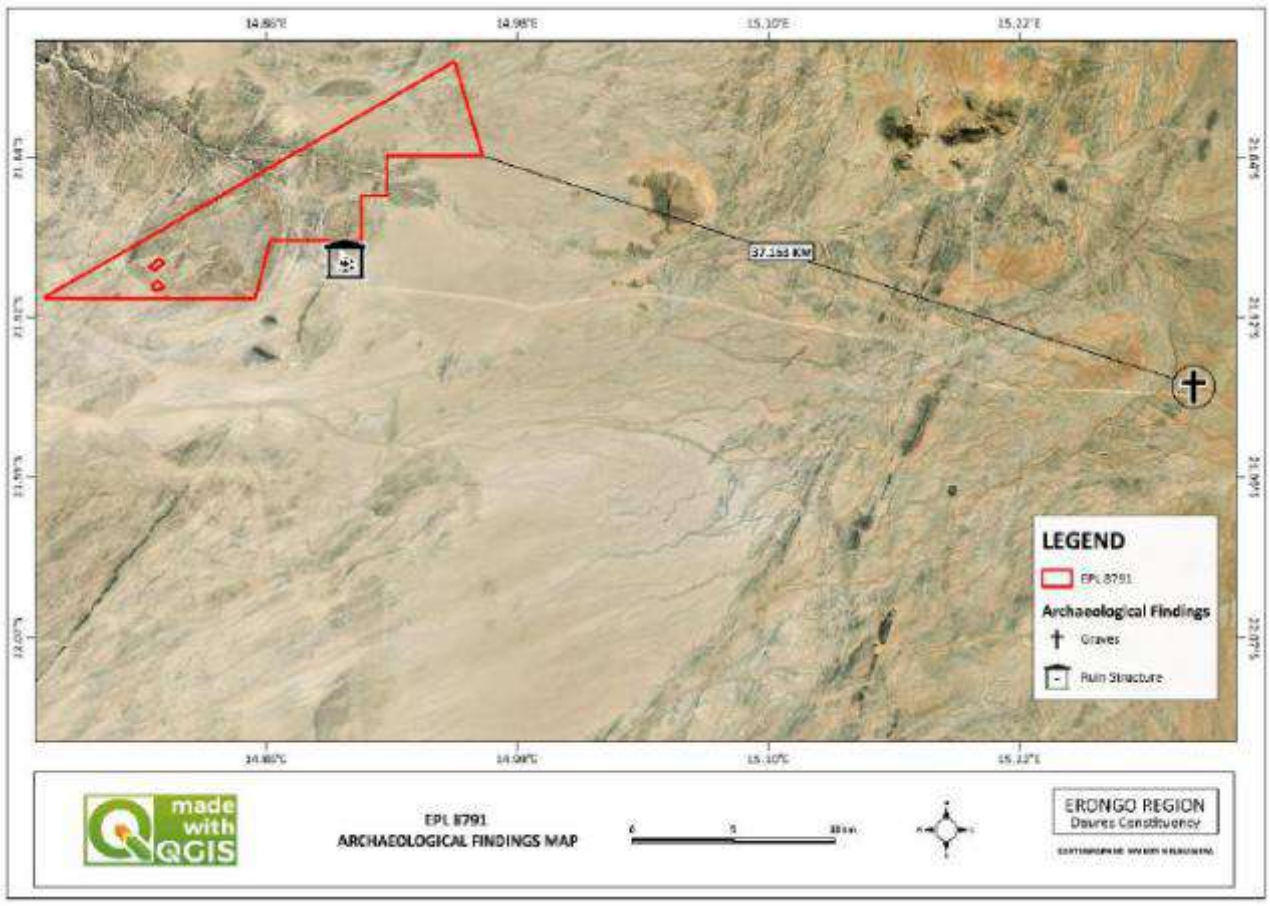


Figure 14 - A map of archaeological findings identified during the field survey (Source: Mowa, 2025)

Figure 15 - Old ruin structure identified outside the EPL boundary (Source: Mowa, 2025)

Figure 16 - Family grave site found ~37 km from the EPL boundary (Source: Mowa, 2025)

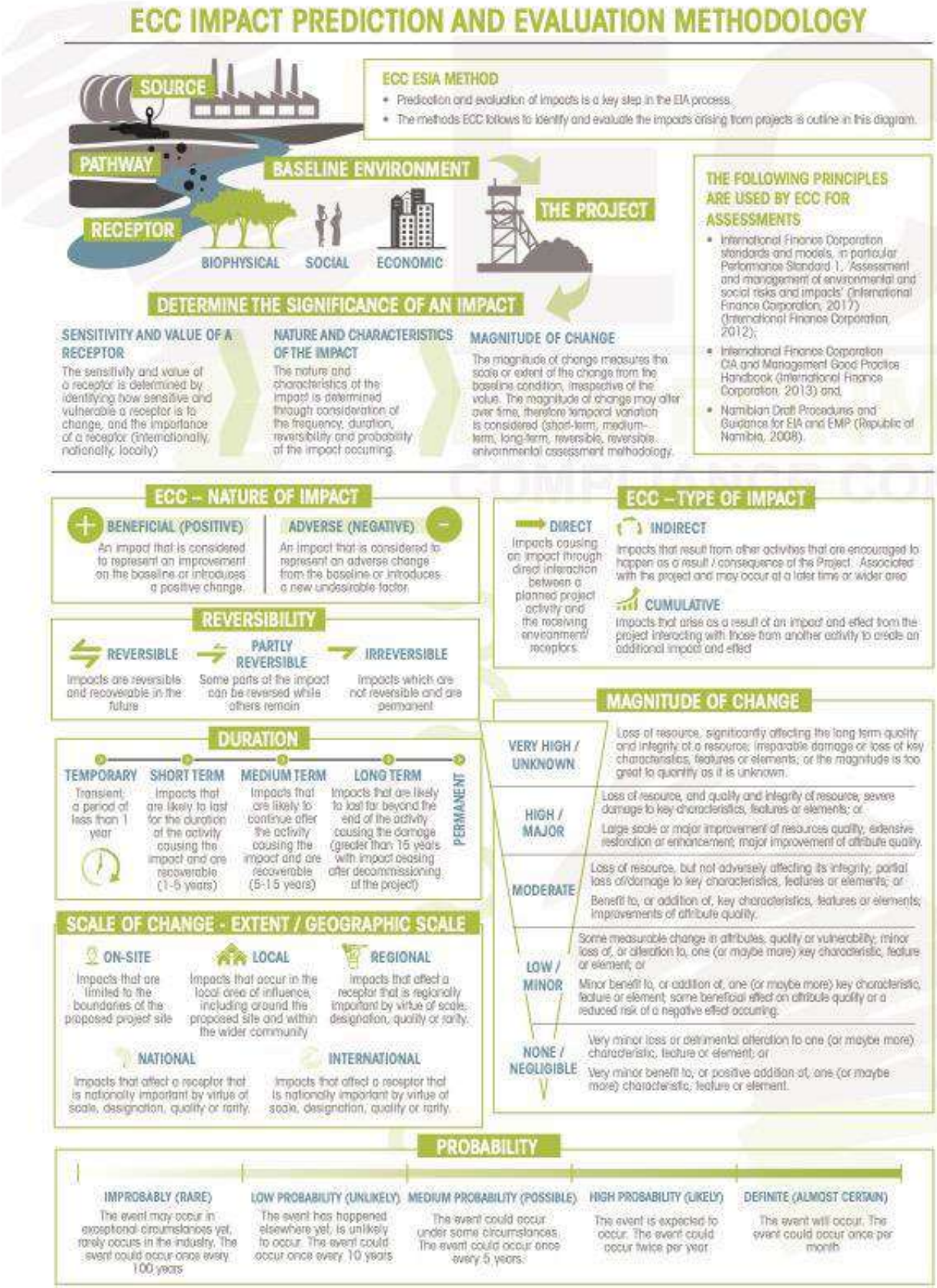
6 IMPACT IDENTIFICATION AND EVALUATION METHODOLOGY

6.1 INTRODUCTION

The impact assessment methodology described in this chapter by ECC is designed to systematically identify and evaluate potential environmental and social impacts that may arise from the proposed Project. The method takes into consideration the baseline characteristics of the Project area and assesses the significance of impacts based on various factors, including the sensitivity and value of environmental and social receptors, the nature and characteristics of the potential impact and the magnitude of potential change.

This chapter provides a structured approach for evaluating the potential impacts of the proposed Project on the environment and social aspects. The method shown in Figure 17 provides assessment guidance that is used to evaluate impacts, and it also acknowledges any limitations, uncertainties and assumptions associated with the assessment methodology. It outlines how impacts are identified and evaluated and how the level of significance is derived. The method also addresses the application of mitigation measures in the assessment and how additional mitigations are identified.

Overall, this chapter provides a comprehensive and systematic approach for conducting impact assessments, which can help ensure that potential environmental and social impacts are thoroughly evaluated and addressed in the decision-making process for the proposed Project. However, it is important to note that the effectiveness of this method would ultimately depend on its implementation and the accuracy of the baseline data and assumptions used in the assessment, as discussed further in section 6.3.


ECC IMPACT PREDICTION AND EVALUATION METHODOLOGY
SOURCE
PATHWAY
RECEPTOR
BASELINE ENVIRONMENT
BIOPHYSICAL
SOCIAL
ECONOMIC
THE PROJECT
ECC ESIA METHOD
Prediction and evaluation of impacts is a key step in the EIA process.
The methods ECC follows to identify and evaluate the impacts arising from projects is outline in this diagram.
THE FOLLOWING PRINCIPLES ARE USED BY ECC FOR ASSESSMENTS
International Finance Corporation standards and models, in particular Performance Standard 1, 'Assessment and management of environmental and social risks and impacts' (International Finance Corporation, 2017) (International Finance Corporation, 2012);
International Finance Corporation CIA and Management Good Practice Handbook (International Finance Corporation, 2013) and,
Namibian Draft Procedures and Guidance for EIA and EMP (Republic of Namibia, 2008).
DETERMINE THE SIGNIFICANCE OF AN IMPACT
SENSITIVITY AND VALUE OF A RECEPTOR
The sensitivity and value of a receptor is determined by identifying how sensitive and vulnerable a receptor is to change, and the importance of a receptor (internationally, nationally, locally)
NATURE AND CHARACTERISTICS OF THE IMPACT
The nature and characteristics of the impact is determined through consideration of the frequency, duration, reversibility and probability of the impact occuring.
MAGNITUDE OF CHANGE
The magnitude of change measures the scale or extent of the change from the baseline condition, irrespective of the value. The magnitude of change may alter over time, therefore temporal variation is considered (short-term, medium-term, long-term, reversible, reversible. environmental assessment methodology.
ECC – NATURE OF IMPACT
BENEFICIAL (POSITIVE)
An impact that is considered to represent an improvement on the baseline or introduces a positive change.
ADVERSE (NEGATIVE)
An impact that is considered to represent an adverse change from the baseline or introduces a new undesirable factor.
ECC – TYPE OF IMPACT
DIRECT
Impacts causing an impact through direct interaction between a planned project activity and the receiving environment/ receptors
INDIRECT
Impacts that result from other activities that are encouraged to happen as a result / consequence of the Project. Associated with the project and may occur at a later time or wider area
CUMULATIVE
Impacts that arise as a result of an impact and effect from the project interacting with those from another activity to create an additional impact and effect
REVERSIBILITY
REVERSIBLE
Impacts are reversible and recoverable in the future
PARTLY REVERSIBLE
Some parts of the impact can be reversed while others remain
IRREVERSIBLE
Impacts which are not reversible and are permanent
DURATION
TEMPORARY
Transient, a period of less than 1 year
SHORT TERM
Impacts that are likely to last for the duration of the activity causing the impact and are recoverable (1-5 years)
MEDIUM TERM
Impacts that are likely to continue after the activity causing the impact and are recoverable (5-15 years)
LONG TERM
Impacts that are likely to last far beyond the end of the activity causing the damage (greater than 15 years with impact ceasing after decommissioning of the project)
PERMANENT
SCALE OF CHANGE - EXTENT / GEOGRAPHIC SCALE
ON-SITE
Impacts that are limited to the boundaries of the proposed project site
LOCAL
Impacts that occur in the local area of influence, including around the proposed site and within the wider community
REGIONAL
Impacts that affect a receptor that is regionally important by virtue of scale, designation, quality or rarity.
NATIONAL
Impacts that affect a receptor that is nationally important by virtue of scale, designation, quality or rarity.
INTERNATIONAL
Impacts that affect a receptor that is nationally important by virtue of scale, designation, quality or rarity.
MAGNITUDE OF CHANGE
VERY HIGH / UNKNOWN
Loss of resource, significantly affecting the long term quality and integrity of a resource; irreparable damage or loss of key characteristics, features or elements; or the magnitude is too great to quantify as it is unknown.
HIGH / MAJOR
Loss of resource, and quality and integrity of resource, severe damage to key characteristics, features or elements; or
Large scale or major improvement of resources quality; extensive restoration or enhancement; major improvement of attribute quality.
MODERATE
Loss of resource, but not adversely affecting its integrity; partial loss of/damage to key characteristics, features or elements; or
Benefit to, or addition of, key characteristics, features or elements; improvements of attribute quality.
LOW / MINOR
Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (or maybe more) key characteristic, feature or element; or
Minor benefit to, or addition of, one (or maybe more) key characteristic, feature or element; some beneficial effect on attribute quality or a reduced risk of a negative effect occurring.
NONE / NEGLIGIBLE
Very minor loss or detrimental alteration to one (or maybe more) characteristic, feature or element; or
Very minor benefit to, or positive addition of, one (or maybe more) characteristic, feature or element.
PROBABILITY
IMPROBABLY (RARE)
The event may occur in exceptional circumstances yet, rarely occurs in the industry. The event could occur once every 100 years
LOW PROBABILITY (UNLIKELY)
The event has happened elsewhere yet, is unlikely to occur. The event could occur once every 10 years
MEDIUM PROBABILITY (POSSIBLE)
The event could occur under some circumstances. The event could occur once every 5 years
HIGH PROBABILITY (LIKELY)
The event is expected to occur. The event could occur twice per year
DEFINITE (ALMOST CERTAIN)
The event will occur. The event could occur once per month

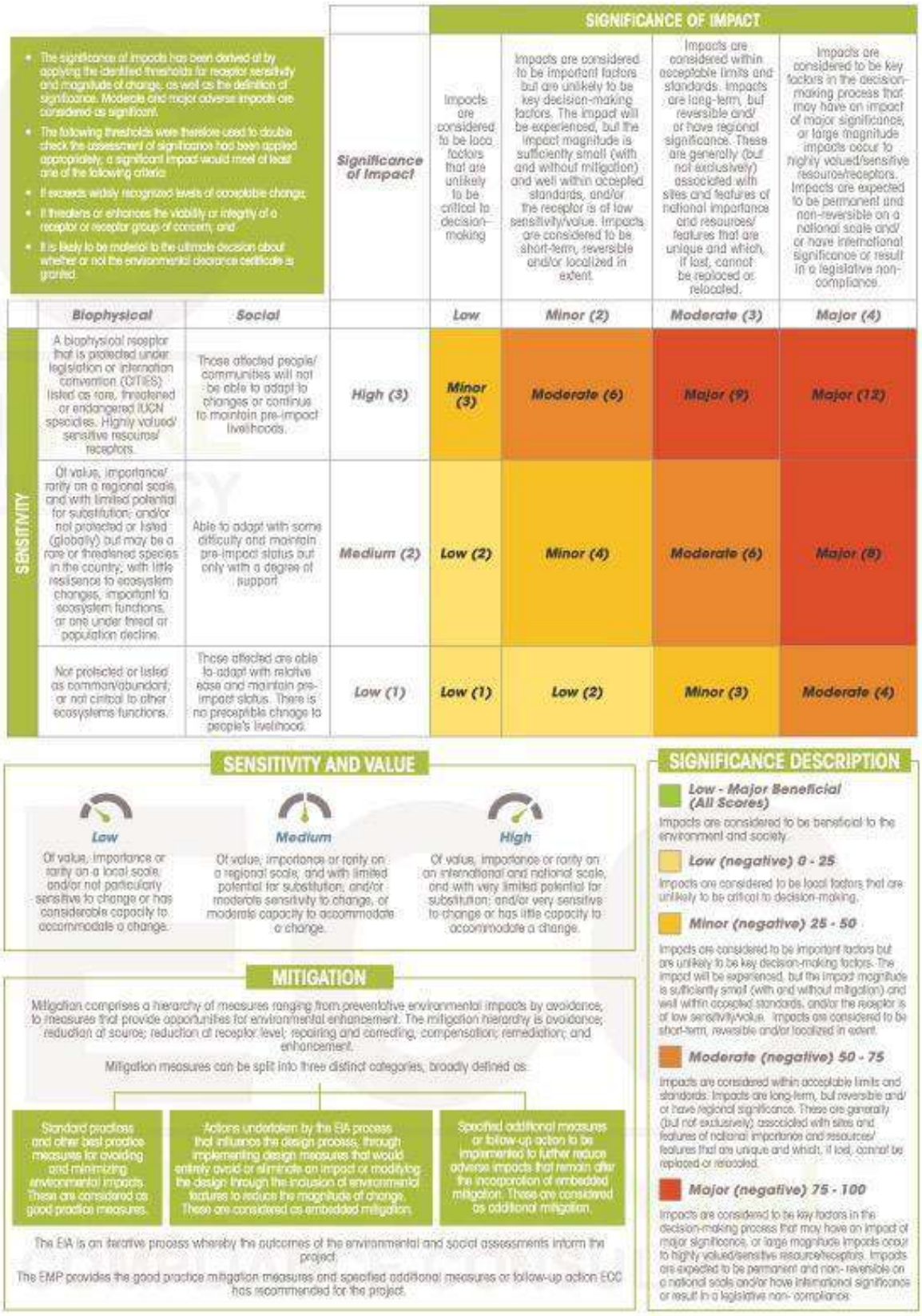


Figure 17 - ECC ESIA methodology based on IFC standards

6.2 ASSESSMENT GUIDANCE

The principal documents used to inform the assessment method are:

- International Finance Corporation standards and models, in particular Performance Standard 1, 'Assessment and management of environmental and social risks and impacts' (International Finance Corporation, 2017) (International Finance Corporation, 2012);
- International Finance Corporation CIA and Management Good Practice Handbook (International Finance Corporation, 2013); and,
- Namibian Draft Procedures and Guidance for EIA and EMP (Republic of Namibia, 2008).

6.3 LIMITATIONS, UNCERTAINTIES AND ASSUMPTIONS

The limitations and uncertainties associated with the assessment methodology in Namibia were observed to include the absence of topic-specific assessment guidance, with a generic methodology being applied based on IFC guidance and professional judgement. This implies that there may be limitations in terms of tailoring the assessment to specific topics or issues relevant to Namibia, and that the methodology may not fully capture the unique characteristics and nuances of the local context.

The impact assessment process also acknowledged the presence of uncertainties and assumptions were made based on realistic worst-case scenarios to ensure that potential environmental impacts were identified and assessed comprehensively. These assumptions and uncertainties were identified and documented during the assessment process shown in Table 7 in line with best practice.

A cautious approach was applied where uncertainties existed, allowing for the identification and assessment of potential impacts based on worst-case scenarios. The limitations and uncertainties were acknowledged and described in the baseline section of the assessment (chapter 5), indicating transparency and awareness of potential limitations in the methodology.

It is important to note that the limitations and uncertainties identified in the assessment methodology may introduce potential biases or inaccuracies in the assessment results. Therefore, it is recommended to regularly review and update the methodology to address these limitations and uncertainties, and to ensure that it remains robust and relevant for the specific context of Namibia. Additionally, incorporating stakeholder feedback and local knowledge can also contribute to improving the accuracy and comprehensiveness of the assessment process.

Table 7 - Limitations, uncertainties and assumptions

Limitation/uncertainty	Assumption
Number of access roads and temporary exploration campsites	The creation of new tracks or access roads will be avoided as far as possible and existing tracks and routes will be used. While every effort will be made to minimise environmental damage, in

	some cases it will be necessary to clear some vegetation. Temporary campsites near the drill sites may be required.
The program of exploration works is not confirmed	It is assumed that exploration work shall be undertaken in separate campaigns over the course of the licence period. Activities involve drilling, aerial or remote sensing and mineral sampling. The incremental methodology for exploration is aimed at using minimally invasive techniques early on to eliminate potential sub-economic targets to reduce footprint impact.

6.4 CUMULATIVE IMPACTS

6.4.1 CUMULATIVE IMPACTS ASSESSMENT METHOD

Cumulative impacts may arise as a result of other Project activities, or due to the combination of two or more projects in the Project area. A cumulative impact assessment (CIA) will be undertaken by applying the IFC CIA Good Practice Handbook (International Finance Corporation, 2013), which recommends that a rapid CIA is undertaken.

A rapid CIA takes into consideration the challenges associated with a good CIA process, which include a lack of basic baseline data, uncertainty associated with anticipated development, limited government capacity, and the absence of strategic regional, sectoral, or integrated resource planning schemes.

The following five-step rapid CIA process will be followed:

Step 1: Scoping – Determine spatial and temporal boundaries

Step 2: Scoping – Identify valued environmental and social receptors and identify reasonably foreseeable developments

Step 3: Determine the present condition of valued environmental and social receptors (The baseline)

Step 4: Evaluate the significance of the cumulative impacts

Step 5: Identify mitigation measures to avoid or reduce cumulative impacts

The following information will be applied to the assessment in line with the above steps and IFC guidance:

- The spatial and temporal boundaries of the CIA are the extent of the Project boundaries and the duration of the exploration and rehabilitation phases of the proposed Project.
- Valued environmental and social receptors that may be affected.
- A review of existing and reasonable, anticipated and/or planned developments has been undertaken, which is based on the information presented in chapter 4.
- The predicted future conditions of sensitive and common environmental and social receptors have been taken into consideration in the assessment.

- The assessment findings will be presented in the assessment report and will have the CIA applied in combination with professional judgment and published environmental assessment reports.
- A review of mitigation and monitoring measures will be undertaken, with any additional ones identified.

6.5 MITIGATION

Impacts that are identified throughout the scoping plus impact assessment process will be subjected to a process of impact mitigation, which is inherent in all aspects of the scoping plus impact assessment system. Embedded mitigation and good practice mitigation will be considered in the assessment. Additional mitigation measures will be identified when the significance of an impact requires it and causes the impact to be further reduced.

The principal of impact mitigation comprises a hierarchy of measures ranging from preventative environmental impacts by avoidance, to measures that provide opportunities for environmental enhancement and will be applied to all impacts associated with the proposed Project. The mitigation hierarchy is avoidance; reduction at source; reduction at receptor level; repairing and correcting; compensation; remediation; and enhancement. The ESMP for the Project provides good practice measures of the impact mitigation and specifies additional measures or follow-up action where required. The ESMP is appended to this report (Appendix A – ESMP). On completion of the impact assessment, the mitigation measures from the impact assessment and recommendations are then incorporated into the final ESMP, which forms an appendix of the final scoping plus impact assessment.

Mitigation measures can be split into three distinct categories, broadly defined as:

- Actions undertaken by the scoping plus impact assessment process that influence the design process, through implementing design measures that would entirely avoid or eliminate an impact or modifying the design through the inclusion of environmental features to reduce the magnitude of change. These are considered embedded mitigation;
- Standard practices or other best practice measures for avoiding and minimising environmental impacts. These are considered good practice measures;
- Specified additional measures or follow up actions to be implemented, to further reduce adverse impacts that remain after the incorporation of embedded mitigation. These are considered additional mitigation measures.

Where additional mitigation is identified, a final assessment of the significance of impacts (residual impacts) will be carried out, taking into consideration the additional mitigation.

The scoping plus impact assessment is an iterative process whereby the outcomes of the environmental assessments inform the environmental management of the proposed Project through the ESMP.

The ESMP in Appendix A provides an outline of the good practice measures and specified additional measures or follow-up actions to be undertaken. The Project ESMP will be finalised on completion of the impact assessment process and included in the final scoping plus impact assessment report.

7 IMPACT ASSESSMENT FINDINGS AND PROPOSED MITIGATION MEASURES

7.1 INTRODUCTION

This chapter presents the findings of the impact assessment for the proposed Project, with a focus on significant potential impacts. Impacts deemed as not significant are listed in Table 8 and are not discussed further in this report unless otherwise indicated. The schedule of the exploration program (as discussed in chapter 4) and best practice measures were considered during the assessment to identify likely significant impacts and recommend mitigation measures, as detailed in the ESMP (Appendix A). Additional mitigation measures are included under this section for impacts rated moderate to major, if any.

The following aspects were considered during the scoping phase:

- Socioeconomics - employment, gross domestic product (GDP) and local economy;
- Social - skills development and good working relations with local farmers, landowners, neighbours and the =/=Gaingu Conservancy;
- Occupational health and safety;
- Air quality;
- Noise;
- Visual and sense of place;
- Heritage (including culture, history, archaeology and palaeontology)
- Water (surface and groundwater);
- Waste management;
- Effluent waste management;
- Soil and landscape; and
- Impact on biodiversity (fauna, flora and avifauna).

7.2 IMPACT DEEMED AS NOT SIGNIFICANT

The listed impacts in Table 8 are considered non-significant and are not expected to pose risks to both the social or biophysical environments, nor their ability to sustain their current states.

Table 8 - Table of non-significant impacts

Social topic	Potential impact	Summary of assessment findings
Social environment		
Human rights	The effects that the Project may have on human rights of the local community.	Residents are not expected to be relocated or change their way of living to accommodate the Project. The exploration activities do not

Social topic	Potential impact	Summary of assessment findings
		violate human rights of local communities.
Land use	Land may no longer be suitable to be used for other purposes.	The Project footprint remains within the bounds of the current Project. Progressive rehabilitation will be conducted to ensure the disturbed areas are restored to their natural conditions, to the greatest extent practicable.
Traffic	Increased traffic flow on the D1918 road, and potential road accidents as a result of more traffic.	Exploration activities involve few vehicles, occasional drilling rigs and support vehicles. In a remote rural area, the proposed activities are not expected to generate significant additional traffic.
Cultural heritage	Destruction or damage to heritage sites and artifacts.	No cultural heritage artifacts or objects of archaeological significance were found within the EPL boundary as stated in the Heritage study (Appendix F). However, there is a possibility for archaeological objects to be found as assessed under section 7.4.7.

7.3 SOCIO-ECONOMIC ENVIRONMENT – ECONOMIC

The socio-economic impact assessment concept embraces both social and economic impacts. The potential social and economic impacts associated with the exploration of nuclear fuels include employment creation, revenue for the government and contribution to local businesses, skill development and capacity building. An overview of the socio-economic impacts is shown in Figure 18, before mitigation. Each specific impact is discussed in detail in the sections below and detailed in Table 9.

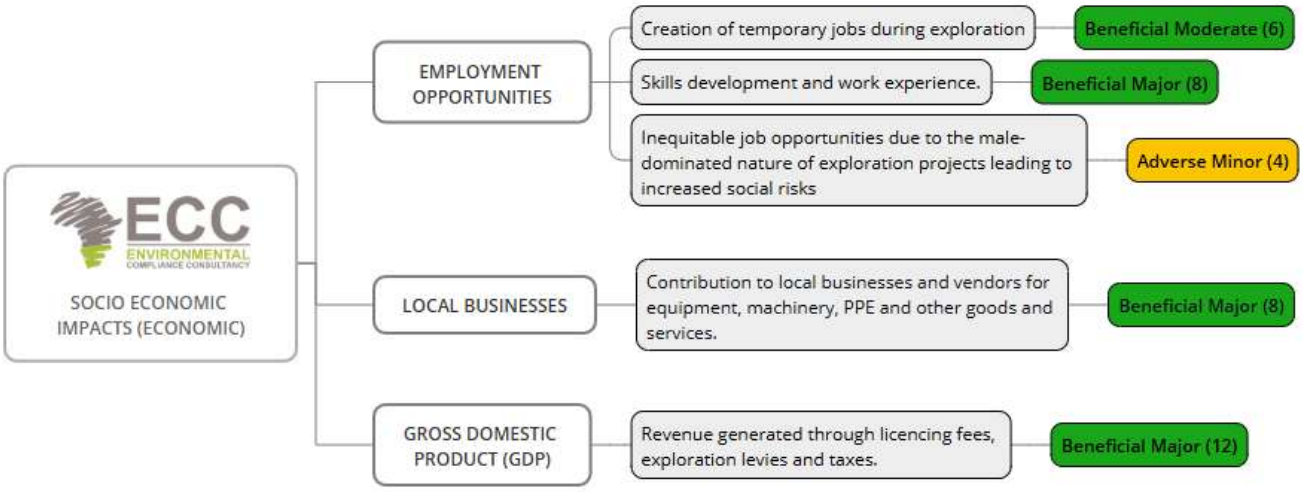


Figure 18 - Overview of the socio-economic impacts

7.3.1 EMPLOYMENT

7.3.1.1 Creation of temporary jobs

The exploration activities for nuclear fuels are expected to generate short-term employment opportunities for both skilled and unskilled labour. These positions will primarily be associated with drilling operations, sampling, logistics, site preparation and basic support services. Employment opportunities can contribute to increased household income for locally recruited workers, supporting livelihoods and stimulating small-scale economic activity in nearby communities. The impact is rated as beneficial due to the employment opportunities associated with exploration. The impact will directly affect people. Employment during exploration is deemed partly reversible as investment in skill development is not lost although the jobs are temporary. Exploration schedules tend to be over a medium term (~7 years) and any continuation beyond this phase depends on the outcomes of the initial exploration results. Jobs will predominantly be sourced at the regional level and staffing is essential to establish and operate the exploration team. As such, the occurrence of this impact is considered definite.

Although exploration activities will create temporary employment opportunities, the number of positions required is inherently limited. Exploration programmes typically operate with small, specialised teams due to the nature of exploration, which emphasises mobility, efficiency and minimising operational costs, therefore the magnitude of change is considered low. The sensitivity of the receptor is medium due to the regional scale. The overall significance of the impact is beneficial moderate. No mitigation measures are required. The Proponent's human resources recruitment procedures will be adhered to when offering employment opportunities to the local workforce.

7.3.1.2 Skills development and work experience

The exploration activities will offer opportunities for local and regional workers to gain technical and practical experience in activities such as drilling support, sample handling, environmental monitoring, field logistics, equipment operation and general site management. These roles provide

exposure to industry standard practices, safety procedures and basic technical competencies relevant to the broader mining and exploration sector. The nature of the impact is assessed as beneficial, directly impacting employees and people that have an interest in the mining industry. Workers who participate in exploration activities acquire permanent skills and experience that they retain for future employment in the mining or exploration sector. Such skills can meaningfully improve an individual's employability in future projects. Therefore, the impact is irreversible and permanent. The impact is assessed regionally, as employment and skills development will primarily benefit individuals from nearby towns or settlements within the region. The impact is considered definite, as an exploration staff is required for specific roles and workers will inherently gain skills and experience by performing their duties.

The magnitude of change is considered moderate, as skills developed during exploration can be extremely valuable in other mining projects. It has been observed that significant growth has been observed particularly in uranium mining in the Erongo region and diamond mining along the southern and coastal areas (KPMG Namibia, 2021). The sensitivity of the receptor is medium due to the regional scale. The overall significance of the impact is rated beneficial major. No mitigation measures are required.

7.3.1.3 Inequitable job opportunities due to the male-dominated nature of exploration projects leading to increased social risks

Exploration projects in the mining and nuclear fuel sectors are typically male dominated, particularly in technical roles such as drilling, surveying and field operations. This can result in limited employment opportunities for women, reducing equitable access to socio-economic benefits in the local community. This may lead to community tension, household income disparities, reduced social cohesion and potential gender-based conflict. Therefore, the nature of the impact is adverse, directly impacting women and youth. The impact may be partly reversible should targeted interventions be implemented, including gender-inclusive recruitment, training and capacity-building programs for women and underrepresented groups, community awareness and sensitisation and supportive workplace measures such as safe transport and anti-harassment policies. The impact may occur over a medium period (5-15 years). An EPL is valid for three (3) years and can be renewed for two additional periods of two (2) years each, as per the Minerals (Prospecting and Mining) Act, 1992 (Act No. 33 of 1992). Therefore, the assumed lifecycle of exploration activities is seven (7) years. The impact is assessed regionally, as employment will primarily benefit individuals from nearby towns or settlements within the region. The impact is considered possible, as mining is generally male dominated and prevailing cultural or social norms in some communities may further limit women's participation.

The impact is rated moderate as exploration remains male dominated, however the significance is limited by the small size of the workforce and should be readily mitigated. The sensitivity of the receptor is medium due to the regional scale. The overall significance of the impact is rated adverse minor. Further mitigation measures are discussed in the Project ESMP (Appendix A).

7.3.2 LOCAL BUSINESSES

7.3.2.1 Contribution to local businesses and vendors for equipment, machinery, PPE and other goods and services

Exploration activities generate demand for goods and services such as drilling equipment, machinery, vehicles, fuel, personal protective equipment (PPE), accommodation, catering and transport. Local businesses and service providers can benefit from supplying these needs, leading to increased revenues, short-term business growth and potential capacity development. The nature of the impact is beneficial due to opportunities for local businesses, directly bringing business to local enterprises and is reversible should exploration cease. The impact may occur over a medium period (5-15 years). The assumed lifecycle of exploration activities is seven (7) years. Impacts are confined to businesses within the Project area or on a regional scale within the Erongo Region. It is highly likely (definite) as exploration would require specialised machinery and equipment, and local businesses will benefit if procurement policies prioritise regional suppliers.

The magnitude of change is low due to the scale of the Project and the proportion of goods and services that can realistically be procured locally/regionally. The sensitivity of the receptor is medium due to the regional scale. The overall significance of the impact is considered beneficial major. No mitigation measures are required.

7.3.3 GROSS DOMESTIC PRODUCT (GDP)

7.3.3.1 Revenue generated through licencing fees, exploration levies and taxes

Exploration activities for mining and nuclear fuel projects contribute to government revenue through licensing fees, exploration levies and applicable taxes. These revenues support national and regional development by funding public services, infrastructure and socio-economic programs, thereby indirectly benefiting local communities. The impact is considered beneficial due to the funding generated on a national level. While the financial contributions come through government channels, they are directly beneficial as they provide tangible resources that fund national services, infrastructure and programs. The impact is expected to be reversible and medium period (5-15 years). The assumed lifecycle of exploration activities is seven (7) years. It is highly likely (definite) that exploration projects will generate revenue through licensing fees, exploration levies, and taxes because these payments are mandated by national legislation (Minerals Act No. 33 of 1992) and regulatory frameworks. Companies undertaking exploration activities are required to obtain the appropriate licenses and permits, each of which carries a prescribed fee. Additionally, exploration levies and applicable corporate or business taxes are collected as part of standard government fiscal procedures.

The magnitude of change is rated high due to the fees associated with the licence including expected expenditure, secondary permits and taxes. The sensitivity of the receptor is deemed high due to the national scale. The overall significance of the impact is considered beneficial major. No mitigation measures are required.

Table 9 - Socio-economic impacts

Activity	Receptor	Impact	Nature of Impact	Value and sensitivity	Magnitude of change	Significance of impact
Exploration activities	Employees and contractor employees	Creation of temporary jobs.	Beneficial Direct Reversible Medium-term Regional Definite	Medium	Low	Beneficial Moderate (6)
		Skills development and work experience.	Beneficial Direct Irreversible Permanent Regional Definite	Medium	Moderate	Beneficial Major (8)
	Women and youth	Inequitable job opportunities due to the male-dominated nature of exploration projects leading to increased social risks.	Adverse Direct Partly reversible Medium-term Regional Possible	Medium	Moderate	Adverse Minor (4)
	Local and regional economy	Contribution to local businesses and vendors for equipment, machinery, PPE and other goods and services.	Beneficial Direct Reversible Medium-term Regional Definite	Medium	Low	Beneficial Major (8)
	National economy	Revenue generated through licencing	Beneficial Direct Reversible	High	High	Beneficial Major (12)

Activity	Receptor	Impact	Nature of Impact	Value and sensitivity	Magnitude of change	Significance of impact
		fees, exploration levies and taxes	Medium-term National Definite			

7.4 SOCIAL ECONOMIC ENVIRONMENT – SOCIAL

Social impacts include the consequences to the local farmers, landowners, neighbours and the =/=Gaingu Conservancy, impacting their lives, work or interactions. An overview of the social impacts is shown in Figure 19, before mitigation. Each specific impact is discussed in detail in the sections below and described in Table 10.

Figure 19 - Overview of social impacts

7.4.1 COMMUNITY (FARMERS, LANDOWNERS AND CONSERVANCY)

7.4.1.1 Social tensions and conflicts among farmers, landowners and the =/=Gaingu Conservancy due to engagement imbalances

Communal land is owned and managed by the collective community. EPL 8791 lies within the =/=Gaingu Conservancy, whose role is to manage the affairs of the community and communal land. The conservancy objectives include inclusive governance, cultural preservation and equitable benefit sharing among community members, while acting as a mediator to resolve conflicts over natural resource use. Exploration activities may lead to social tension and conflict among farmers, landowners and conservancies, especially when consultation and engagement processes are not balanced or inclusive. If certain stakeholders receive more information, are consulted earlier, or are involved more actively than others, this can create perceptions of unfairness or marginalisation. Issues of this nature may cause disputes with consenting authorities, distrust in the Project and within the community and lack of cooperation.

The impact is deemed adverse, direct and reversible through inclusive stakeholder engagements. The impact may occur over a medium period (5-15 years). An EPL is valid for three (3) years and can be renewed for two additional periods of two (2) years each, as per the Minerals (Prospecting and Mining) Act, 1992 (Act No. 33 of 1992). Therefore, the assumed lifecycle of exploration activities is

seven (7) years. The social tension will involve local communities, farmers on the EPL and the =/=Gaingu Conservancy. Therefore, the scale of the impact is assessed as regional. The likelihood of the impact is considered possible (medium) as conflicts among community members may be unpredictable.

The magnitude of the impact is rated minor due to the measurable changes within the community, and any resulting tensions or conflicts can be readily resolved through appropriate engagement measures. The sensitivity of the receptor is assessed as medium due to the regional scale of the impact. The significance of the impact is rated adverse minor, before mitigation (Table 10). The mitigation measures are provided in the environmental and social management plan (ESMP) (Appendix A).

7.4.1.2 Movement of Project vehicles, drilling activities and survey operations may interfere with farming activities or disrupt the routine movement of landowners

Movement of vehicles, drilling activities and survey operations may disrupt normal farming routines and restrict the regular movement of landowners. These activities can interfere with livestock herding, field preparation and access to communal resources, resulting in temporary inconvenience and reduced operational efficiency for land users.

The impact is assessed as adverse, direct and reversible as exploration activities may likely lead to disruption of farming operations, if the exploration plans and schedules are not timely communicated to the landowners and stakeholders. The impact may occur over a medium period (~7 years) due to the exploration life cycle as discussed under section 7.4.1.1. The likelihood of the impact is considered possible (medium) and may occur on a local scale as it will affect farmers/landowners within and near the EPL boundary.

The magnitude of the impact is rated moderate, as Project activities, particularly noise, may disrupt the daily routines of nearby communities. The sensitivity of the receptor is assessed as low, due to the local scale of the impact. The significance of the impact is rated adverse low, before mitigation (Table 10). The mitigation measures are outlined in the Project ESMP (Appendix A).

7.4.1.3 Social anxiety due to concerns about radiation exposure and long-term safety

Community members may experience social anxiety due to concerns regarding potential radiation exposure, contamination of land or water and long-term health and safety risks associated with exploration activities. Although actual exposure levels are low, limited information or misunderstandings about radiation can heighten fear and create a sense of uncertainty. This perceived risk may contribute to stress, reduced trust in the Project and reluctance to engage in exploration-related activities, thereby affecting overall community well-being.

The impact is assessed as adverse, direct and partly reversible through continuous engagement and open communication with stakeholder. The duration of the impact is deemed medium term (~7 years) due to the exploration life cycle as discussed under section 7.4.1.1. Social anxiety may impact people located on or near the EPL boundary. While the actual levels of radiation exposure

during exploration are generally low and will be well-controlled, community concerns about safety, radiation and resource contamination are observed in similar projects, therefore, the likelihood of the impact is considered possible (medium).

The magnitude of the impact is assessed as moderate, reflecting potential concerns within the community regarding personal safety and potential exposure to radiation. The sensitivity of the receptor is assessed as low due to the local scale of the impact. The significance of the impact is rated adverse low, before mitigation (Table 10). The mitigation measures are outlined in the ESMP (Appendix A).

Table 10 - Local community (social) impacts

Activity	Receptor	Impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
Exploration activities	Farmers, landowners and the =/=Gaingu Conservancy	Social tensions and conflicts among farmers, landowners, and the =/=Gaingu Conservancy due to engagement imbalances that undermine existing local governance structures.	Adverse Direct Reversible Medium-term Regional Possible	Medium	Minor	Adverse Minor (4)
		Movement of vehicles, drilling activities and surveys operations can interfere with farming schedules or normal movement of landowners.	Adverse Direct Reversible Medium-term On-site Possible	Low	Moderate	Adverse Low (2)

Activity	Receptor	Impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
		Social anxiety due to concerns about radiation exposure, contamination and long-term safety.	Adverse Direct Partly reversible Medium-term Local Possible	Low	Moderate	Adverse Low (2)

7.4.2 OCCUPATIONAL HEALTH AND SAFETY

Occupational health and safety is a critical consideration during exploration activities, as personnel may be exposed to a range of physical, chemical and environmental hazards in remote areas. The occupational health and safety impacts is shown in Figure 20. The specific impact is discussed in detail in the section below and described in Table 11.

Figure 20 - Occupational health and safety impact

7.4.2.1 Potential risk of on-site injuries leading to short-term impairment, permanent disabilities or fatalities

Exploration activities present an inherent risk of on-site injuries, which may result in short-term impairment, permanent disabilities (such as those inflicted by noise) and in extreme cases, fatalities. These risks stem from the use of heavy machinery, drilling equipment, vehicle movement, handling of hazardous materials and working in remote or uneven terrains. The primary safety risks relate to physical injuries associated with exploration activities. Without adequate safety protocols, emergency preparedness and trained personnel, these hazards may pose a significant threat to workers well-being.

The nature of impact is adverse and will directly affect the exploration team. Injuries sustained are irreversible as they could be serious and may lead to death, therefore the impact is rated irreversible and permanent. It is anticipated that an experienced exploration team will be deployed on-site. Should any injuries occur, they are more likely to result from unforeseen accidents, rather than from incompetence or lack of practical experience. The likelihood of this impact occurring is therefore rated as possible (medium).

The magnitude of impact is rated high due to varying degrees of injuries that can occur, ranging from minor injuries to potentially life-threatening incidents. As personnel adjust to the operational environment, the magnitude of the impact is likely to be moderate over time. The sensitivity of receptor is rated as medium as injuries (or death) could lead to permanent disabilities, which limit workers future employment opportunities and their ability to perform tasks within the industry. Overall, the significance of impact, before mitigation, is rated adverse moderate (Table 11). With mitigation, the significance of the impact is reduced to adverse minor.

Mitigation measures are outlined below and included in the Project ESMP (Appendix A):

- Conduct induction training for all personnel prior to commencing work, covering hazards, emergency procedures and safe work practices;
- The Proponent and contractor(s) to ensure the appointment of a dedicated health and safety person and where required, safety, health and environment (SHE) representative(s);
- Ensure competent supervision is in place for all exploration activities;
- Maintain a clear chain of communication and incident-reporting procedure;
- Provide workers with suitable PPE and enforce mandatory PPE use in all designated areas;
- Regularly inspect and replace worn or damaged PPE;
- Conduct routine maintenance of all machinery to prevent mechanical failures;
- Establish exclusion zones around drilling operations and ensure the areas are clearly demarcated;
- Prepare and implement an emergency response plan (ERP) covering medical emergencies, fire, spills and accidents;
- Provide fire extinguishers at designated areas (fuel storage areas, camps and near generators) and first aid kits; and
- Conduct regular emergency drills (fire, evacuation, spill response).

7.4.2.2 Potential risk of exposure to radiation towards employees

During nuclear fuel exploration activities, employees may be exposed to ionising radiation through the handling of mineralised core samples and drill cuttings, contact with contaminated equipment or PPE and inhalation of radioactive dust or radon released during drilling and sampling. At low exposure levels, as in the case of short to medium term exploration activities, no immediate symptoms may be noticeable.

However, higher or accidental exposures can result in a range of symptoms depending on the exposure level as indicated below (International Commission on Radiological Protection (ICRP), 2012) (International Atomic Energy Agency (IAEA), 2014):

- Direct contact with radioactive material could result in skin irritation or burns; and
- Nausea, fatigue, dizziness or headaches may be experienced, should exposure exceed safe occupational limits (20 millisieverts (mSv) per year, averaged over 5 consecutive years).

The nature of the impact is adverse, through sampling and drilling activities and radioactive waste has the potential to pose health and safety risks to employees. The impact will directly affect

employee's occupational health through various symptoms and effects. The impact is reversible as medium-term exposure (~7 years) may be easily resolved. All activities associated with the release of radioactive samples and material will occur on site. The probability is possible, as exposure pathways exist (alpha and potentially gamma, dust, water, direct contact). It should be noted that the exposure to radioactive material will likely be low during exploration, depending on the grade of uranium (parts per million) determined in samples, length of time of sampling, handling and drilling activities and thus exposure to the workforce.

The magnitude of change is moderate, given the hazardous nature of ionising radiation; however, exposure levels during exploration are generally low and controlled. The sensitivity of the receptor is considered medium, as employees are exposed to inherent risks and conditions can be restored to pre-impact levels. The overall significance of the impact is adverse minor, before mitigation (Table 11). Mitigation measures are outlined in the ESMP (Appendix A).

Table 11 - Occupational health and safety impacts

Activity	Receptor	Impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
Exploration activities	Employees and contractor employees	Potential risk of on-site injuries leading to short-term impairment, permanent disabilities or fatalities.	Adverse Direct Irreversible Permanent On-site Possible	Medium	High	Adverse Moderate (6)
		Potential risk of exposure to radiation towards employees	Adverse Direct Reversible Medium term On-site Possible	Medium	Moderate	Adverse Minor (4)

7.4.3 AIR QUALITY

During exploration a range of air quality deteriorating activities are foreseen and discussed in depth below. Figure 21 shows an overview of the air quality impacts assessed, before mitigation and Table 12 details the assessed impacts.

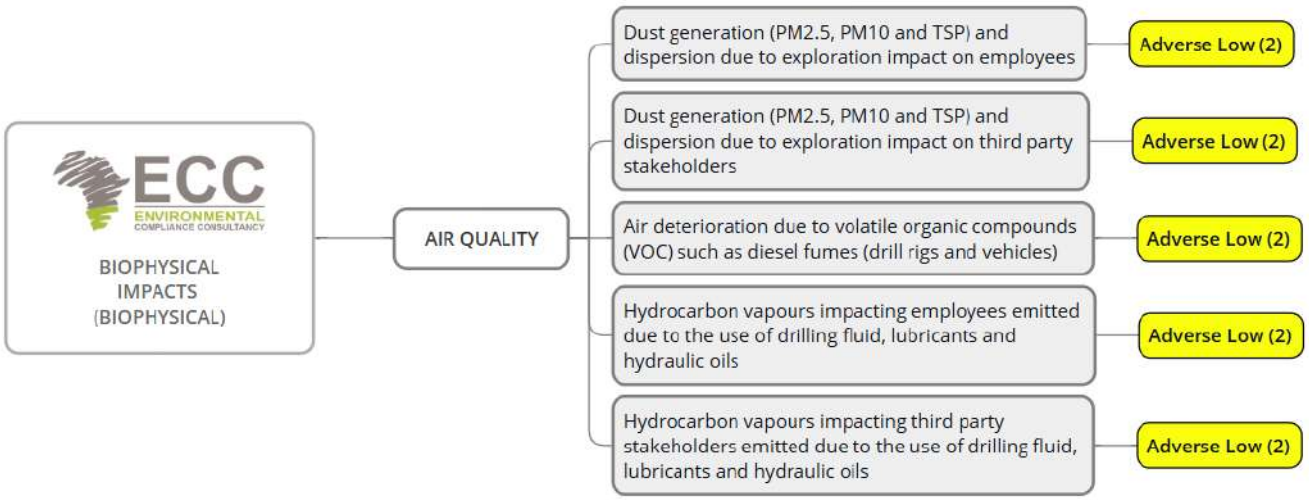


Figure 21 - Overview of air quality impacts

7.4.3.1 Dust generation (PM2.5, PM10 and TSP) and dispersions due to exploration impact on employees

Exploration activities for nuclear fuels such as site clearing, drilling (RC), vehicle movement and the handling of cuttings have the potential to generate fugitive dust emissions, including fine particulate matter ($PM_{2.5}$ and PM_{10}) and total suspended particulates (TSP). These emissions typically arise from unpaved access roads, drilling operations, wind erosion of exposed surfaces and the movement of heavy machinery. Dust generation and dispersion may lead to potential respiratory issues for onsite employees.

The nature of the impact is adverse, direct and reversible once the dust related activities cease throughout exploration. The impact may occur over a medium term (~7 years) due to the exploration life cycle as discussed under section 7.4.1.1. $PM_{2.5}$, PM_{10} particles and TSP is expected to affect employees on site. Dust generation during exploration is considered likely due to the dry climatic conditions, sparse vegetation cover, and exposed soils, which may be expected on the EPL 8791 exploration sites. Dust exposure is higher at source when actively drilling or through soil sampling.

The magnitude of the change is considered minor due to the short-term nuisance impacts to employees and reduced air quality. The sensitivity of the receptor is considered low due to the localised nature of the impact. The overall significance of the impact is rated adverse low, before mitigation (Table 12). Mitigation measures are outlined in the ESMP (Appendix A).

7.4.3.2 Dust generation (PM2.5, PM10 and TSP) and dispersions due to exploration impact on third party stakeholders

Exploration activities for nuclear fuels as described in 7.4.3.1 is expected to generate fugitive dust emissions, specifically fine particulate matter ($PM_{2.5}$ and PM_{10}) and total suspended particulates (TSP). Sparse local communities may be located within or near the EPL could be affected by dust generation, primarily as a nuisance, with minor potential health concerns.

The nature of the impact is adverse, direct and reversible once the impact dust related activities cease throughout exploration. The impact may occur over a medium term (~7 years) due to the exploration life cycle as discussed under section 7.4.1.1. $PM_{2.5}$, PM_{10} particles and TSP may spread on a local level to third party stakeholders depending on the meteorological conditions. The impact is considered possible, as dust is an inevitable by-product of exploration activities. However, $PM_{2.5}$, PM_{10} particles and TSP are not expected to travel much further than the exploration site.

The magnitude of the change is considered minor due to the short-term nuisance impacts to third party stakeholders and reduced air quality. The sensitivity of the receptor is considered low due to the localised nature of the impact. The overall significance of the impact is rated adverse low, before mitigation (Table 12). Mitigation measures are outlined in the ESMP (Appendix A).

7.4.3.3 Air deterioration due to volatile organic compounds (VOC) such as diesel fumes (drill rigs and vehicles) impacting air quality sensitive receptors (AQSRs)

Exploration activities for nuclear fuels involve the operation of diesel-powered drill rigs, generators, compressors and vehicles, which all emit volatile organic compounds (VOCs) and combustion by-products. VOC emissions originate primarily from incomplete fuel combustion and fuel handling processes, contributing to localised air deterioration. Associated pollutants include nitrogen oxides (NO_x), carbon monoxide (CO), sulphur dioxide (SO_2) and particulate matter.

The nature of the impact is adverse, direct and reversible as the impact will be a result of the exploration activities. The impact may occur over a medium term (~7 years) due to the exploration life cycle as discussed under section 7.4.1.1. All diesel-powered vehicles and equipment will be running on-site; therefore, the impact is considered on-site. The release of VOCs during exploration is expected, considering the reliance on diesel-powered equipment and the intermittent but repetitive nature of drilling and vehicle movement.

The magnitude of the impact is considered minor due to the prevailing wind conditions, proximity of sensitive receptors and expected equipment maintenance. The sensitivity of the receptor is deemed low due to the extent of the impact. The overall significance of the impact is rated adverse low, before mitigation (Table 12). Mitigation measures are outlined in the ESMP (Appendix A).

7.4.3.4 Hydrocarbon vapours impacting employees emitted due to the use of drilling fluid, lubricants and hydraulic oils

During nuclear fuel exploration, the use of drilling fluids, lubricants and hydraulic oils can lead to the release of hydrocarbon vapours into the surrounding environment, directly within the vicinity of employees. These vapours typically originate from handling, storage, minor spills, equipment leaks and the heating or agitation of fluids during drilling operations.

The nature of the impact is adverse, direct as the impact is a result of direct Project operations. The impact is reversible through immediate cleanup and remediation measures. The footprint of the impact is expected to be within the EPL boundary (on-site). The impact may occur over a medium term (~7 years) due to the exploration life cycle as discussed under section 7.4.1.1. The emission of

hydrocarbon vapours is considered likely, due to the intensity of drilling operations and foreseen exploration schedule. The magnitude of the change is considered minor, considering the intermittent use of drilling fluids and the rapid dispersion of vapours in the open environment. The sensitivity of the receptor is deemed low due to the limited scale (extent) of the exploration activities. The overall significance of the impact is considered adverse low, before mitigation (Table 12). Mitigation measures are outlined in the ESMP (Appendix A).

7.4.3.5 Hydrocarbon vapours impacting third party stakeholders emitted due to the use of drilling fluid, lubricants and hydraulic oils

Hydrocarbon vapours may be released into the environment from nuclear fuel exploration activities, which could affect third party stakeholders within the EPL boundaries. The nature of the impact is adverse, direct as the impact is a result of direct Project operations. The impact is reversible through immediate cleanup and remediation measures. The footprint of the impact is expected to be within the EPL boundary, however on a local scale and not just where the activities itself will take place. The impact may occur over a medium term (~7 years) due to the exploration life cycle as discussed under section 7.4.1.1. The impact is considered possible as emissions are intense but limited to the activity area under normal operational conditions, as hydrocarbon vapours are largely contained within equipment and drilling systems. The magnitude of change is considered minor, considering the intermittent use of drilling fluids and the rapid dispersion of vapours in the open environment. The sensitivity of the receptor is deemed low due to the limited scale (extent) of the exploration activities. The overall significance of the impact is rated adverse low, before mitigation (Table 12). Mitigation measures are outlined in the ESMP (Appendix A).

Table 12 - Air quality impacts

Activity	Receptor	Impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
Exploration activities	Air quality	Dust generation ($PM_{2.5}$, PM_{10} and TSP) and dispersion due to exploration impact on employees.	Adverse Direct Reversible Medium-term On-site Likely	Low	Minor	Adverse Low (2)
		Dust generation ($PM_{2.5}$, PM_{10} and TSP) and dispersion due to exploration impact on third party stakeholders.	Adverse Direct Reversible Medium-term Local Possible	Low	Minor	Adverse Low (2)

Activity	Receptor	Impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
		Air deterioration due to volatile organic compounds (VOC) such as diesel fumes (drill rigs and vehicles).	Adverse Direct Reversible Medium-term On-site Likely	Low	Minor	Adverse Low (2)
		Hydrocarbon vapours impacting employees emitted due to the use of drilling fluid, lubricants and hydraulic oils.	Adverse Direct Reversible Medium-term On-site Likely	Low	Minor	Adverse Low (2)
		Hydrocarbon vapours impacting third party stakeholders emitted due to the use of drilling fluid, lubricants and hydraulic oils.	Adverse Direct Reversible Medium-term Local Possible	Low	Minor	Adverse Low (2)

7.4.4 VISUAL

During the exploration phase, several activities with the potential to create visual intrusion or alter the existing landscape are expected, and these are discussed in detail in the following section. Figure 22 shows an overview of the visual impacts, before mitigation. The assessed impacts are further described in Table 13.

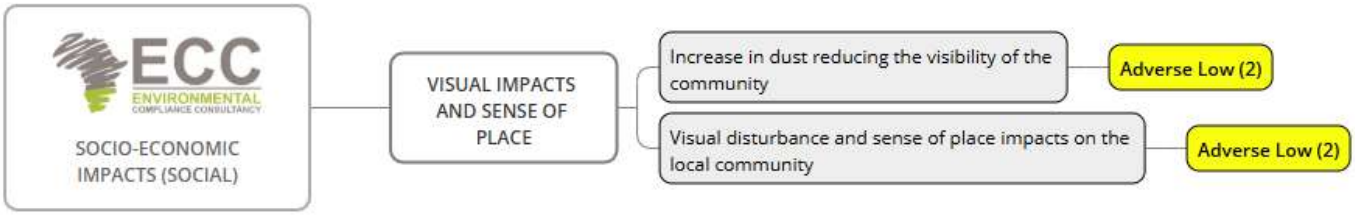


Figure 22 - Overview of visual impacts

7.4.4.1 Increase in dust reducing the visibility of the local community

Potential dust may temporarily reduce visibility for nearby communities, particularly during peak exploration activities and windy conditions. Dust generated from vehicle movements, drilling operations and disturbed surfaces can become airborne and drift toward surrounding areas, leading to short-term visibility impairment (World Health Organization (WHO), 2021). This may affect road safety, outdoor activities and general comfort for community members.

The nature of the impact is adverse, direct and reversible, as dust accumulation would decrease and naturally settle once dust generating activities have ceased. The reduced visibility as a result of dust is expected to be temporary. The extent of the impact is expected to be within the EPL boundary (on-site) (no significant dust accumulations are expected to propagate and impact offsite AQSRs). The impact is likely to occur intermittently during active exploration activities and under certain meteorological conditions, such as strong winds. The magnitude of the impact is considered minor due to the temporary nuisance produced. The sensitivity of the receptor is deemed low as visibility is more prone to impacting personnel on-site, instead of the wider community. The overall significance of the impact is rated adverse low, before mitigation (Table 13). Mitigation measures are outlined in the ESMP (Appendix A).

7.4.4.2 Visual disturbance and sense of place impacts on the local community

Any exploration project may cause visual change to the landscape, which may affect the communities' sense of place and overall visual experience of the area. Key visual intrusions may include the presence of drilling rigs, support vehicles, temporary infrastructure (such as laydown areas and storage containers), frequent movement of vehicles, machinery and the exploration team. This is especially disruptive in remote and rural settlement.

The nature of the impact is adverse, direct and reversible as visual intrusions will be induced by the presence of Project equipment, machinery and the Project team. The impact may occur over a medium term (~7 years) due to the exploration life cycle as discussed under section 7.4.1.1. All exploration activities will be carried out on the Project site; therefore, the extent of the impact is on-site. The likelihood of the impact is likely as equipment and machinery are required for the exploration program and will be deployed on-site for the duration of the exploration schedule. The magnitude of the impact is considered minor as visual nuisance is subjective and will cease upon completion of the exploration program. The sensitivity of the receptor is deemed low due to the localised extent of the impact. Overall, the significance of the impact is rated adverse low, before mitigation (Table 13). Mitigation measures are outlined in the ESMP (Appendix A).

Table 13 - Visual disturbance impacts

Activity	Receptor	Impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
Exploration activities	Community – visual disturbance	Increase in dust, reducing the visibility of the community.	Adverse Direct Reversible Temporary On-site Likely	Low	Minor	Adverse Low (2)
		Visual disturbance and sense of place impacts on the local community.	Adverse Direct Reversible Medium-term On-site Likely	Low	Minor	Adverse Low (2)

7.4.5 NOISE

Noise generating activities are anticipated during operations and is discussed in detail below. Figure 23 shows an overview of the noise impact for illustration purposes before mitigation. The assessed impacts are further detailed in Table 14.

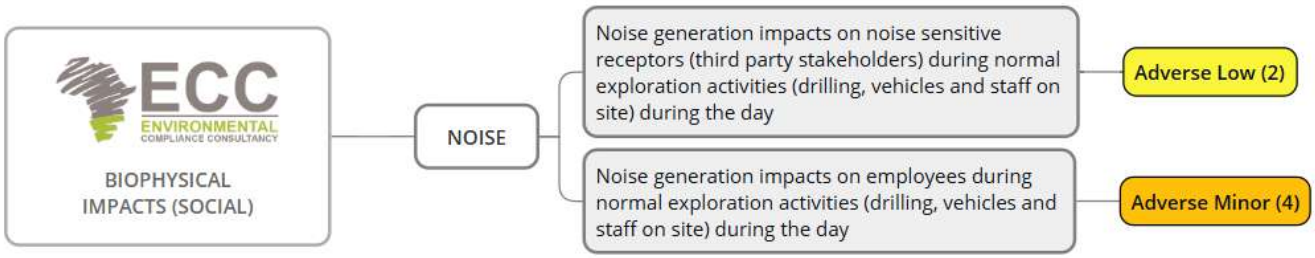


Figure 23 - Overview of the noise impacts

7.4.5.1 Noise generation impacts on noise sensitive receptors (third party stakeholders) during normal exploration activities (drilling, vehicles and staff on site) during the day

Exploration activities for nuclear fuels involve operations that generate noise, including drilling, vehicle movement and the presence of staff on-site. Drilling rigs, compressors, generators and heavy vehicles are the primary sources of elevated sound levels. Noise levels are influenced by equipment type, operational intensity, duration of activity, topography and meteorological conditions, such as wind direction and speed.

The nature of the impact is adverse, directly impacting sensitive receptors such as the local community and wildlife, and is expected to be reversible. Although exploration activities are generally intermittent and temporary, repetitive operations may cause annoyance or disturbance to sensitive receptors. Therefore, the impact may occur over a medium term (~7 years) due to the exploration life cycle as discussed under section 7.4.1.1. The impact is likely to occur as noise will

be generated during exploration. The magnitude of the change is considered minor as normal operations will occur during daytime (no night works are planned, therefore, negative reactions from the sensitive receptors are unlikely expected, provided that the exploration schedule is duly communicated. At distances typically separating exploration activities from third-party receptors (often >200 m in remote areas), projected noise levels are generally 45 - 55 dB(A) complying with IFC daytime residential guideline of 55 dB(A). Therefore, the sensitivity of the receptor is deemed low. Overall, the significance of the impact is rated adverse low (Table 14). Mitigation measures are outlined in the ESMP (Appendix A).

7.4.5.2 Noise generation impacts on employees during normal exploration activities (drilling, vehicles and staff on site) during the day

Noise is generated through various sources on the Project site. Employees working on-site during daytime hours may be exposed to elevated noise levels, which can lead to discomfort, temporary hearing impairment, fatigue and reduced concentration if exposure exceeds occupational noise limits. It should be noted that the Proponent provides employees and contractors with hearing protection. The nature of the impact is adverse, directly impacting employees and reversible, as any hearing discomfort or temporary effects typically resolve once exposure ceases. Although exploration activities are generally intermittent and temporary, repetitive operations may cause annoyance or disturbance to sensitive receptors. Therefore, the impact may occur over a medium term (~7 years) due to the exploration life cycle as discussed under section 7.4.1.1. The impact is likely to occur as noise will be generated during exploration. The magnitude of change is considered minor as noise levels from normal operations are not expected to cause permanent hearing damage due to temporary noise pollution throughout the Project. The sensitivity of the receptor is deemed medium due to the discomfort of employees during noisy activities of the Project. Overall, the significance of the impact is rated adverse minor (Table 14). Mitigation measures are outlined in the ESMP (Appendix A).

Table 14 - Noise impacts

Activity	Receptor	impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
Exploration activities	Noise	Noise generation impacts on noise sensitive receptors (third party stakeholders) during normal exploration activities (drilling, vehicles and	Adverse Direct Reversible Medium-term On-site Likely	Low	Minor	Adverse Low (2)

Activity	Receptor	impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
		staff on site) during the day.				
		Noise generation impacts on employees during normal exploration activities (drilling, vehicles and staff on site) during the day	Adverse Direct Reversible Medium-term On-site Likely	Medium	Minor	Adverse Minor (4)

7.4.6 RADIOACTIVE AND HAZARDOUS WASTE MANAGEMENT

During exploration there is a potential for radioactive and/or hazardous waste to be uncovered and should be disposed of in accordance with the Atomic Energy and Radiation Protection Act, 2005 (Act No. 5 of 2005) and the Radiation Protection and Waste Disposal Regulations (No. 221, 2011). Moreover, other hazardous material should be disposed in line with the Hazardous Substances Ordinance, 1974 (Ordinance No. 14 of 1974). The associated impacts are discussed in detail below. Figure 24 shows an overview of the waste impact for illustration purposes, before mitigation. The assessed impacts are further detailed in Table 15.

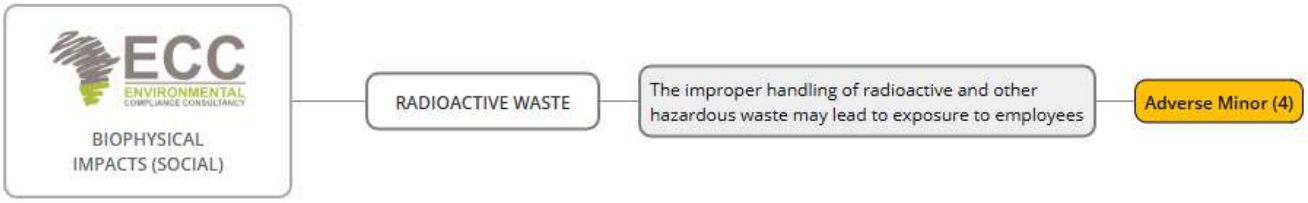


Figure 24 - Radioactive and other hazardous waste impacts

7.4.6.1 The improper handling of radioactive and other hazardous waste may lead to exposure to employees

During exploration, radioactive waste is expected to constitute the primary solid hazardous waste, arising from uranium-bearing core samples, drill cuttings, contaminated PPE, equipment, and residual materials from sampling. Improper handling, storage or disposal could result in radiological exposure to employees, through inhalation, ingestion or direct exposure. The impact is adverse, as radioactive waste has the potential to pose health and safety risks to employees. The impact will directly affect employees; however radioactive exposure is likely reversible as symptoms

and effects are not expected to permanent considering the duration and intensity of exploration activities. Radioactive waste would only be a concern throughout exploration operation which is over medium-term (~7 years). All waste generated from the exploration will be confined to the exploration site. The probability is possible, as radioactive waste may be unearthed leading to the potential contamination of PPE and storage containers/bags. This could cause concern for employee health and safety. It should be noted that all contaminated material should be radiation screened. Should radiation levels be above clearance levels (as per IAEA standards and the National Radiation Protection Authority (NRPA) guidelines), the waste should be treated as hazardous and disposed as such.

The magnitude of change is moderate, given the hazardous nature of ionising radiation; however, exposure levels during exploration are generally low and controlled. The sensitivity of the receptor is considered medium, as employees are exposed to inherent risks and conditions can be restored to pre-impact levels. The overall significance of the impact is adverse minor, before mitigation (Table 15). Mitigation measures are outlined in the ESMP (Appendix A).

Table 15 - Radioactive waste impacts

Activity	Receptor	impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
Exploration activities	Radioactive waste	The improper handling of radioactive waste may lead to exposure to employees	Adverse Direct Reversible Medium-term On-site Possible	Medium	Moderate	Adverse Minor (4)

7.4.7 CULTURAL HERITAGE

No archaeological/cultural findings were recorded during the heritage specialist study (Appendix F). However potential discoveries of heritage sites, objects and artifacts may still be unearthed. Figure 25 shows an overview of the cultural heritage impact for illustration purposes before mitigation. The assessed impacts are further detailed in Table 16.

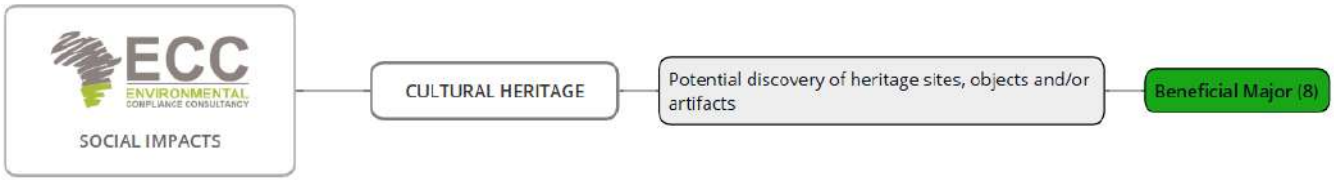


Figure 25 - Cultural heritage impact

7.4.7.1 Potential discovery of heritage sites, objects and/or artifacts

During exploration activities, discovery of new cultural heritage sites, objects and artifacts may occur within the Project footprint. In cases where heritage sites are discovered, the chance find

procedure will be used as implemented in the ESMP. The nature of the impact is beneficial, directly impacting the Namibia's national heritage register which is maintained by the National Heritage Council (NHC) under the National Heritage Act, 2004 (Act No. 27 of 2004). The impact is deemed irreversible and permanent. The probability of the impact is possible, due to the presence of undocumented heritage resources in rural and remote areas. Should any major discoveries be made, this may be substantial for cultural tourism. The magnitude of change is moderate as many heritage sites hold spiritual, cultural and social significance for local communities, including traditional authorities and descendants of affected groups. Additionally, all archaeological material, graves and culturally significant sites are protected by law, regardless of whether they are formally recorded. The sensitivity of receptor is medium due to the national cultural benefit associated with this impact. The significance of the impact is beneficial minor (Table 16). The chance find procedure is outlined in the ESMP.

Table 16 - Cultural heritage impacts

Activity	Receptor	impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
Exploration activities	Cultural heritage	Potential discovery of heritage sites, objects and/or artifacts	Beneficial Indirect Irreversible Permanent National Possible	Medium	Moderate	Beneficial Major (8)

7.5 BIOPHYSICAL ENVIRONMENT

The biophysical environment encompasses the physical and biological components of the Project area, including geology, soils, hydrology, climate, vegetation and wildlife. Exploration activities have the potential to affect these components through land disturbance, vegetation clearing, soil erosion, water abstraction and interactions with fauna. The following sections discusses the specific impacts associated with the exploration activities. Figure 26 provides an overview of the biophysical impacts related to biodiversity and Table 17 to Table 19 describes these assessed impacts. Figure 27 shows and overview of the surface and groundwater impacts and Table 20 describe these impacts.

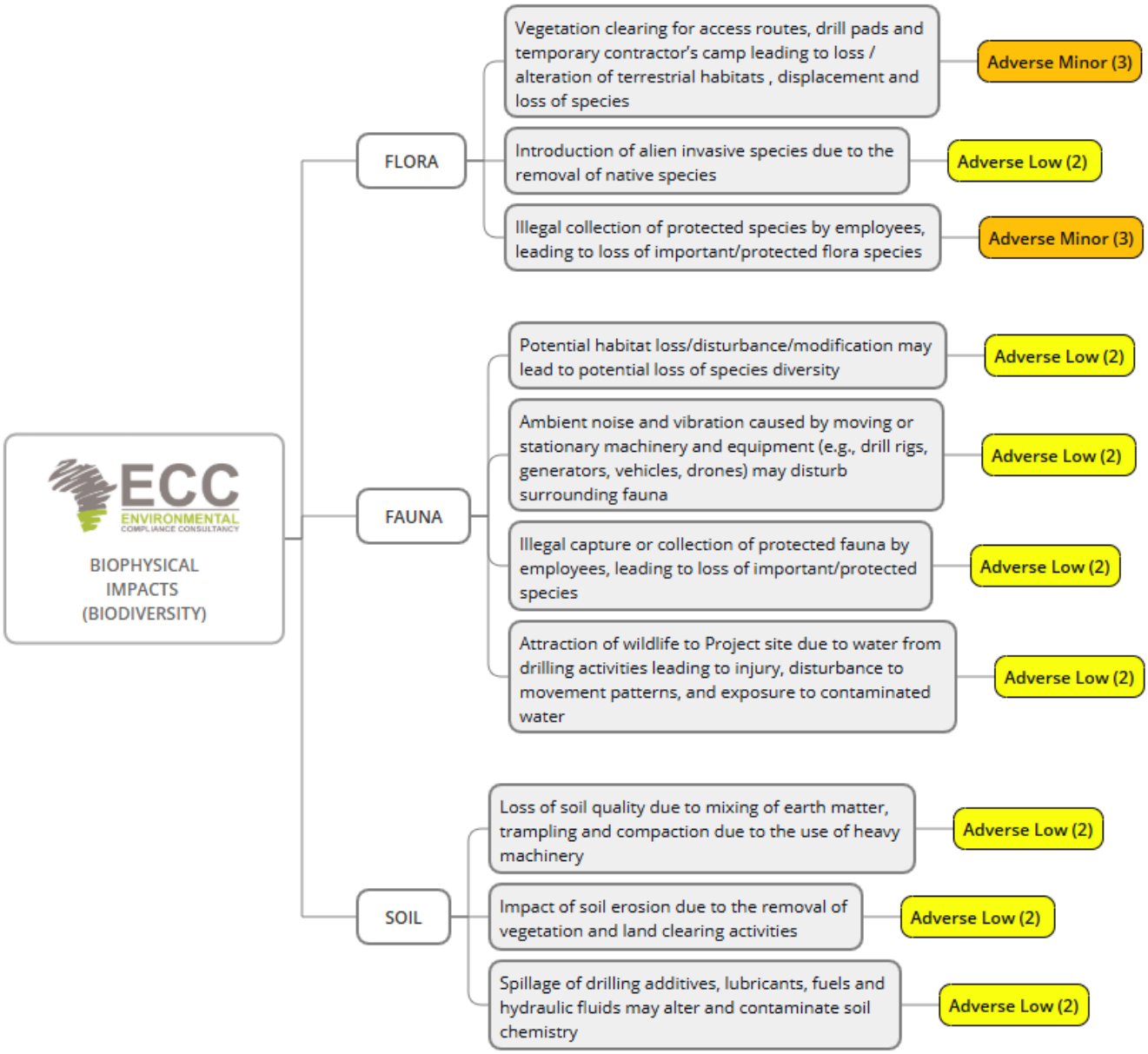


Figure 26 - Overview of the biodiversity related impacts

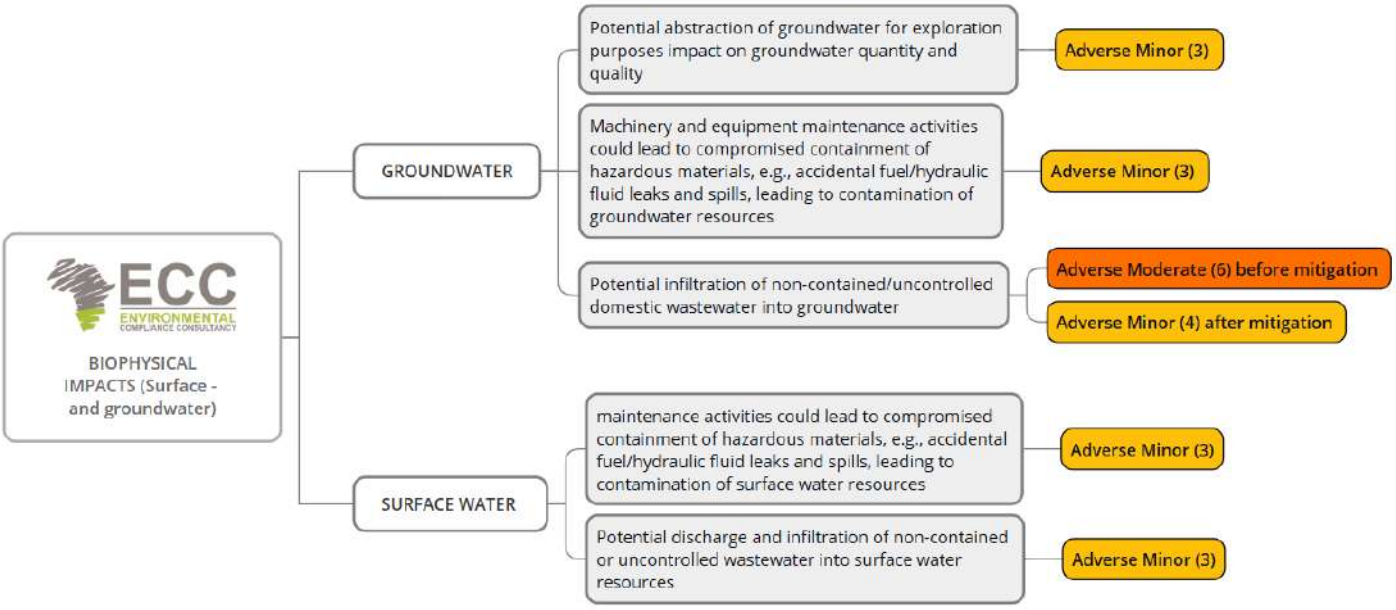


Figure 27 - Overview of the surface and groundwater impacts

7.5.1 FLORA

7.5.1.1 Vegetation clearing for access routes, drill pads and temporary contractor's camp leading to loss / alteration of terrestrial habitats, displacement and loss of species

Direct removal and alteration of terrestrial habitats is expected during the Project, resulting in a reduction of available resources for local flora and fauna and potentially causing the loss or displacement of species. Sensitive habitats or endemic/protected species may be particularly affected if located within or adjacent to the exploration target areas. The removal of vegetation may also increase soil exposure and alter local microhabitats, potentially leading to secondary effects such as increased erosion.

The impact adversely affects the local flora and should proper rehabilitation be applied, the impact is considered partly reversible. Progressive rehabilitation will be implemented following exploration activities as part of the Proponent's commitment to sustainable exploration practices. This will be upheld for the duration of the exploration activities (~seven (7) years). Only areas scheduled for drilling and target areas within the EPL will be cleared. The impact is considered likely, given that vegetation clearing is an essential component of exploration activities. The magnitude of the impact is considered minor, as the Proponent will consistently and commit to progressive rehabilitation of drill sites following exploration activities. The sensitivity of the receptor is deemed low due to the extent of the impact. Overall, the significance of the impact is rated adverse minor, before mitigation (Table 17). Mitigation measures are outlined in the ESMP (Appendix A).

7.5.1.2 Introduction of alien invasive species due to the removal of native species

The clearing of native vegetation for exploration activities can create disturbed areas that are highly susceptible to the establishment of alien invasive species. Removal of native flora reduces

competition and exposes bare soil, providing opportunities for invasive plants to colonise. Alien invasive species may also be introduced through equipment and machinery deployed to site from other locations. Invasive species can outcompete indigenous vegetation, alter habitat structure and disrupt ecological processes, potentially leading to long-term changes in species composition and ecosystem function (D'Antonio & Meyerson, 2002).

The impact adversely affects the native landscape and with extensive rehabilitation, the impact is considered reversible. Alien invasive species are expected to be most prominent during exploration, which is scheduled to occur over a medium term (~7 years). The target areas that may be infested by alien invasives are on-site. The likelihood of the impact is deemed likely, as machinery and vehicles may transport seeds or propagules from outside the site. The magnitude of the impact is considered minor, as the Proponent is expected to demonstrate effective implementation of progressive rehabilitation following exploration activities. The sensitivity of the receptor is deemed low due to the extent of the impact (restricted to the Project site). Overall, the significance of the impact is rated adverse low (Table 17). Mitigation measures are outlined in the ESMP (Appendix A).

7.5.1.3 Illegal collection of protected species by employees, leading to loss of important/protected flora species

The exploration team may encroach into areas that may contain ecologically sensitive or protected plant and animal species. In some cases, the illegal or unsustainable collection of these species, whether for food, fuelwood, medicinal use, ornamental purposes or trade can occur, if control measures are not effectively enforced (UNEP, 2016). Such activities place additional pressure on already vulnerable species and may result in the decline or localised loss of important or protected flora and fauna.

The impact adversely affects protected/endemic species and is considered irreversible. The impact may occur over a medium term (~7 years) due to the exploration life cycle as discussed under section 7.4.1.1. The collection of these species will potentially occur within the immediate vicinity or near access roads. Therefore, the extent of the impact is assessed as local. The likelihood of this impact is considered possible, particularly where exploration occurs in remote or biologically sensitive environments. The magnitude of the impact is considered minor, as the plant diversity and endemism are low within the EPL boundary. The sensitivity of the receptor is deemed low due to the localised nature of the impact. The overall significance of the impact is rated adverse minor, before mitigation (Table 17). Mitigation measures are outlined in the ESMP (Appendix A).

Table 17 - Flora/vegetation impacts

Activity	Receptor	Impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
Exploration activities	Flora	Vegetation clearing for access routes, drill	Adverse Direct Partly reversible	Low	Minor	Adverse Minor (3)

Activity	Receptor	Impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
		pads and temporary contractor's camp leading to Loss / alteration of terrestrial habitats and loss of species	Medium-term On-site Likely			
		Introduction of alien invasive species due to the removal of native species and by equipment and machinery deployed to site from other areas.	Adverse Direct Reversible Medium-term On-site Likely	Low	Minor	Adverse Low (2)
		Illegal and unsustainable collection of protected species by employees leads to loss of important/protected species.	Adverse Direct Irreversible Medium-term Local Possible	Low	Minor	Adverse Minor (3)

7.5.2 FAUNA

7.5.2.1 Potential habitat loss/disturbance/modification may lead to potential loss of species diversity

Potential habitat loss, disturbance or modification may lead to a decline in faunal species diversity. Disruption of vegetation cover and increased human activity may displace animals, reduce foraging, breeding opportunities and fragment movement corridors, thereby limiting species' ability to survive and reproduce in the area (Forman & Alexander, 1998). This impact will also be triggered by off-road driving. When habitats are altered or removed, there is limited food and shelter available for fauna decreased food resources. This could lead to habitat fragmentation and a decline in species diversity.

The nature of the impact is adverse, directly impacting fauna (especially reptiles and ground burrowing species). The impact may occur over a medium term (~7 years) due to the exploration life cycle as discussed under section 7.4.1.1. The spatial extent of the impact will remain within the EPL at specific target areas on-site (i.e. no vegetation will be cleared beyond the EPL boundary). The impact is considered likely, as vegetation will be cleared where no there are no existing tracks. As a result, wildlife habitats within these areas will likely be disturbed. The magnitude of the impact is considered minor as the species diversity and endemism in the area is relatively low, except for reptiles which has moderate to high endemism in the area. The sensitivity of the receptor is rated adverse low as the impact is restricted to the Project site and no diverse species populations are at risk of being impacted (due to the generally low species richness in the area). Overall, the significance of the impact is deemed adverse low, before mitigation (Table 18). Mitigation measures are described in the ESMP (Appendix A).

7.5.2.2 Ambient noise and vibration caused by moving or stationary machinery and equipment (e.g., drill rigs, generators, vehicles and drones) may disturb surrounding fauna

Exploration activities generate varying levels of ambient noise and ground vibration through the operation of machinery and equipment such as drill rigs, generators, vehicles and drones (if required). These noise levels may disturb surrounding fauna by interfering with communication, foraging behaviour, breeding activities and general movement patterns (Barber, Crooks, & Fristrup, 2010). Additionally, sudden or continuous noise can cause stress responses, avoidance behaviour or displacement of sensitive species from preferred habitats (Shannon, McKenna, & Angeloni, 2016).

The nature of the impact is adverse, directly impacting fauna (including resident and migratory avifauna). the impact may occur over a medium term (~7 years) due to the exploration life cycle as discussed under section 7.4.1.1. The extent of the impact is considered on-site as noise levels will impact fauna species on-site or in proximity to exploration activities. The likelihood of the impact is deemed likely, as noise generating heavy machinery and equipment will be used during the exploration program. The magnitude of the impact is considered minor as the species diversity and endemism in the area is relatively low, except for reptiles which has moderate to high endemism in the area. The sensitivity of the receptor is rated low as the impact is confined to the Project site

and only species within the immediate areas of operations will be impacted. Noise levels attenuate with distance, therefore, species located further away or beyond the EPL boundary will unlikely be impacted. The overall significance of the impact is deemed adverse low, before mitigation (Table 18). Mitigation measures are listed in the ESMP (Appendix A).

7.5.2.3 Potential Illegal capture or collection of protected fauna by employees, leading to loss of important/protected faunal species

Exploration activities result in employees and contractors entering areas that may contain ecologically sensitive animal species, particularly since the EPL lies within the =/=Gaingu Conservancy. Employees/contractors may be involved in the illegal collection, consumption or smuggling of endemic/protected/rare species, especially reptiles found in and around the site. Commonly traded and smuggled reptiles include the following, to name a few (Altherr & Lameter, 2020):

- *Afroedura Africana* (African rock gecko) – endemic and illegally traded as an exotic pet;
- *Pachydactylus kochii* (Namib Web-footed Gecko) – endemic and smuggled often due to unique appearance; and
- *Ptenopus carpi* (Carp's Barking Gecko) – endemic, high confiscation rate in smuggling cases.

The impact adversely affects protected/endemic species found within the Project site. The impact is considered irreversible, as once protected or slow reproducing faunal species are removed from the ecosystem, they cannot be reintroduced. The illegal capture or collection of faunal species would potentially occur within the immediate vicinity or near access roads throughout the duration of the exploration program (seven (7) years). Therefore, the impact is assessed at a local scale. The likelihood of the impact is considered possible, as incidents regarding illegal capture or collection of faunal species may occur under certain circumstances such as lack of awareness of protected species, conservation regulations and requirements. The magnitude of change is moderate, due to the potential loss of endangered species and the potential changes it would cause in the natural ecosystem and ecological processes, such as food web relationships. The sensitivity of receptor is low due to the local extent of the impact. The overall significance of the impact is considered adverse low, before mitigation (Table 18). Mitigation measures are further discussed in the ESMP (Appendix A).

7.5.2.4 Attraction of wildlife to Project site due to water from drilling activities leading to injury, disturbance to movement patterns and exposure to contaminated water

Water used during drilling and related exploration activities may accumulate in sumps, ponds or containers, creating temporary artificial water sources. In arid and semi-arid environments, such as much of Namibia, these water sources may attract wildlife, including livestock and wild animals, to the Project site. Increased animal presence may elevate the risk injury or mortality from vehicle movements or open sumps, disturbance to natural movement patterns and potential exposure to contaminated water. In certain cases, it may also lead to human–wildlife conflict.

The impact is adverse, directly impacting wildlife. The impact is reversible, as wildlife behaviour is expected to return to natural patterns once water sources are removed and sites are rehabilitated.

the impact may occur over a medium term (~7 years) due to the exploration life cycle as discussed under section 7.4.1.1. The impact is on-site, limited to the immediate vicinity of drilling sites, sumps and temporary water storage areas. The probability of the impact occurring is likely, especially during dry periods when natural water sources are limited.

The magnitude of change is minor due to limited water use and the duration of activities. The sensitivity of the receptor is low as the influence on animal movement and behaviour is limited to a local scale. The overall significance of the impact is considered adverse low, before mitigation (Table 18). Mitigation measures are further discussed in the ESMP (Appendix A).

Table 18 - Faunal impacts

Activity	Receptor	Impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
Exploration activities	Fauna	Potential habitat loss/disturbance/modification may lead to potential loss of species diversity.	Adverse Direct Reversible Medium-term On-site Likely	Low	Minor	Adverse Low (2)
		Ambient noise and vibration caused by moving or stationary machinery and equipment (e.g., drill rigs, generators, vehicles, drones) may disturb surrounding fauna	Adverse Direct Reversible Medium-term On-site Likely	Low	Minor	Adverse Low (2)

Activity	Receptor	Impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
		Illegal capture or collection of protected fauna by employees, leading to loss of important/protected species.	Adverse Direct Irreversible Medium-term Local Possible	Low	Minor	Adverse Low (2)
		Attraction of wildlife to Project site due to water from drilling activities leading to injury, disturbance to movement patterns, and exposure to contaminated water	Adverse Direct Reversible Medium-term On-site Possible	Low	Minor	Adverse Low (2)

7.5.3 SOIL

7.5.3.1 Alteration of soil quality due to mixing of earth matter, trampling and compaction due to the use of heavy machinery

Exploration activities involve the movement of vehicles and heavy machinery across the site and ground preparation for access routes and drill pads. These activities can result in soil disturbance through mixing of soil horizons, trampling and compaction. As a result, this degrades the soil quality. Soil compaction reduces pore space, limits aeration, restricts water infiltration, ultimately affecting soil structure and biological activities (McNabb & Boersma, 2021) (Brady & Weil, 2017). Disturbance and mixing of topsoil also reduce nutrient availability and disrupt seed banks, further impairing soil productivity and resilience.

The nature of the impact is adverse, direct and is deemed reversible (once progressive rehabilitation is implemented). Rehabilitation efforts may only become apparent following exploration activities; therefore, the impact is expected over a medium term. Soil disturbance is

likely due to the heavy and frequent movements on-site. The magnitude of the impact is considered minor as the dominant nudilithic leptosol soils are over hard rocks or compacted substrates with low ecological productivity. Therefore, they are less susceptible to trampling and compaction. The sensitivity of the receptor is rated low as the impact will unlikely disrupt ecosystem functions or soil services. Overall, the significance of the impact is rated adverse minor, before mitigation (Table 19). Mitigation measures are listed in the ESMP (Appendix A).

7.5.3.2 Impact of soil erosion due to the removal of vegetation and land clearing activities

Vegetation removal and land clearing for exploration activities expose the soil surface to rainfall, wind and surface runoff, significantly increasing the risk of soil erosion (Pimental & Kounang, 1998). Areas disturbed by vehicle traffic, drill pads and temporary infrastructure are particularly vulnerable, with loose or compacted soils prone to sheet erosion and rill formation. Increased sedimentation can negatively affect adjacent watercourses, stream flows, hydraulic capacity, reduce soil fertility and impair habitat quality for terrestrial and aquatic species (FAO, 2025). The root systems of native vegetation play a crucial role in binding soil and maintaining slope stability. Their removal reduces soil cohesion and increases surface runoff.

The nature of the impact is adverse, indirect and reversible (mitigated with progressive rehabilitation of the disturbed sites). It is expected progressive rehabilitation will be enforced throughout the duration of the exploration (seven (7) years). Therefore, the duration of impact is deemed medium-term. Soil at the Project site will be impacted, therefore, the extent of the impact is considered on-site. The likelihood of the impact is likely due to the inherent nature of land clearing activities. The magnitude of the impact is considered minor due to the low ecological and agricultural productivity of the soil; however, the soil is highly susceptible to soil erosion and therefore erosions should be managed throughout the exploration program. The sensitivity of the receptor is rated low as no significant erosion is anticipated. Overall, the significance of the impact is rated adverse low, before mitigation (Table 19). Mitigation measures are listed in the ESMP (Appendix A).

7.5.3.3 Spillage of drilling additives, lubricants, fuels and hydraulic fluids may alter and contaminate soil chemistry

Drilling additives, lubricants, fuels and hydraulic fluids during exploration activities have the potential to alter and contaminate soil chemistry, if spilled. Spills or leaks can introduce hydrocarbons, heavy metals and other chemical constituents into the soil, potentially affecting nutrient availability, microbial activity and overall soil health. Contaminated soils may exhibit reduced fertility and altered physical structure, which can have knock-on effects on vegetation establishment, erosion susceptibility and habitat quality for soil-dwelling organisms.

The nature of the impact is adverse, directly impacting the soil. Spillage of hazardous and hydrocarbon substances may be reversed provided that prompt and effective remediation and rehabilitation measures are applied/implemented. Any hazardous and hydrocarbon spill should be removed from the site and treated immediately as outlined in the Project ESMP. Hazardous substances and hydrocarbon spills and leaks are expected to occur over throughout the duration

of the exploration program (~7 years) due to the equipment involved. Therefore, the duration of impact is rated medium-term. The likelihood of the impact is considered likely, considering that hazardous spills incidents could occur as a result of heavy machinery and equipment operations on-site. The magnitude of the impact is considered minor as most spills are contained in areas of operation and the storage of bulk fuel is not likely. The sensitivity of the receptor is rated low as the impact is expected to be limited to the areas of operations. The overall significance of the impact is rated adverse low, before mitigation (Table 19). Mitigation measures are outlined in the ESMP (Appendix A).

Table 19 - Soil impacts

Activity	Receptor	Impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
Exploration activities	Soil	Loss of soil quality due to mixing of earth matter, trampling and compaction due to the use of heavy machinery.	Adverse Direct Reversible Medium-term On-site Likely	Low	Minor	Adverse Low (2)
		Impact of soil erosion due to the removal of vegetation and land clearing activities.	Adverse Indirect Reversible Medium-term On-site Likely	Low	Minor	Adverse Low (2)
		Spillage of drilling additives, lubricants, fuels and hydraulic fluids may alter and contaminate soil chemistry.	Adverse Direct Reversible Medium-term On-site Likely	Low	Minor	Adverse Low (2)

7.5.4 SURFACE WATER AND GROUNDWATER IMPACTS

7.5.4.1 Potential contamination of groundwater resources from accidental fuel, hydraulic fluid leaks/spills during equipment and machinery maintenance/services

Maintenance activities associated with exploration equipment (e.g., vehicles, generators, drill rigs etc.) may compromise the containment of hazardous materials, increasing the risk of accidental leaks or spills of fuel, lubricants and hydraulic fluids. Such substances contain hydrocarbons and chemical additives that can infiltrate soil and migrate into groundwater (EPA, 2016).

Once released into the environment, these contaminants may percolate through permeable soils, particularly in areas with shallow water tables, fractured bedrock or sandy substrates, creating a direct pathway for groundwater contamination (Fetter, 2018).

The impact is deemed adverse, directly causing groundwater contamination. If cleanup measures are implemented promptly, the impact can be mitigated and is expected to be partly reversible, preventing groundwater infiltration. The impact duration ranges from short to medium term, depending on the volume of the spill and the effectiveness of immediate cleanup and remediation measures. The spatial scale of the impact is considered local (confined to maintenance areas but with potential to extend into groundwater flow paths and thus regional impacts). The likelihood of the impact is considered possible as hazardous materials are routinely handled during exploration activities, therefore, large spills could occur.

The magnitude of change is assessed as moderate, due to the nearby Kunene groundwater basin which presents moderate water potential. The sensitivity of the receptor is considered low due to the localised nature of the impact. Overall, the significance of the impact is rated adverse minor, before mitigation (Table 20). Mitigation measures are outlined in the ESMP (Appendix A).

7.5.4.2 Potential contamination of surface water resources from accidental fuel, hydraulic fluid leaks/spills during equipment and machinery maintenance/services

Accidental hydraulic fluid leaks/spills during equipment and machinery maintenance/services may occur during exploration as discussed in 7.4.2.1. The impact is rated adverse, directly causing surface water contamination. If cleanup measures are implemented promptly, the impact can be mitigated and is expected to be partly reversible. The impact duration ranges from short to medium term, depending on the volume of the spill and the effectiveness of immediate cleanup and remediation measures. The spatial scale of the impact is considered local (confined to maintenance areas but with potential to extend downstream and thus regional impacts). The likelihood of the impact is considered possible as hazardous materials are routinely handled during exploration activities, therefore, large spills could occur.

The magnitude of change is assessed as moderate, due to minor drainage lines on site leading to the main Omaruru River. The Omaruru River is approximately 12 km from the Project site (EPL). The sensitivity of the receptor is considered low due to the localised nature of the impact. Overall,

the significance of the impact is rated adverse minor, before mitigation (Table 20). Mitigation measures are outlined in the ESMP (Appendix A).

7.5.4.3 Potential infiltration of non-contained/uncontrolled domestic wastewater into groundwater

Non-contained or uncontrolled wastewater (industrial, grey water or domestic) generated from equipment washing, sanitation facilities, drilling operations and washed off via surface stormwater runoff poses a risk of uncontrolled infiltration into the groundwater. When wastewater is not properly managed or contained, it may seep into the subsurface, potentially introducing contaminants such as suspended solids, nutrients, surfactants, pathogens and trace hydrocarbons into water environments (Fetter, 2018).

The impact is deemed adverse, directly causing groundwater contamination. The impact is partly reversible, through the implementation of immediate clean up measures of wastewater containment. The impact duration is considered medium term as contaminants could persist in the environment, if remediation measures are not promptly implemented. Additionally, the impact is considered over a regional scale as the regional groundwater may be affected. The likelihood of the impact is considered possible as wastewater will be generated during the exploration program. The magnitude of the impact is assessed as moderate, nearby Kunene groundwater basin which presents moderate water potential. The sensitivity of the receptor is rated medium due to the regional scale. Overall, the significance of the impact is rated adverse moderate, before mitigation (Table 20). With mitigation, the impact is reduced to adverse minor.

Mitigation measures are listed below and included in the ESMP (Appendix A):

- Ensure all wastewater containment structures are watertight, properly lined and constructed in accordance with the Water Resources Management Act, 2013 (Act No. 11 of 2013);
- Locate sanitation facilities and wastewater storage systems at safe distances from boreholes, wells, drainage lines and areas of high groundwater vulnerability;
- Arrange regular emptying and off-site disposal of wastewater by licensed service providers at approved wastewater treatment or disposal facilities;
- Prohibit the discharge of untreated domestic wastewater onto land or into surface water bodies;
- Train workers on the correct use of sanitation facilities and on the environmental and health risks associated with improper wastewater disposal; and
- Develop and implement a wastewater management plan, including emergency response procedures for spills, overflows, or system failures.

7.5.4.4 Potential discharge of non-contained/uncontrolled domestic wastewater into surface water resources

Non-contained or uncontrolled wastewater (industrial, grey water or domestic) generated from equipment washing, sanitation facilities, drilling operations and washed off via surface stormwater

runoff poses a risk of uncontrolled discharge into surrounding water resources. When wastewater is not properly managed or contained, it may flow across the surface.

The impact is deemed adverse, directly causing surface water contamination. The impact is partly reversible, through the implementation of immediate clean up measures of wastewater containment. The impact duration is considered medium term as contaminants could persist in the environment, if remediation measures are not promptly implemented. Additionally, the impact is localised due to the nature of the impact, and the likelihood of the impact is considered possible (medium) as wastewater will be generated during the exploration program. The magnitude of the impact is assessed as moderate, due to minor drainage lines on site. Therefore, runoffs leading to the main Omaruru River that is approximately 12 km from the Project site are expected to be unlikely. The sensitivity of the receptor is rated low due to the localised nature of the impact. Overall, the significance of the impact is rated adverse minor, before mitigation (Table 20). Mitigation measures are outlined in the ESMP (Appendix A).

Table 20 - Surface water and groundwater impacts

Activity	Receptor	Impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
Exploration activities	Groundwater	Machinery and equipment maintenance activities could lead to compromised containment of hazardous materials, e.g., accidental fuel/hydraulic fluid leaks and spills, leading to contamination of groundwater resources.	Adverse Direct Partly-reversible Medium-term Local Possible	Low	Moderate	Adverse Minor (3)
		Potential infiltration of non-contained/uncontrolled domestic	Adverse Direct Partly-reversible Medium-term	Medium	Moderate	Adverse Moderate (6)

Activity	Receptor	Impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
		wastewater into groundwater	Local Possible			
	Surface water	Machinery and equipment maintenance activities could lead to compromised containment of hazardous materials, e.g., accidental fuel/hydraulic fluid leaks and spills, leading to contamination of surface water resources.	Adverse Direct Partly-reversible Medium-term Local Possible	Low	Moderate	Adverse Minor (3)
		Potential discharge and infiltration of non-contained or uncontrolled wastewater into surface water resources.	Adverse Direct Partly reversible Medium-term Local Possible	Low	Moderate	Adverse Minor (3)

7.5.5 WASTE GENERATION

Solid waste generation impacts from exploration activities are discussed in detail below. Figure 28 shows an overview of the solid waste impacts for illustration purposes, before mitigation. The assessed impacts are further detailed in Table 21.

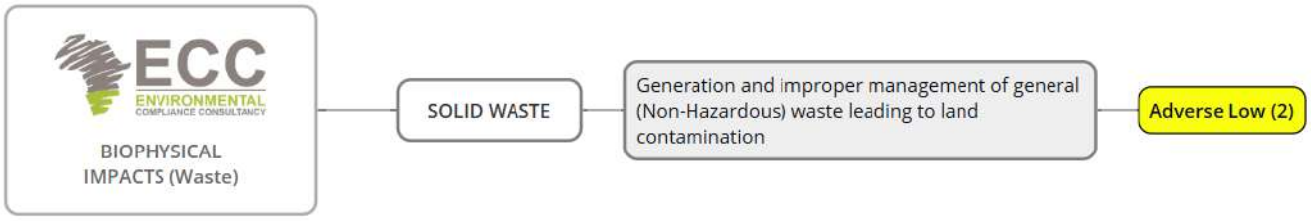


Figure 28 - Solid waste impact

7.5.5.1 Generation and improper management of general (non-hazardous) waste leading to land contamination

During exploration phase of a nuclear fuels, general non-hazardous waste will be generated from routine field activities, including packaging materials, plastics, paper, scrap metal, food waste and domestic refuse from exploration crews and temporary camps. If such waste is not properly segregated, stored and disposed of at authorised facilities, it may accumulate on site or be disposed of in an uncontrolled manner. This can result in localised land contamination, visual pollution and attraction of scavengers.

The impact is considered adverse, directly impacting the surrounding environment. The impact is reversible, as contaminated areas can be cleaned and rehabilitated through waste removal. The duration of the impact would be medium term, throughout the life span of the exploration activities. The extent is expected to be on-site, largely confined to the Project footprint and immediate surroundings. The probability of occurrence is possible, as general waste generation is unavoidable, but the impact depends on the effectiveness of waste management controls. The magnitude of change is assessed as minor due to the non-hazardous nature of the waste. The sensitivity of the receiving environment is low due to the localised nature of the impact. Overall, the significance of the impact is rated adverse low, before mitigation (Table 21). Mitigation measures are outlined in the ESMP (Appendix A).

Table 21 - Solid waste impacts

Activity	Receptor	Impact	Nature of impact	Value and sensitivity	Magnitude of change	Significance of impact
Exploration activities	Solid waste	Generation and improper management of general (Non-Hazardous) waste leading to land contamination.	Adverse Direct Reversible Medium-term On-site Possible	Low	Minor	Adverse Low (2)

7.6 CUMULATIVE IMPACT

The EIA regulations clearly state that cumulative impacts should be considered as part of the ESIA for a proposed project. Good practice requires that, as a minimum, cumulative impacts are assessed during the scoping plus impact assessment process. Cumulative impacts can arise when a single resource or receptor is affected by more than one impact from the proposed Project (intraspecific). Cumulative impacts may also arise because of the combination of two or more projects (interspecific).

Cumulative impacts have a wide temporal and spatial scope and are not restricted to a local area nor need to happen at the same time. It is, therefore, crucial to identify a suitable study and assessment area, as well as a timeframe to assess. Cumulative impacts can also be vast and complicated; therefore, it is important to focus on the significant impacts.

- The six-step rapid CIA process has been followed:
- Step 1: Scoping - determine spatial and temporal boundaries.
- Step 2: Scoping - identify valued environmental and social receptors and identify reasonably foreseeable developments.
- Step 3: Determine the present condition of valued environmental and social receptors (the baseline)
- Step 4: Assessment of cumulative impacts and evaluation of the significance of the cumulative impacts
- Step 5: Identification of mitigation measures to avoid or reduce cumulative impacts.

The cumulative impacts that may arise as a result of the Project, before mitigation are presented in Figure 29, for illustrative purposes only and are outlined in Table 22.

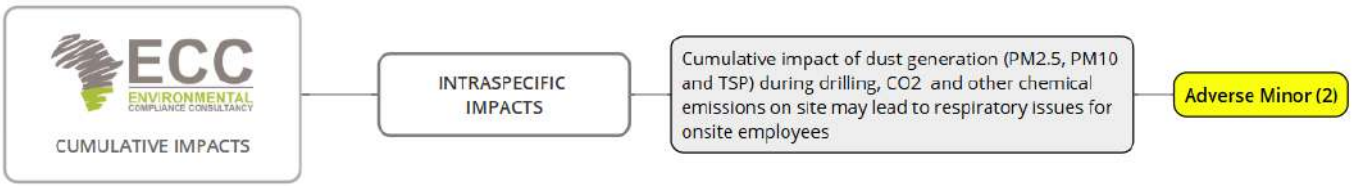


Figure 29 - Overview of the intraspecific cumulative impacts

7.6.1 INTRASPECIFIC CUMULATIVE IMPACTS

This section discusses intraspecific cumulative impacts which refer to the combined effects of multiple impacts from a Project activity on a single receptor.

7.6.1.1 Cumulative impact of dust generation (PM2.5, PM10 and TSP) during drilling, CO2 and other chemical emissions on site may lead to respiratory issues for onsite employees

The use of different equipment, machinery and vehicles during the exploration related activities may release fine particulate matter, total suspended particles (TSP) and CO_2 and other chemical emissions. The impact on air quality may lead to potential respiratory issues for onsite employees.

The nature of the impact is adverse and cumulative as a result of various sources contributing to air quality degradation. Particulate matter, CO_2 as well as other fuel emissions can penetrate deep into the lungs, causing respiratory irritation and long-term health issues. The impact is irreversible due to potential chronic health effects posed to employees. The duration of the impact would be medium term, throughout the life span of the exploration activities. The scale of this impact is on site, and the magnitude of the impact is minor due to the medium term exposure. The probability of this occurring is likely due to the nature of exploration activities, and the sensitivity of the receptor is low, as the impact will be limited to the Project site. Overall, the significance of the impact is adversely minor. Mitigation measures are described in Table 22 and the ESMP (Appendix A).

Table 22 - Intraspecific cumulative impacts on the Proposed exploration on EPL 8791

Receptor	Impacts	Significance of impact	Impact management
Air quality	**Activity:** Use of equipment, machinery and vehicles during exploration. **Impact:** Increased dust generation, CO2 and other chemical emissions.	Minor (3)	– Dust suppression measures must be implemented; – Minimise air quality impacts during exploration by limiting the speed of vehicles and applying dust suppressants on regularly travelled unpaved sections; – Ensure that international air quality standards and best practices are adhered to; – Implement an air quality monitoring programme; – Vehicles and machinery are to be regularly serviced according to the manufacturers' specifications and kept in good working order to minimise exhaust emissions; and – Transition vehicle fleets from any potential diesel-powered to hybrid or electric powered vehicles, which have lower carbon emissions.

8 CONCLUSION

The potential impacts likely to be triggered by the Project include impacts related to socioeconomic development, employment creation, social impacts (third-party stakeholders, occupational health and safety risks, visual impacts, air quality impacts (dust), noise, radioactive waste management, general waste management, biodiversity, soils, surface and groundwater and cumulative impacts. The heritage specialist study conducted recorded no cultural heritage sites, objects or artifact within EPL 8791. However, the 'chance find procedure' was incorporated into the impact assessment.

The areas of concern will need to be carefully monitored and managed according to the ESMP (Appendix A) to ensure that the significance of these impacts are reduced as far as reasonably possible.

Table 23 summarises the impacts after mitigation. On a scale of 1 to 12, low to high, the beneficial (B) and negative (N) impact significance is stated.

Table 23 - Summary of the significance rating before mitigation for the expected impact

Socioeconomic environment: economic		**Socioeconomic Environment: social**		**Biophysical environment**	
Creation of temporary jobs	B6	Social tensions and conflicts among farmers, landowners, and the =/=Gaingu Conservancy	N4	Flora impacts	N3
Skills development and work experience	B8	Project related movement causing interference with farming activities	N2	Fauna impacts	N2
Gender-imbalanced job opportunities	N4	Social anxiety related to radiation exposure, contamination and long-term safety	N2	Soil impacts – structure-erosion and spillage	N2
Contribution to local businesses and vendors	B8	Occupational health and safety	N6	Groundwater impacts – abstraction and effluents	N4
Revenue generated through licencing fees, exploration levies and taxes	B12	Air quality (dust)	N2	Surface water impacts - effluents	N3

Visual impacts and sense of place	N2	General solid waste	N2
Noise impacts	N3		
Radioactive waste management	N4		
Cultural heritage – chance find procedure	B8		

9 BIBLIOGRAPHY

Altherr, S., & Lameter, K. (2020). Stolen Wildlife III: The EU - a main hub and destination for illegally caught exotic pets. *Academia Biology*.

Barber, J. R., Crooks, K. R., & Fristrup, K. M. (2010). The costs of chronic noise exposure for terrestrial organisms. *Trends in Ecology & Evolution*, 180-189.

Brady, N. C., & Weil, R. R. (2017). *The nature and properties of soils.* Pearson.

Chamber of Mines of Namibia. (2024). 2023 Annual Review. Windhoek: Chamber of Mines of Namibia.

Chamber of Mines of Namibia. (2025). 2024 Annual Review. Windhoek: Chamber of Mines of Namibia.

D'Antonio, C. M., & Meyerson, L. A. (2002). Exotic plant species as problems and solutions in ecological restoration: A synthesis. *Restoration Ecology*, 703–713.

EPA. (2016). *Guidance on surface water contamination and spill prevention*. Retrieved from U.S. Environmental Protection Agency.

FAO. (2025). *World reference base for soil resources 2014: International soil classification system for naming soils and creating legends for soil maps.* Rome: Food and Agriculture Organization of the United Nations.

Fetter, C. W. (2018). *Contaminant hydrogeology.* Waveland Press.

Forman, R. T., & Alexander, L. E. (1998). Roads and their major ecological effects. *Annual Review of Ecology and Systematics*, 207-231

International Atomic Energy Agency (IAEA). (2014). *Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards (GSR Part 3).* Vienna.

International Commission on Radiological Protection (ICRP). (2012). *ICRP Publication 118: ICRP Statement on Tissue Reactions.*

IUSS Working Group WRB. (2015). World Reference Base for Soil Resources 2014, Update 2015: International soil classification system for naming soils and creating legends for soil maps. Rome: World Soil Resources

KPMG Namibia. (2021). *Mining Industry Overview.*

McNabb, D. H., & Boersma, L. (2021). Impacts of soil compaction on forest and rangeland ecosystems. *Soil Science Society of America Journal*, 931-945.

Mendelsohn, J., Jarvis, A., Mendelsohn, M., & Robertson, T. (2022). Atlas of Namibia : its land, water and life. Windhoek: Namibia Nature Foundation.

Mendelsohn, J., Jarvis, A., Roberts, C., & Robertson, T. (2002). Atlas of Namibia: A Portrait of the Land and its People. Windhoek: Namibia Nature Foundation.

Miller, R. M. (1983). The Pan-African Damara Orogen in South West Africa/Namibia. Evolution of the Damara Orogen of South West Africa/Namibia, 431-515.

Ministry of Mines and Energy. (2022). Strategic Plan and Mineral Sector Overview. Windhoek: Ministry of Mines and Energy.

Mowa, E. (2025). Desktop archaeological and cultural impact assessment report for exploration activities on Exclusive Prospecting Licence 8791, Erongo Region. Windhoek: ESM Archaeological and Cultural Heritage Consultants.

Namibia Statistic Agency. (2025). 2023 Population and Housing Census. Windhoek: Namibia Statistic Agency.

Namibia Statistic Agency. (2025). Namibia 2023 Population and Housing Cencus: Regional Profile. Windhoek: Namibia Statistic Agency.

Namibian Association of CBNRM Support Organisations (NACSO). (2024). Registered communal conservancies. Retrieved from Namibian Association of CBNRM Support Organisations (NACSO): https://www.nacso.org.na/conservancies/gaingu

Pimental, D., & Kounang, N. (1998). Ecology of soil erosion in ecosystems. Ecosystems, 416-426.

Shannon, G., McKenna, M. F., & Angeloni, L. M. (2016). A synthesis of two decades of research documenting the effects of noise on wildlife. Biological Reviews, 982-1005.

UNEP. (2016). Illegal trade in wildlife: Impacts on biodiversity and ecosystem resilience. United Nations Environment Programme.

World Health Organization (WHO). (2021). Ambient (outdoor) air pollution: Health effects and exposure guidelines. Geneva: WHO.

APPENDIX A – ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

APPENDIX B – BACKGROUND INFORMATION DOCUMENT

APPENDIX C – NEWSPAPER ADVERTISEMENT

10 Market Watch WEDNESDAY 12 NOVEMBER 2025

PUBLIC NOTICE
NOTICE 29/2025

MUNICIPALITY OF OTJIWARONGO

NOTICE FOR OBJECTIONS

NOTICE is hereby given in terms of section 63(2) of the Local Authorities Act, 1992 (Act 23 of 1992), as amended that the Municipal Council of Otjiwarongo intends to alienate, subject to section 30(1)(t) of the Local Authorities Act, 1992 (Act 23 of 1992) as amended, the below indicated immovable properties by way of Private Treaty Sale:

SALE						
Erf No.	**Purchaser**	**Intended Use**	**Size (m²)**	**Zoning**	**Purchase Price (N$)**	**Council Resolution**
Erf 1954 Otjiwarongo Proper	Andreas Nuule	Pension Hotel	3 526	General Residential	1, 000, 000.00 (VAT Incl.)	C.11.3/11/09/2025/8* ODCM 2025
A portion of Erf 4070 Orwetoveni Extension 12	Mandfred Katuuo	Dwelling unit	486	Public Open Space	97,200.00 (VAT Excl.)	C.11.15/09/10/2025/7* ODCM 2025
A portion of Remainder of the Farm Otjiwarongo Townlands South No.308	Easy Farming Investment	Warehouse	1022	undetermine	61,320.00 (VAT Excl.)	C.11.3/09/10/2025/9* ODCM 2025

Full particulars of the above-mentioned transactions lie open for inspection at the Municipal Office of Otjiwarongo, 2 Kreft Street, between 08:00-16:30 weekdays.

Any person objecting to the proposed transactions may lodge written motivated objections to the Office of the Chief Executive Officer, Private Bag 2209, Otjiwarongo to reach him not later than the **12th of December 2025 at 11H00.**

Any further enquiries in this regard can be directed to Ms. Hilma Nambahu at hilma@Otjimun.org.na or 067-302 231.

M. HIFITIKEKO
CEO
12.11.2025

NOTICE OF AN ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR THE PROPOSED EXPLORATION ACTIVITIES ON EPL 8791 FOR NUCLEAR FUELS, WITHIN THE ERONGO REGION, NAMIBIA

Environmental compliance consultancy (pty) ltd (ecc) hereby gives notice to the public that an application for An environmental clearance certificate in terms of the environmental management act, no. 7 of 2007 will be Made as per the following:

Project: The exclusive prospecting licence (EPL) is located north of Henties Bay in the =/=Gaingu Conservancy, Erongo Region. Access to EPL 8791 can be obtained via the D1918 between Uis and Henties Bay.

Proposed Activities: The Proponent, Marenica Ventures (Pty) Ltd, propose to explore for nuclear fuels on EPL 8791 using standard exploration methods such as geochemical surveys, ground and airborne geophysical surveys and reverse circulation (RC), rotary air blast (RAB) and diamond drilling to provide samples for density determination, mineralogical study, geochemical and disequilibrium analysis.

Purpose of the review and registration period: The purpose of the review and registration period is to introduce the proposed Project and to allow interested and affected parties (I&APs) to register and comment on the background information document (BID) to ensure that all issues and concerns are brought forward, captured and considered further in the environmental and social impact assessment (ESIA) process.

The registration period is open until **21 November 2025.** I&APs and stakeholders are required to register for the Project at: **https://eccenvironmental.com/download/exploration-for-nuclear-fuels-on-epl-8791-erongo-region/** or scan the QR Codebelow.

The team at ECC will maintain contact with all registered I&APs to keep them informed and engaged as the ESIA process develops. ECC will also provide registered I&APs relevant documents to review during the assessment process.

Environmental Compliance Consultancy
Registration Number: 2022/0985
Members: Mr JS Bezuidenhout or Mrs J Mooney
PO Box 91193, Klein Windhoek
Tel: +264 81 669 7608
E-mail: info@eccenvironmental.com
Website: www.eccenvironmental.com/projects
Project ID: ECC-79-647-ADT-07-D

RCC/TEICHMANN JOINT VENTURE – MR91

your future starts with us

FIXED TERM CONTRACT OPPORTUNITIES
ROAD CONSTRUCTION
(Omaheke/Hardap Regions)

Road Contractor Company Ltd of Namibia (RCC) and the Teichmann Plant Hire (PTY) Ltd have undertaken a Joint Venture in the Omaheke and Hardap Regions of Namibia. The Project consist of the upgrading to bitumen standard of the Main Road MR-91 from Gobabis via Aminuis to Aranos. The remaining length of the road to be completed is approximately 140 km with the project duration of 24 months.

Opportunities exist for the suitable qualified and experienced Namibian Citizens in the following roles all of which are Site based.

RECYCLER OPERATOR
Ref: MR91/2025-1

The Major Responsibilities and Key Performance of this role are:
- Operate a Wirtgen Recycler in compliance with the manufacturer and company's policies and procedures.
- Maintain equipment in proper operating condition by performing preventive maintenance and repair tasks.
- Responsible for frequent inspection and replacement of picks on the recycling drum. Maintain constant visual contact with co-workers on the ground and trucks in front of the machine.

Skill Requirements:
- The Recycler Operator needs knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications,
- The Recycler Operator needs knowledge of design techniques, tools and principals involved in production of precision technical and needs an in depth understanding of the behavior of road building gravels, in particular moisture control and other properties to be controlled.

Minimum Requirements:
- Grade 12
- The candidate will have a minimum of 10 years' experience operating a Wirtgen Recycling Machine.
- Proven attendance and passing of the required Wirtgen training courses, including Certificates of competency issued by Wirtgen, Proven track record as a Final Cut Grader Operator, Proven track record as a Layer works Foreman.

GRADER OPERATOR FINAL LEVEL CUTTER
Ref: MR91/2025 X 3

The Major Responsibilities and Key Performance of this role are:
- Specialist grader operator responsible for the mixing, spreading, shaping material and cutting to final level within tolerance and within allocated time. Manages and coordinates other equipment working around him related to watering and compaction.

Minimum Requirements:
- The ideal candidate will have 10 years' experience in highway construction. Must be aware of Environmental, Health and Safety
- A certificate of competence in road construction, Good communication skills. Ability to work under pressure
- Minimum grade 10. Certified to operate using a LEICA Control System.

- A track record which demonstrates an understanding and appreciation of road construction backed by the stated minimum qualifications and experience is essential for all roles.
- Please quote the reference number for the role clearly in your correspondence.
- Only short listed candidates will be conducted and no documents will be returned to applicants. Should you not hear from us within 5 working days of submitting your application please consider to have been, in this instance unsuccessful.
- Namibians who meet the criteria above are welcome to submit their Curricula Vitae (maximum 5 pages) to:

rccteichmannjv2@gmail.com

Or, hand delivered to:

HR Department, RCC/Teichmann JV Site Office, Kambahoka Lodge, Aminuis RC.

Closing date for applications: Monday, 25 Nov 2025

NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT AND PUBLIC PARTICIPATION PROCESS

Daures Net Zero Green Hydrogen (Pty) Ltd hereby gives notice to all potential Interested and Affected Parties, that an application for an Environmental Clearance: Environmental Management Act, 7 of 2007 and Regulations 19 and 21 of the EIA Regulations (January 2012) will be made as per the following:

PROJECT AND APPLICANT: Daures Net Zero Green Hydrogen (Pty) Ltd Proposed Development of Agricultural Activities (Green Scheme) as part of the Daures Green Hydrogen Research and Development.

NATURE AND LOCATION OF THE PROPOSED ACTIVITY: Daures Net Zero Green Hydrogen (Pty) Ltd intends to apply for an Environmental Clearance Certificate (ECC) for the development of an agricultural green scheme, that entails research on the application of ammonia sulphate fertilizer on staple crops as part of the Daures Green Hydrogen Research, Development and Capacity Building Programme. The project is proposed to be located on a piece of land measuring approx. 3.5 hectares (ha), located approx. 70 km northwest of Uis Settlement, within the Daures Constituency, Erongo Region.

INDEPENDENT ENVIRONMENTAL ASSESSMENT PRACTITIONER: LN.K Enviro Consultants cc has been appointed by Daures Net Zero Green Hydrogen (Pty) Ltd to undertake the EIA process.

NOTIFICATIONS, MEETING AND INFORMATION: Please contact LN.K for details on the public meeting: Tel: +264818035825, E-mail: ikatali@lnkenviroconsult.com. Register as an I&AP with LN.K as per above. A Background Information Document is available. Comment period is from 12 November to 11 December 2025.

NOTICE OF AN ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR THE PROPOSED EXPLORATION ACTIVITIES ON EPL 8791 FOR NUCLEAR FUELS, WITHIN THE ERONGO REGION, NAMIBIA

Environmental compliance consultancy (pty) ltd (ecc) hereby gives notice to the public that an application for An environmental clearance certificate in terms of the environmental management act, no. 7 of 2007 will be Made as per the following:

Project: The exclusive prospecting licence (EPL) is located north of Henties Bay in the =/=Gaingu Conservancy, Erongo Region. Access to EPL 8791 can be obtained via the D1918 between Uis and Henties Bay.

Proposed Activities: The Proponent, Marenica Ventures (Pty) Ltd, propose to explore for nuclear fuels on EPL 8791 using standard exploration methods such as geochemical surveys, ground and airborne geophysical surveys and reverse circulation (RC), rotary air blast (RAB) and diamond drilling to provide samples for density determination, mineralogical study, geochemical and disequilibrium analysis.

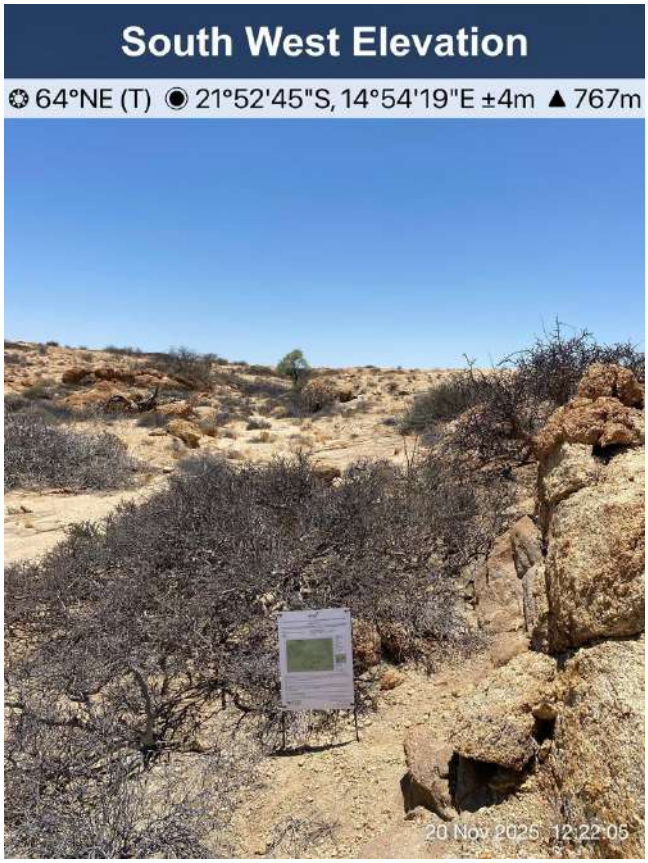
Purpose of the review and registration period: The purpose of the review and registration period is to introduce the proposed Project and to allow interested and affected parties (I&APs) to register and comment on the background information document (BID) to ensure that all issues and concerns are brought forward, captured and considered further in the environmental and social impact assessment (ESIA) process.

The registration period is open until **21 November 2025.** I&APs and stakeholders are required to register for the Project at: **https://eccenvironmental.com/download/exploration-for-nuclear-fuels-on-epl-8791-erongo-region/** or scan the QR Codebelow.

The team at ECC will maintain contact with all registered I&APs to keep them informed and engaged as the ESIA process develops. ECC will also provide registered I&APs relevant documents to review during the assessment process.

Environmental Compliance Consultancy
Registration Number: 2022/0593
Members: Mr JS Bezuidenhout or Mrs J Mooney
PO Box 91193, Klein Windhoek
Tel: +264 61 069 7603
E-mail: info@eccenvironmental.com
Website: www.eccenvironmental.com/projects
Project ID: ECC-79-647-ADT-07-D

APPENDIX D – SITE NOTICES



APPENDIX E – STAKEHOLDER LETTER

Environmental Compliance Consultancy (Pty) Ltd
PO Box 91193 Klein Windhoek Namibia
info@eccenvironmental.com
www.eccenvironmental.com
+264 81 669 7608

ECC-79-647-LET-05-A

12 November 2025

Identified stakeholder and potential interested or affected party for the following Project:

RE – NOTICE OF AN ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR THE EXPLORATION OF NUCLEAR FUELS ON EPL 8791, =/=GAINGU CONSERVANCY, ERONGO REGION, AS PART OF AN ENVIRONMENTAL CLEARANCE CERTIFICATE APPLICATION FOR MARENICA VENTURES (PTY) LTD.

Dear Sir or Madam,

Environmental Compliance Consultancy (Pty) Ltd (ECC) (herein referred to as the environmental assessment practitioner (EAP)), has been engaged by Marenica Ventures (Pty) Ltd (herein referred to as the Proponent) to conduct an environmental and social impact assessment (ESIA) and compile an environmental and social management plan (ESMP) for exploration of nuclear fuel minerals on exclusive prospecting licence (EPL) 8791, =/=Gaingu Conservancy, Erongo Region.

In line with the requirements of the Environmental Management Act, No. 7 of 2007 and its 2012 associated Regulations, an environmental clearance certificate application is being compiled and will be submitted to the mining commissioner (MC) as the competent authority for the Project, at the Ministry of Industries, Mines and Energy (MIME). The application will then be forwarded to the environmental commissioner (EC) at the Ministry of Environment, Forestry and Tourism (MEFT) for review and to make a record of decision (RoD) regarding the proposed Project.

Elevate Uranium Ltd is an Australian exploration and development company focused on uranium projects in Namibia and Australia. Marenica Ventures (Pty) Ltd is Elevate Uranium's Namibian subsidiary that holds and manages its local exclusive prospecting licences (such as EPL 8791). The Proponent is one of the largest uranium tenement holders in Namibia, with several projects in the Erongo Region, including Koppies, Namib IV, Hirabeb and Capri. The company is also developing its U-grade™ technology to enhance uranium recovery from low-grade ores.

Namibia is a leading global uranium producer, hosting major operations like Rössing Uranium Mine, Husab Mine and Langer Heinrich Uranium Mine. Elevate Uranium, through Marenica Ventures, is actively exploring in this established uranium province to expand its resource base and advance future development opportunities.

The Proponent intends to carry out minimally invasive exploration on EPL 8791, for which MIME has issued the Proponent a preparedness to grant notice. This has been granted to the Proponent on the basis that they obtain an environmental clearance certificate for these activities.

The Proponent intends to conduct the following exploration activities:

- Geological mapping/reconnaissance and flying of drones;
- Geophysics (magnetic surveys and gamma-ray spectrometry);
- Geochemical analysis; (soil and rock sampling and assays) and

Environmental Compliance Consultancy (Pty) Ltd
PO Box 91193 Klein Windhoek Namibia
info@eccenvironmental.com
www.eccenvironmental.com
+264 81 669 7608

- Drilling, which may consist of either rotary air blast (RAB), reverse circulation (RC) or diamond drilling (DD).

The EPL is located east of Henties Bay, in the =/=Gaingu Conservancy, Erongo Region, with a portion of the EPL overlapping with Farm Hoopverloor (No. 88) and neighbours Farm Marenica (No. 1140) (-21.861885, 14.871073) (map attached).

The background information document (BID) provides further Project details and the scope of the ESIA, which can be downloaded from the link provided below: https://eccenvironmental.com/download/exploration-for-nuclear-fuels-on-epl-8791-erongo-region/

This letter serves to engage potential I&APs for the Project and to establish a communication channel with ECC for the ESIA process. You have been identified as a stakeholder and potential I&AP and ECC would therefore like to inform you of the opportunities available for your participation in the ESIA. As part of this process, ECC cordially invites you to register as an I&AP to ensure your involvement and engagement throughout the assessment.

If you are unable to complete the registration form online, please contact us via email for assistance at info@eccenvironmental.com, or alternatively call our office at +264 81 669 7608.

Should you require our assistance with the details contained within this letter, please do not hesitate to contact us and we will gladly assist.

Yours sincerely,

Stephan Bezuidenhout
stephan@eccenvironmental.com

Jessica Bezuidenhout Mooney
jessica@eccenvironmental.com

Environmental Compliance Consultancy (Pty) Ltd
PO Box 91193 Klein Windhoek Namibia
info@eccenvironmental.com
www.eccenvironmental.com
+264 81 669 7608

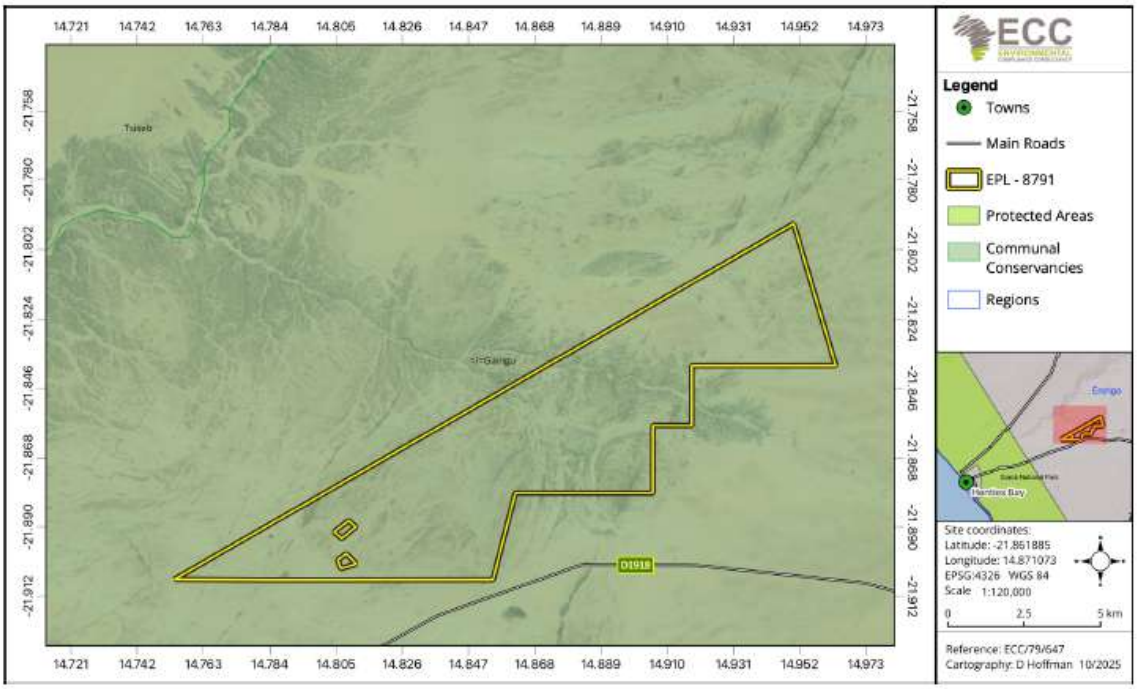


Figure 1 – Location map of EPL 8791

Exploration of nuclear fuel minerals on exclusive prospecting licence (EPL) 8791, =/=Gaingu Conservancy, Erongo Region.

Summarize this email

Kelly Ochs <kelly@eccenvironmental.com>
to gainguconservancy22, Jessica, Carlene

Wed, Dec 10, 2025, 8:03 AM

Good day,

Environmental Compliance Consultancy (Pty) Ltd (ECC) (the environmental assessment practitioner (EAP)), has been engaged by Marenica Ventures (Pty) Ltd to conduct an environmental and social scoping with impact assessment process and compile an environmental and social management plan (ESMP) for exploration of nuclear fuel minerals on exclusive prospecting licence (EPL) 8791, =/=Gaingu Conservancy, Erongo Region.

The Proponent hereby seeks the formal consent of the =/=Gaingu Conservancy to undertake the proposed exploration activities on EPL 8791 within the Conservancy area. Please find attached a stakeholder and consent letter that details the nature of exploration activities.

Also kindly see below the website to access the background information document for more information on the Project:
https://eccenvironmental.com/download/exploration-for-nuclear-fuels-on-epl-8791-erongo-region/

Once the scoping plus impact assessment report and ESMP are finalised, we intend to share them with you for your review before final submission.

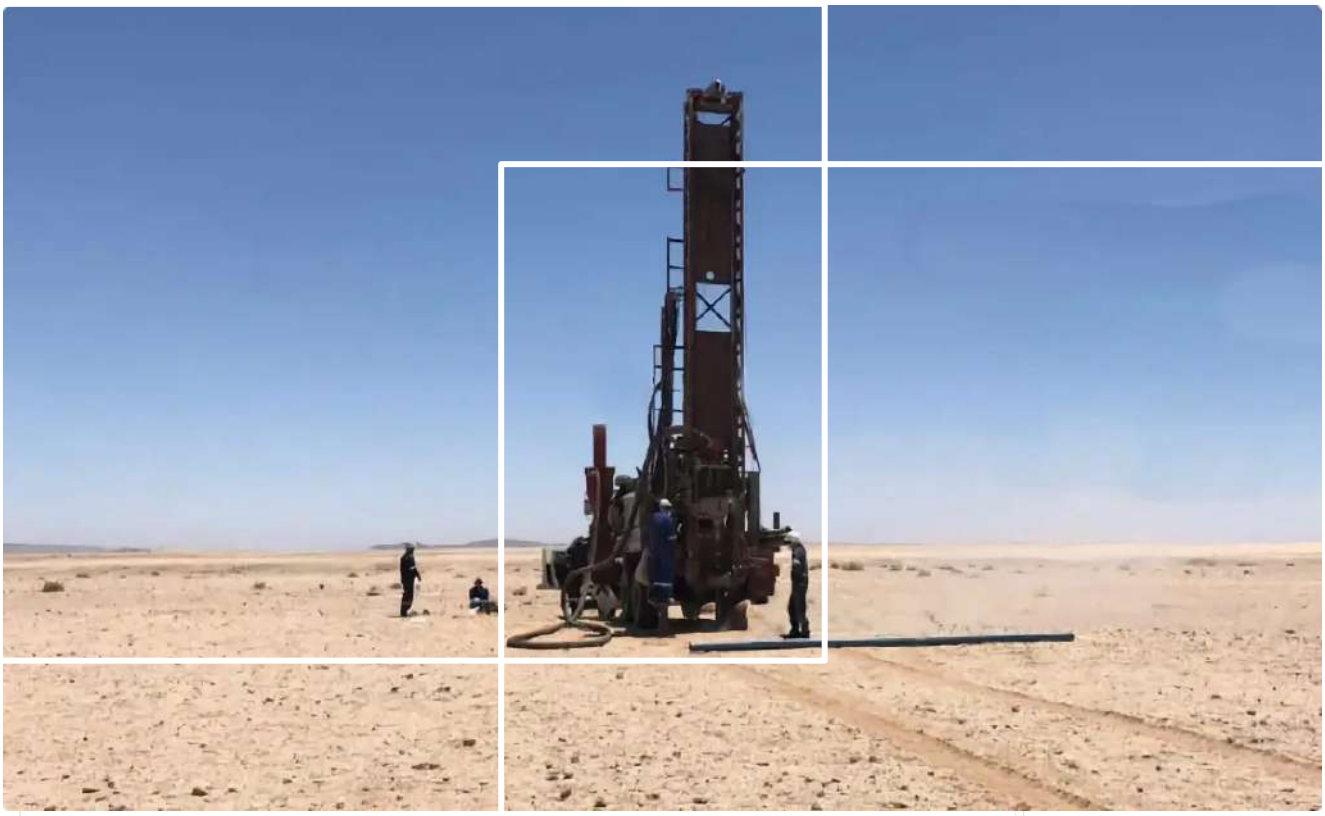
Should you have any questions or concerns, please do not hesitate to contact me.

Kind regards,

Kelly Ochs
Environmental Compliance Consultancy (ECC)
Position: Environmental Practitioner
Office Tel: +264 81 669 7606
Postal: PO BOX 91193 | Klein Windhoek | Namibia
Address: 13 Simeon Shikungileni (old 13 Bismarck St) | Windhoek Central | Windhoek | Namibia
Email: kelly@eccenvironmental.com
Website: www.eccenvironmental.com

One attachment • Scanned by Gmail ⓘ Add to Drive

APPENDIX F – HERITAGE SPECIALIST STUDY



elevate uranium

carbon free energy

Submitted to: Marenica Ventures (Pty) Ltd.
Attention: Mr Murray Hill
P O Box 90242
Klein Windhoek,
Windhoek, Namibia.

REPORT:

BACKGROUND INFORMATION DOCUMENT - EXPLORATION FOR NUCLEAR FUELS ON EPL 8791, ERONGO REGION

PROJECT NUMBER: ECC-79-647-BID-06-D

REPORT VERSION: REV 01

DATE: 24 OCTOBER 2025

ECC ENVIRONMENTAL COMPLIANCE CONSULTANCY

TITLE AND APPROVAL PAGE

Project Name:	Background information document - exploration for nuclear fuels on EPL 8791, Erongo Region
Client Company Name:	Marenica Ventures (Pty) Ltd.
Client Name:	Mr Murray Hill
Ministry Reference:	APP-TBD
Status of Report:	Final for submission
Project Number:	ECC-79-647-BID-06-D
Date of issue:	24 October 2025
Review Period	N/A

ENVIRONMENTAL COMPLIANCE CONSULTANCY CONTACT DETAILS:

We welcome any enquiries regarding this document and its content. Please contact:

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

Quality Assurance

Authors:

Monique Jarrett
Environmental Compliance Consultancy

Checked By:

Carlene Baufeldt
Environmental Compliance Consultancy

Approved By:

Stephan Bezuidenhout
Environmental Compliance Consultancy

DISCLAIMER

The report has been prepared by Environmental Compliance Consultancy (Pty) Ltd (ECC) (Reg. No. 2022/0593) on behalf of the Proponent. Authored by ECC employees with no material interest in the report's outcome, ECC maintains independence from the Proponent and has no financial interest in the Project apart from fair remuneration for professional fees. Payment of fees is not contingent on the report's results or any government decision. ECC members or employees are not, and do not intend to be, employed by the Proponent, nor do they hold any shareholding in the Project. Personal views expressed by the writer may not reflect ECC or its client's views. The environmental report's information is based on the best available data and professional judgment at the time of writing. However, please note that environmental conditions can change rapidly, and the accuracy, completeness, or currency of the information cannot be guaranteed.

EXECUTIVE SUMMARY

Environmental Compliance Consultancy (Pty) Ltd (ECC) has been engaged by Marenica Ventures (Pty) Ltd (the Proponent), a subsidiary of Elevate Uranium Ltd, to undertake an environmental and social impact assessment (ESIA) and compile an environmental and social management plan (ESMP) for proposed nuclear fuels (i.e. uranium exploration activities) on exclusive prospecting licence (EPL) 8791, located within the =/=Gaingu Conservancy, Erongo Region.

The Project aims to explore for nuclear fuel minerals using minimally invasive methods, including geological mapping, geophysical surveys, geochemical sampling, and drilling (rotary air blast, reverse circulation or diamond drilling) if warranted.

In line with the requirements of the Environmental Management Act (No. 7 of 2007) (EMA) and associated 2012 Regulations, Marenica Ventures must obtain an environmental clearance certificate (ECC) before commencing exploration. The application will be submitted to the mining commissioner as the competent authority of the Ministry of Industries, Mines and Energy (MIME) and reviewed by the environmental commissioner of the Ministry of Environment, Forestry and Tourism (MEFT) for a record of decision.

The ESIA process includes:

- Screening of listed activities under the EMA 2007, such as mineral extraction, limited vegetation clearing, waste generation and possible groundwater abstraction for drilling;
- Scoping plus impact assessment, define the baseline and identify potential environmental and social receptors, supported by field and desktop assessments;
- Stakeholder engagement, including notification to authorities, conservancies, adjacent landowners, potential interested and affected partes (I&AP) and the public through direct communication and newspaper adverts; and
- Development of a combined scoping plus impact assessment with an environmental and social management plan (ESMP) to ensure responsible management of identified impacts.

Potential impacts include:

- Localised dust and noise;
- Temporary flora and fauna disturbance;
- Waste management;
- Minor water abstraction; and
- Possible heritage disturbances.

Aspects are anticipated to be low in significance and readily mitigable through adherence to the ESMP.

Public participation is a key part of the ESIA process. Interested and affected parties (I&APs) are invited to register and submit comments on the Project by 30 November 2025, ensuring inclusive stakeholder input.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS

Abbreviation	Description
%	percentage
ASX	Australian Stock Exchange
BID	background information document
DD	diamond drilling
DEAF	Department of environmental affairs and forestry
EAP	environmental assessment practitioner
EC	environmental commissioner
ECC	Environmental Compliance Consultancy (Pty) Ltd
EMA	Environmental Management Act, No. 7 of 2007
EPL	exclusive prospecting licence (EPL)
ESIA	environmental and social impact assessment
ESMP	environmental and social management plan
GN	government notice
HLEM	horizontal-loop electromagnetic
I&APs	interested and affected parties
IV	four
MC	mining commissioner
MEFT	Ministry of Environment, Forestry and Tourism
MIME	Ministry of Industries, Mines and Energy
N$	Namibian dollar
RAB	rotary air blast
RC	reverse circulation
RoD	record of decision

1 BACKGROUND INFORMATION DOCUMENT

1.1 PURPOSE OF THIS DOCUMENT

Environmental Compliance Consultancy (Pty) Ltd (ECC) (herein referred to as the environmental assessment practitioner (EAP)), has been engaged by Marenica Ventures (Pty) Ltd (herein referred to as the Proponent or Marenica) to conduct an environmental and social impact assessment (ESIA) and compile an environmental and social management plan (ESMP) for the exploration of nuclear fuel minerals on exclusive prospecting licence (EPL) 8791, =/=Gaingu Conservancy, Erongo Region.

Consistent with the Environmental Management Act No. 7 of 2007 and its associated 2012 Regulations, an environmental clearance certificate application is being compiled and will be submitted to the mining commissioner (MC) as the competent authority at the Ministry of Industries, Mines and Energy (MIME). The application will then be forwarded to the environmental commissioner (EC) at the Ministry of Environment, Forestry and Tourism (MEFT) for review and to make a record of decision (RoD) regarding the proposed Project.

The purpose of this background information document (BID) is to provide stakeholders and interested and affected parties (I&APs) with an overview of the proposed Project and ESIA steps. In addition to that, this is an invitation to all stakeholders and I&APs to register to the Project to ensure continued engagement throughout the ESIA process.

Registration provides a platform for participants to submit comments, concerns, or recommendations regarding the proposed Project. This BID includes the following information:

- Description of the proposed Project and location;
- The necessity of the Project, benefits or significant adverse impacts anticipated;
- The alternatives considered within the Project to reduce any adverse impacts or enhance any potential benefits that will be considered and assessed;
- How the ESIA and environmental clearance certificate application process works;
- The public participation process and how to get involved; and
- Next steps and the way forward

1.2 DESCRIPTION OF THE PROPOSED PROJECT

Elevate Uranium Ltd (ASX: EL8) is an Australian exploration and development company focused on uranium projects in Namibia and Australia. Marenica Ventures (Pty) Ltd is Elevate Uranium's Namibian subsidiary that holds and manages its local exclusive prospecting licences (such as EPL 8791). It is one of the largest uranium tenement holders in Namibia, with several projects in the Erongo Region, including Koppies, Namib IV, Hirabeb, and Capri. The company is also developing its U-grade™ technology to enhance uranium recovery from low-grade ores.

Namibia is a leading global uranium producer, hosting major operations like Rössing Uranium Mine, Husab Mine and Langer Heinrich Uranium Mine. Elevate Uranium, through Marenica Ventures, is actively exploring in this established uranium province to expand its resource base and advance future development opportunities.

The Proponent intends to carry out minimally invasive exploration on EPL 8791, for which MIME has granted the Proponent a preparedness to grant. This has been granted to the Proponent on the basis that they obtain an environmental clearance certificate for these activities.

The Proponent intends to conduct the following exploration activities:

- Geological mapping/reconnaissance and flying drones;
- Geophysics (magnetic surveys and gamma-ray spectrometry);
- Geochemical analysis (soil and rock sampling and assays) and;
- Drilling, which may consist of either rotary air blast (RAB), reverse circulation (RC) or diamond drilling (DD).

The EPL is located east of Henties Bay, in the =/=Gaingu Conservancy, Erongo Region with a portion of the EPL overlapping with Farm Hoopverloor (No. 88) (-21.861885, 14.871073) (Figure 1).

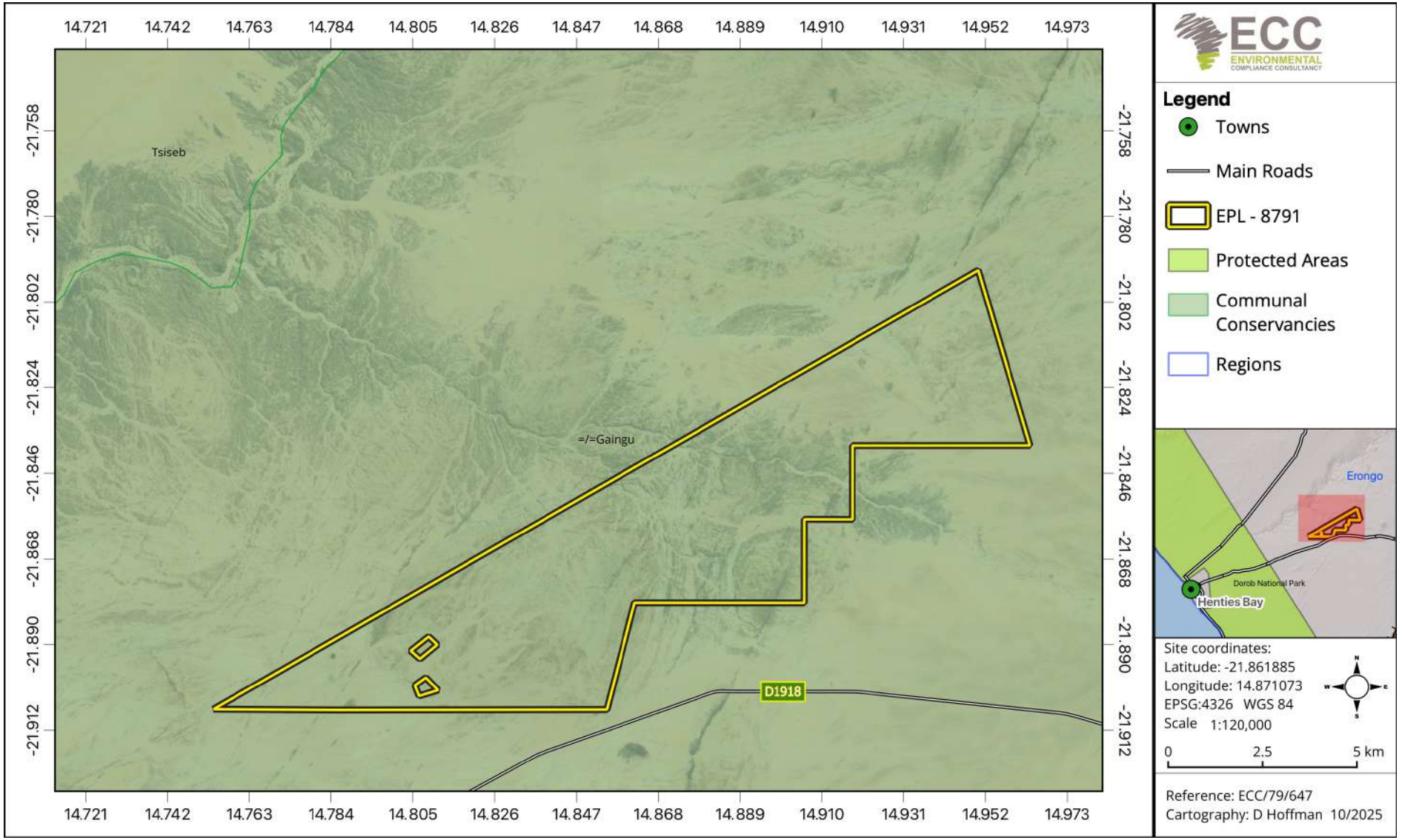


Figure 1 - Location of EPL 8791, withing the =/=Gaingu Conservancy

1.3 NEED FOR THE PROJECT

Firstly, mineral exploration is crucial for discovering new mineral deposits and geological mapping of the country. Furthermore, mining has long been the backbone of the Namibian economy as it is the biggest contributor to the Namibian economy, contributing 13.3% in 2024, generating N$52.3 billion in revenue. With mineral exploration expenditure increasing by 66.6% to N$1.485 billion in 2024 (Chamber of Mines of Namibia, 2025). The Proponents mineral exploration activities aim to contribute to the national and local economy through taxes and royalties, job creation and local goods and services procurement.

1.4 EXPLORATION PHASE

The following activities are envisaged for uranium exploration over the life of their tenure (3 years) which can be renewed for another two years should results prove positive:

- Minimal ground clearing for tracks, where existing tracks cannot be used;
- Retrieve historic exploration data for review;
- Ground and airborne geophysical surveying (e.g. HLEM surveys to define palaeochannels and airborne radiometric surveys);
- Geochemical surveys, for sampling of soil rock for geochemical analysis; and
- Drilling: RAB, RC or diamond drilling to provide samples for density determination, mineralogical studies and geochemical and disequilibrium analysis.

2 CONSIDERATION OF ALTERNATIVES

Best practice in environmental assessment methodology requires the identification and evaluation of feasible alternatives to a proposed Project. However, for a project of this nature, it is challenging to identify viable alternatives that would meet the specific objectives of the proposed development.

However, during the ESIA assessment, the following alternatives may arise for consideration of optimisation and using eco-friendly solutions to reduce potential impacts. These could include:

- Different types of technology or operation;
- Different access routes; and
- Different exploration techniques.

3 THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT PROCESS

The ESIA for the proposed Project being conducted by the EAP will be undertaken in terms of the Environmental Management Act, 2007 and its regulations. The process followed for this ESIA is set out in the flowchart in Figure 2.

A record of decision relating to the above-mentioned application will be made by Ministry of Environment, Forestry and Tourism (MEFT), Department of Environmental Affairs and Forestry (DEAF).

The related environmental process for this Project will include:

1. Screening phase (completed);
2. Scoping phase, which includes biophysical and social baseline studies (desktop studies and field-based heritage assessment) and project description; and
3. Assessment phase, which includes impact prediction and evaluation of alternatives, assigning mitigation measures and developing monitoring and conceptual rehabilitation plans. This phase culminates in the drafting of the scoping plus impact assessment and draft environmental and social management plan (ESMP) and submission to MIME as the competent authority and MEFT to make a record of decision.

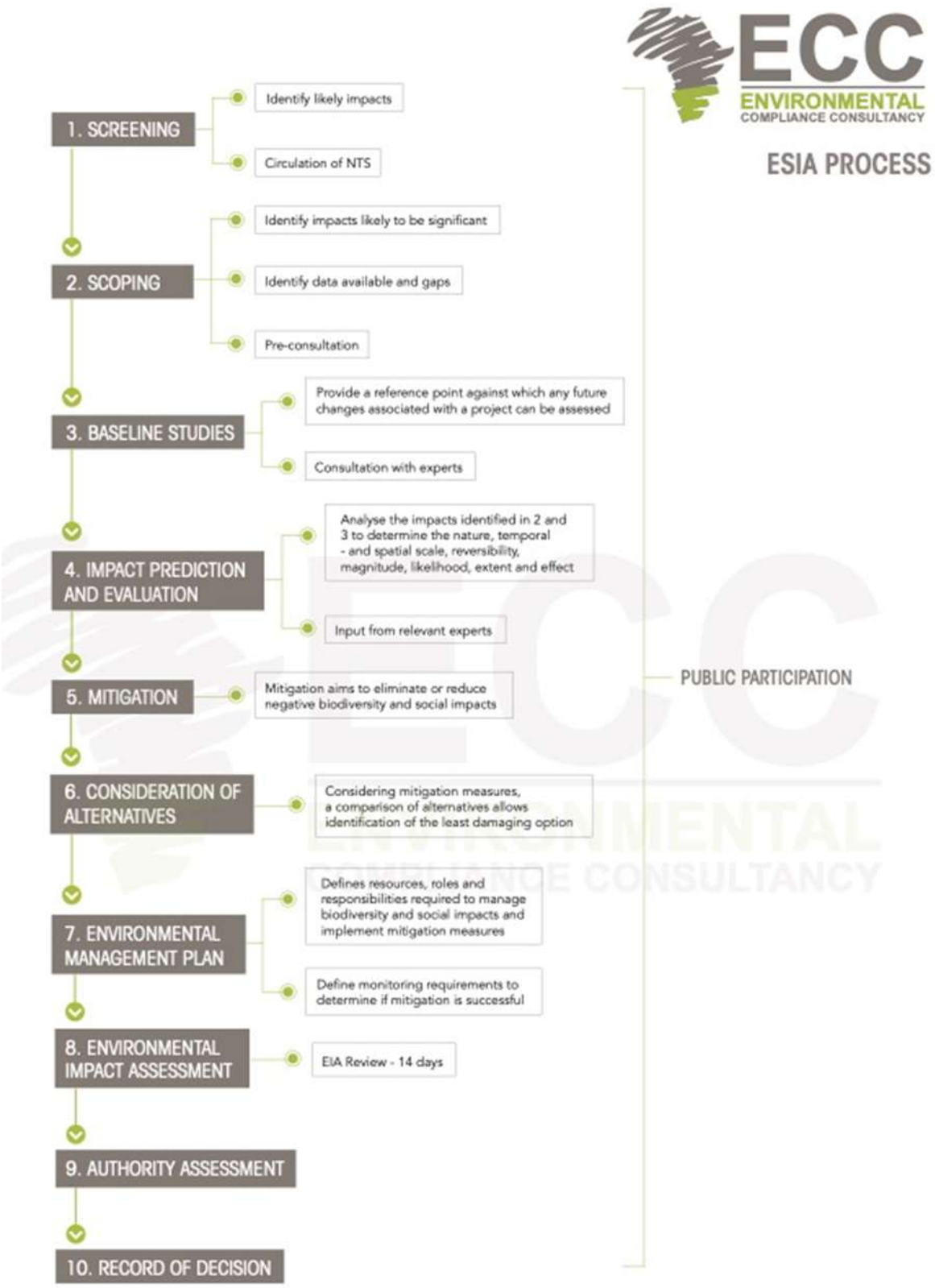


Figure 2 - Flowchart of the ESIA process

3.1 SCREENING

A review of the planned Project was undertaken and the screening findings against the listed activities were identified, the findings of which are summarised in Table 1.

Table 1 – Activities potentially triggered by the Project
Source: Environmental Management Act, No. 7 of 2007, and its 2012 Regulations

Listed activity	As defined by the Regulations of an Act	Relevance to the Project
Waste management, treatment, handling, and disposal activities	(2.3) The import, processing, use and recycling, temporary storage, transit or export of waste	- Waste generated, which will be mainly solid waste and general waste, during the exploration phase will be removed by a skip and will be disposed of at the nearest registered landfill site. - A portable toilet, long drop hole or chemical toilets will be used during exploration activities.
Mining and quarrying activities	(3.1) The construction of facilities for any process or activities which requires a licence, right or other form of authorisation, and the renewal of a licence, right or other form of authorisation, in terms of the Minerals (Prospecting and Mining Act), 1992 (3.2) Other forms of mining or extraction of any natural resources whether regulated by law or not (3.3) Resource extraction, manipulation, conservation and related activities	- The proposed Project requires environmental clearance from DEAF/MEFT for the potential extraction of nuclear fuel core samples for assay within the Project's footprint. - The Proponent will also undertake shallow RAB and RC drilling and diamond drilling if results permit it.

Listed activity	As defined by the Regulations of an Act	Relevance to the Project
Forestry activities	(4) The clearance of forest areas, deforestation, aforestation, timber harvesting or any other related activity that requires authorisation in terms of the Forest Act, 2001 (Act No. 12 of 2001) or any other law	- Limited vegetation clearing may be required for tracks and drilling access.
Water resource developments	(8.1) The abstraction of ground or surface water for industrial or commercial purposes	- For diamond drilling of exploration boreholes groundwater may need to be abstracted or water will be sourced from a borehole.
Hazardous substance treatment, handling, and storage	(9.1) The manufacturing, storage, handling or processing of a hazardous substance is defined in the Hazardous Substances Ordinance, 1974	- Portable toilets, long drop hole or chemical toilets will be used during exploration activities. - Potential release of fuels, oils and lubricant during exploration activities.

3.2 STAKEHOLDER ENGAGEMENT

A notice must be provided to the public and key stakeholders to inform them about the Project and to invite them to register as I&APs. ECC's stakeholder engagement process follows the outlined procedure as per Section 21 of the Environmental Impact Assessment Regulations (GN 30 of 2012), which is summarised as follows:

- Written notice is given to all identified stakeholders and I&APs, and the owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site. For this Project that includes:
    - Ministry of Industries, Mines and Energy (MIME) through the Form 1 and BID as part of the registration process of the Project;
    - Ministry of Environment, Forestry and Tourism through the Form 1 and BID as part of the registration process of the Project;
    - =/=Gaingu Conservancy (direct consultation);
    - Owners of Farm Hoopverloor (No. 88) (via registered mail); and
    - Owners of Farm Marenica (No. 1140) (via registered mail).
- Site notices will be erected on the boundary of EPL 8791 (coordinated to be supplied in scoping and assessment report);
- Adverts will be place in the following newspapers for two consecutive weeks: (Republikein, Namibian Sun and the Allgemeine Zeitung);
- The registered I&APs, local authorities and government offices are given seven days to review the draft scoping report and impact assessment and ESMP before it is finalised to be submitted for a record of decision; and
- An I&AP register will be maintained for the duration of the assessment and I&APs are allowed to register until the final ESIA and ESMP is submitted to MIME and MEFT for a record of decision.

3.2.1 SCOPING AND IMPACT ASSESSMENT REPORT

These two reports are combined into one for this scale of Project because the Project is relatively small and the activities of the Project are deemed non- or minimally invasive. Furthermore, the impacts of Projects such as this are usually non-significant or low, additionally any identified impacts are usually easy to mitigate or manage. Therefore, a standalone ESIA with multiple detailed specialist studies is not required.

The scoping, with impact assessment report, will contain a description of the Project and the biophysical and socio-economic environments, baseline studies (where required), the stakeholder engagement report and the assessment of identified significant impacts and alternatives (if any).

The potential social, economic and biophysical impacts to be considered with due regard to the nature and scale of the proposed operations, its location within the broader ecological, commercial and social environments that have been anticipated may include the following:

- Water use, contamination and management;
- Waste resource management;
- Visual impacts;
- Biodiversity impacts;
- Jobs creation;
- Potential to unearth, damage or destroy undiscovered heritage remains; and
- Minor disruptions to residents of neighbouring farms, due to potential noise and dust generation as a result of the proposed exploration activities.

3.2.2 DRAFT ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

An ESMP shall be developed for the proposed Project setting out auditable management actions for the Project to ensure careful and sustainable management measures are implemented for their activities in respect of the surrounding environment and community. The ESMP becomes the legally binding commitments upon approval and issuing of the environmental clearance certificate. Environmental clearance certificates are generally issued for a period of 3 years, and renewal is subject to compliance with the provisions and conditions of the environmental clearance certificate. Further to this the EPL will only be officially granted and become active on receipt of the approved ESMP and environmental clearance certificate by MIME.

The draft scoping , with impact assessment report and ESMP will be drafted and made available to the registered I&APs for comment for seven days. Thereafter the final reports will be submitted to the mining commissioner (MIME) and environmental commissioner (MEFT), for a record of decision.

4 THE WAY FORWARD – PUBLIC PARTICIPATION

Public participation is an important part of the ESIA process. It allows you, the public and stakeholders to raise concerns or provide valuable local environmental knowledge that can benefit the assessment process as well as aid the planning process for the scoping phase of the defined assessment process. At this phase ECC will perform the following:

- Prepare and submit the application (Form 1, register on the MEFT environmental clearance certificate portal) for the environmental clearance certificate in the prescribed manner;
- Identify relevant key stakeholders, authorities, municipalities, environmental groups and interested or affected members of the public, hereafter referred to as I&APs ;
- Carry out a public consultation process in accordance with Regulation 21 of the EMA 2007 as outlined in Section 3.2 and
- Prepare the draft scoping, with impact assessment report for public and stakeholder review for seven days.

Your request for registration as an I&AP as well as any comments on the BID or Project must be submitted in writing and can be emailed using the details in the contact us section below. Registration as an I&AP for the Project can be completed online on ECCs website on the Projects page, or by using this link: https://eccenvironmental.com/projects/

Registration as an I&AP should be submitted on or before **30 November 2025**.

We welcome any enquiries regarding this document and its content. Please contact:
Environmental Compliance Consultancy (ECC)
info@eccenvironmental.com
Tel: +264 816 697 608
www.eccenvironmental.com
At ECC we make sure all information is easily accessible to the public.
Follow our social platforms online to be kept up to date.

ESM ARCHAEOLOGICAL
AND CULTURAL
HERITAGE CONSULTANTS

Trading as ESM TRADING CC. Reg no: cc/2013/05545
Email: esmheritage@gmail.com
Mobile:0812066372

DESKTOP ARCHAEOLOGICAL AND CULTURAL IMPACT ASSESSMENT REPORT FOR EXPLORATION ACTIVITIES ON EXCLUSIVE PROSPECTING LICENSE 8791.

ERONGO REGION

Compiled by:

Dr Eliot Mowa, B.ED (UNAM)

Maritime Archaeology (University of Bristol).

PhD in archaeology (University of Pretoria).

Compiled for:

Marenica Ventures (Pty) Ltd

October 2025

Table of Contents

Table of Figures

List of Tables

DECLARATION

We hereby declare that we do:

1. Have knowledge of and experience in conducting archaeological assessment, including knowledge of Namibian legislation, specifically the National Heritage Act (27 of 2004), as well as regulations and guidelines that have relevance to the proposed activity;
2. Perform the work relating to the application objectively, even if this results in views and findings that are no favourable to the applicant;
3. Comply with the aforementioned Act, relevant regulations, guidelines, and other applicable laws. We also declare that we have no interest or involvement in:

   (i) the financial or other affairs of either the applicant or his consultant; and

   (ii) the decision-making structures of the National Heritage Council of Namibia.

Signed by:

Dr E.S.Mowa

Key Concepts and Terms

Periodisation: Archaeologists divide the different cultural epochs according to the dominant material finds for the different time periods. This periodisation is usually region-specific, such that the same label can have different dates for different areas. This makes it important to clarify and declare the periodisation of the area one is studying.

These periods are nothing a little more than convenient time brackets because their terminal and commencement are not absolute and there are several instances of overlap. In the present study, relevant archaeological periods are given below;

Early Stone Age (~ 2.6 million to 250 000 years ago)

Middle Stone Age (~ 250 000 to 40-25 000 years ago)

Later Stone Age (~ 40-25 000, to recently, 100 years ago)

Early Iron Age (~ AD 200 to 1000)

Late Iron Age (~ AD1100-1840)

Historic (~ AD 1840 to 1950, but a Historic building is classified as over 60 years old)

Definitions Just like periodisation, it is also critical to define key terms employed in this study. Most of these terms derive from Namibian National Heritage legislation and its ancillary laws, as well as international regulations and norms of best-practice. The following aspects have a direct bearing on the investigation and the resulting report.

Cultural (heritage) resources are all non-physical and physical human-made occurrences and natural features that are associated with human activity. These can be singular or in groups and include significant sites, structures, features, Eco facts and artefacts of importance associated with the history, architecture or archaeology of human development.

Cultural significance is determined by utilising aesthetic, historic, scientific, social or spiritual values for past, present or future generations.

Value is related to concepts such as worth, merit, attraction or appeal, concepts that are associated with the (current) usefulness and condition of a place or an object. Although significance and value are not mutually exclusive, in some cases the place may have a high level of significance but a lower level of value. Often, the evaluation of any feature is based on a combination or balance between the two.

Isolated finds are occurrences of artefacts or other remains that are not in situ or are located apart from archaeological sites. Although these are noted and recorded, but do not usually

constitute the core of an impact assessment, unless if they have intrinsic cultural significance and value.

In-situ refers to material culture and surrounding deposits in their original location and context, for example, an archaeological site that has not been disturbed by farming.

Archaeological sites/materials are remains or traces of human activity that are in a state of disuse and are in, or on, land and which are older than 100 years, including artefacts, human and hominid remains, and artificial features and structures. According to the Namibia National Heritage Act (NNHA) (Act No. 27 of 2004), no archaeological artefact, assemblage or settlement (site) and no historical building or structure older than 60 years may be altered, moved or destroyed without the necessary authorisation from the National Heritage Council or a provincial heritage resources authority.

Historic materials are remains resulting from human activities, which are younger than 100 years, but no longer in use, including artefacts, human remains and artificial features and structures.

Chance finds means archaeological artefacts, features, structures or historical remains accidentally found during development.

A grave is a place of interment (variably referred to as burial) and includes the contents, headstone or another marker of such a place, and any other structure on or associated with such place. A grave may occur in isolation or in association with others where it is referred to as being situated in a cemetery (contemporary) or burial ground (historic).

A site is a distinct spatial cluster of artefacts, structures, and organic and environmental remains, as residues of past human activity.

Heritage Impact Assessment (HIA) refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project, which requires authorisation of permission by law and which may significantly affect the cultural and natural heritage resources. Accordingly, an HIA must include recommendations for appropriate mitigation measures for minimising or circumventing negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

The impact is the positive or negative effects on cultural heritage.

Mitigation is the implementation of practical measures to reduce and circumvent adverse impacts on heritage or enhance the beneficial impacts of an action.

Mining heritage sites refer to old, abandoned mining activities, underground or on the surface, which may date from the pre-historical, historical or the relatively recent past.

Study area or 'project area' refers to the area where the developer wants to focus its development activities (refer to plan).

Phase I studies refers to surveys using various sources of data and limited field walking to establish the presence of all possible types of heritage resources in any given area.

Acronyms

Table 1; Acronyms and Definitions table

Abbreviation/Acronyms	**Description/Definition**
AIA	Archaeological Impact Assessment
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
HIA	Heritage Impact Assessment
LIA	Late Iron Age
NHA	Nation Heritage Act, Act 27 of 2004
SM	Site Manager
NHCN	National Heritage Council of Namibia
ESA	Later Stone Age
EPL	Exclusive Prospecting Licence
ECC	Environmental Clearance Certificate
CFP	Chance Find Procedure
EMA	Environmental Management Act No.7 of 2007
ML	Mining licence

SUMMARY

A combined field survey and desktop-based Heritage Impact Assessment was conducted for the proposed exploration activities on EPL 8791. The assessment took into account that earlier exploration efforts had already taken place within the EPL area, which may have disturbed or destroyed any archaeological materials present on the surface. Nevertheless, apart from zones impacted by previous activities, the EPL was generally found to contain minimal archaeological material, as detailed in the findings. Most of the recorded archaeological sites and artifacts were located outside the boundaries of the EPL.

1. Introduction

ESM Archaeological and Heritage Consultants was sub-contracted by ECC Environmental Compliance Consultancy (Pty) Ltd to conduct a Heritage Impact Assessment for the proposed exploration activities on Exclusive Prospecting License 8791 located North-West of Usakos, Erongo Region, Namibia. The Exclusive Prospecting License is located on the west side of the Spitzkoppe Mountain Ranges.

This HIA study, therefore, serves as one of the baseline reports produced to assess the impacts of development on the sensitive heritage landscapes at a local and regional scale on the EPL. Consequently, it is expected that the devised mitigation measures will aim at preventing possible disturbances, alterations, damages, and the destruction of the sensitive heritage landscapes within the areas.

The main objective of this assignment is to conduct a HIA on the Exclusive Prospecting License (EPL) 8791. The assessment reported here is intended to identify existing desktop archaeological sites that could be affected by the exploration activities by Marenica Ventures Pty (Ltd). Archaeological assessment forms the basis of recommended management actions to avoid or reduce negative impacts, as part of the environmental assessment. In particular, the assessment addresses the following objectives:

1. The identification and assessment of potential impacts on archaeological/heritage resources arising from the prospecting activities.

2. The identification and demarcation of sensitive archaeological/heritage sites requiring special mitigation measures to eliminate, avoid, or compensate for possible destructive impacts.
3. Formulation and motivation of specific mitigation measures for Prospecting activities on EPL 8791.

2. Site description and location

The EPL 8791 lies in a remote, sparsely populated desert area northwest of Klein Spitzkoppe, within the #Gaingu Conservancy. The EPL coverage includes #Gaingu Conservancy and Farm Marencia.

The assessment team acknowledges that a narrow portion of EPL 8791 intersects the boundary of privately owned farmland (Farm Marencia). Due to accessibility issues , no assessment work was conducted on this section yet. However, this limitation does not present a significant heritage risk, as this section represents a marginal boundary zone and does not form a large part of the planned active exploration area at this stage. The proponent is however, advised to commit to engaging the landowner to obtain access prior to any future work in that area, and, if access is granted, a supplementary heritage walk-through assessment is recommended before any exploration activities commence at Farm Marencia. In addition, the project will implement a Chance Finds Procedure that will remain active across the entire EPL, including the farm boundary zone, ensuring compliance with the National Heritage Act (Act 27 of 2004). This approach ensures responsible project progression while maintaining heritage protection and stakeholder respect.

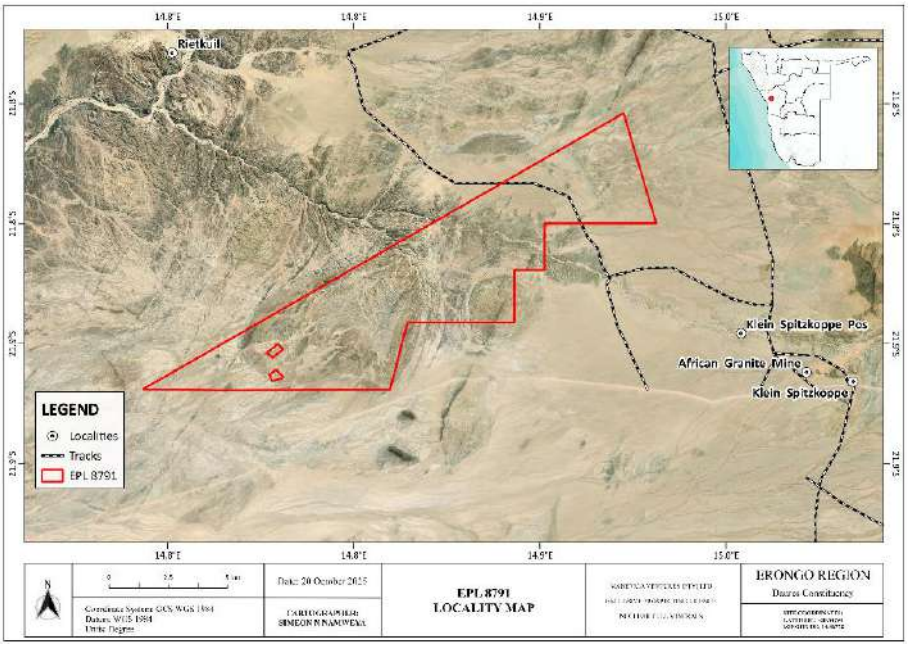


Figure 1: Locality map of the EPL 8791

Vegetation of Site

Figure 2: Vegetation type within the EPL

3. Assumptions and Limitations

This archaeological assessment relies on inference used to inform assessment harvested from heritage records from the National Heritage Council, archaeological GIS spatial data from reports, publications, and GIS data obtained from a series of research and records that have been substantially exposed during the last decades, by a series of detailed archaeological assessments carried out.

4. Legal requirement

The government of the Republic of Namibia enacted the National Heritage Act (No. 27 of 2004) as a legal instrument to provide for the protection of heritage resources. Heritage resources imply both sites and objects of archaeological, paleontological, and rare geological objects (including meteorites); ethnographical, historical (including military objects, historic graves, or sacred sites), shipwrecks; built monuments of significant architectural heritage, and objects of scientific interest. The developed operational guidance, the "Interim Guidelines for Heritage Consultants" [1] has been formulated to implement the National Heritage Act concerning archaeological assessment. Further, a critical provision of the Heritage Act is section 46, which "prohibits the locating, removal, damage, alteration or excavation of heritage sites or remains" defined in the Act as "any remains of human habitation or occupation that are 50 or more years old found on or beneath the surface"[2] without a heritage permit. Section 48 of the Act provides the procedure for the application and granting of permits that are required in the event of damage to a significant site occurring as an inevitable result of development, while Sections 53(7) and 55(8) of the Heritage Act relate to the application of a Consent for works and activities subject to an environmental impact assessment. Moreover, archaeological impact assessment of mineral exploration is included in the category of "any other development or activity that may change the character of an area of land" as outlined in section 54 (6) of the National Heritage Act, which needs to be subjected to a HIA.

Another relevant legal instrument where the archaeological impact assessment in Namibia is required is the Environmental Management Act, (No. 7 of 2007), whose definition of "anthropogenic elements'' is intricately included in the "environment' definition. Consequently, the list of activities that may not be undertaken without an Environmental Clearance Certificate applies to the management of impacts on archaeological sites and remains, whether these are considered in detail by the environmental assessment or not (Kinahan 2012). Internationally, appropriate operational guidelines include those from the World Bank OP/ BP 4.11 in respect of "Physical Cultural Resources" (R2006-0049, revised April 2013) and the World Heritage Convention (1972).

[1] Guidelines for Heritage Impact Assessment, National Heritage Council, September 2021.
[2] Part 1, Definitions 1 of the National Heritage Act, (No. 27 of 2004).

5. Methodology

The report was both field and desktop-based heritage impact assessment that was informed by a field survey of the proposed EPL and the use of both primary and secondary data sources to ensure a comprehensive understanding of the potential heritage context of the project area. The field survey involved a ground assessment of the EPL area, using non-invasive methods to observe heritage resources. In accordance with the Heritage Act of 2004, heritage resources include old buildings, artifacts over 50 years old, graves, and palaeontological or archaeological features such as rock art, caves, and stone tools. GPS devices were employed to record the geographic locations of identified features, while a camera and an archaeological photographic scale were used to document them visually. Moreover interviews with local community members, though outside the EPL were conducted to obtain the context of the heritage resources within the area surrounding the EPL. The desktop phase of the study mainly entailed an in-depth review and analysis of existing literature, records, and data concerning the archaeological and cultural context of EPL 8791. Secondary sources, including published archaeological reports, previous heritage assessments, academic studies, and government archives, were examined to identify any previously recorded heritage sites or culturally important features within or around the project area. Furthermore, literature focusing on the cultural practices, social structures, and economic activities of local communities on the island was carefully reviewed. This encompassed research on traditional land use, sacred sites, intangible cultural heritage (such as rituals, beliefs, and oral traditions), and the historical development and settlement patterns within EPL 8791. By employing this comprehensive approach, the study sought to contextualise the heritage sensitivity of the area and ensure that potential impacts of the proposed development on cultural and heritage assets were properly addressed. Table 2: Ranking scales for archaeological significance and vulnerability by (QRS, Kinahan 2012).

Significance Rating	Vulnerability Rating
0. No archaeological, paleontological and historic significance **1.** Disturbed or secondary context, without diagnostic materials	**0.** Not Vulnerable **1.** No threat posed by current or proposed development activities **2.** Low or indirect threat from possible consequences of development (e.g. soil erosion);

2. Isolated minor find in undisturbed primary context, with diagnostic materials 3. Archaeological, paleontological & historical site (s) forming part of an identifiable local distribution or group 4. Multi-component site (s), or central site (s) with high research potential 5. Major archaeological, paleontological & historical site (s) containing unique evidence of high regional significances	3. Probable threat from inadvertent disturbance due to proximity of development 4. High likelihood of partial disturbance or destruction due to close proximity of development 5. Direct and certain threat of major disturbance or total destruction

Table 2: Assessment criteria for the evaluation of cumulative impacts on archaeological sites developed by (QRS, Kinahan 2012).

CRITERIA	CATEGORY	DESCRIPTION
Extent or spatial influence of impact	National Regional Local	Within Namibia Within the Region On site or within 200m of the site impact
Magnitude of impact (at the indicated spatial scale)	High Medium Low Very Low Zero	Social and/or natural functions and/ or processes are severely altered Social and/or natural functions and/ or processes are notably altered Social and/or natural functions and/ or processes are slightly altered Social and/or natural functions and/ or processes are negligibly altered Social and/or natural functions and/ or processes remain unaltered
Duration of impact	Short Term Medium Term Long Term	Up to 3 years 4 to 10 years after construction More than 10 years after construction

6 Archaeological Setting

The Erongo Region is rich in archaeological sites and heritage resources, hosting numerous well-documented locations such as the Brandberg, Leopard's Cave, and the Petrified Forest.

Among these, the Brandberg Mountain National Area—currently under consideration as a potential UNESCO World Heritage Site, is a significant archaeological feature located within the regional boundaries of the proposed development area. Archaeological evidence indicates that the San communities, as well as Namibians at large, regard this mountain as a sacred site.

Situated at the base of the mountain in the Tsiseb Ravine lies the famous “White Lady” rock painting, the area’s main tourist attraction. The painting is located on a rock surface beneath a small overhang. The ravine itself contains over 1,000 rock shelters and more than 50,000 individual paintings.

In total, the Erongo Region hosts around 150 registered heritage sites and is particularly rich in both recent and Iron Age cultural remains. Furthermore, approximately 37 sites in the region are recognised as national monuments, as listed by the National Heritage Council of Namibia. The EEPL in question is located within the locale of Spitzkoppe.

The Spitzkoppe area, situated within Namibia’s Erongo Region, is an archaeologically and culturally significant landscape that preserves a rich record of Later Stone Age hunter-gatherer occupation associated with the San peoples. The granite inselbergs and rock shelters surrounding Spitzkoppe contain numerous rock art sites, primarily consisting of paintings depicting humans, animals, and composite figures that are interpreted within the context of San spiritual and shamanic traditions (Pager, 1989; Lewis-Williams & Dowson, 1989).

Stone artifacts such as microliths, scrapers, and backed tools, as well as shards of ochre and grinding stones, have also been found during archaeological excavations, suggesting subsistence processing and pigment manufacture (Clark, 1954; Kinahan, 1991). Mobile hunter-gatherer populations used the rock shelters of the Spitzkoppe and nearby Erongo Mountains as temporary residences because they provided hunting grounds, water access, and shelter in an otherwise parched environment (Becker, 2017).

9. Results and Observations

No archaeological or cultural heritage materials were recorded within the assessed boundaries of the EPL during the field assessment (*refer to figure 3*). The identified features within the EPL primarily consist of evidence from previous exploration activities, including drill holes and related surface disturbances. These features lack archaeological significance. Sites of cultural or historical value were mainly observed outside the EPL boundary, mainly in areas associated with past or existing community settlements.

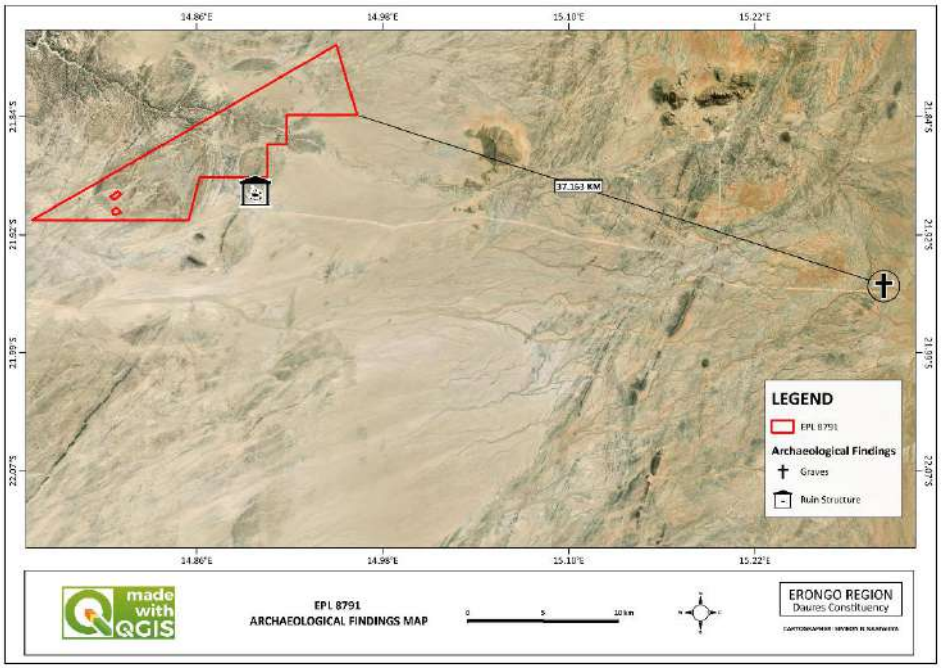


Figure 3: Map of archaeological findings identified during field assessment

Findings observed during field assessment:

Figure 4: Old ruin structure

Remains of a historical stone-built feature, most likely associated with colonial-era or early 20th-century pastoral epoch. Based on the unfinished structure one might suggest a utilitarian function such as a temporary dwelling, livestock enclosure, storage facility or outpost structure likely associated with early farming. However it is important to note the ruin structure was identified outside the EPL as observed in figure.

Figure 5: Family grave site

The above includes grave sites belonging to a family, located 37 km away from the EPL (*refer to figure 3*). Although a portion of the EPL falls within the #Gaingu Conservancy, where dispersed rural homesteads and small settlement clusters occur, increasing the possibility of encountering isolated grave sites or family burial areas commonly associated with traditional land use practices, it is important to emphasise that the EPL is located at a considerable distance from established settlements and known national heritage resources. The field survey confirmed that the proposed exploration area **does not** overlap with culturally sensitive habitation zones, communal areas, or documented grave sites. While the broader conservancy landscape may contain heritage features linked to ancestral traditions, the remote setting of the EPL significantly reduces the likelihood of direct impact. As a precautionary measure, the proponent is advised to implement a **Grave and Burial Site Mitigation Protocol** as part of the **Chance Finds Procedure**. In the event that a burial is uncovered, exploration activities will immediately cease in the vicinity of the finding, the area will be secured, and the National Heritage Council and relevant traditional authorities will be notified for guidance and appropriate management in line with the National Heritage Act (Act 27 of 2004). This approach ensures protection of cultural values while allowing the project to proceed responsibly.

9.1. Stakeholder Engagement

As part of the heritage assessment process, the consultant conducted informal consultations with members of the local community residing within the #Gaingu Conservancy. During these engagements, a local couple voluntarily guided the assessment team to a family grave site located within their settlement area. The graves, marked by simple stone alignments and tombstones, were confirmed by the community members to belong to their relatives who had passed away over several decades. The community representatives explained that such graves are typically found within or adjacent to homestead areas as part of local cultural practice, and they further emphasized that known burial sites are concentrated around existing settlements and not within the boundaries of EPL 8791. They also indicated that other cultural heritage resources, including rock art sites and ritual shelters, are primarily located in the Spitzkoppe mountain area, which is recognised locally as a place of cultural and historical importance. These consultations support the field survey findings and confirm that no heritage resources of concern were identified within the section of the EPL surveyed, while also highlighting the importance of continued engagement with residents to ensure the protection of culturally significant sites.

Table: Coordinates of Archaeological Findings.

Archaeological Findings	Coordinates
Grave site	21° 56'55.9" S 15° 18' 11.4" E
Old Ruin Structure	21° 53' 18.6" S 14° 53' 51.8" E

This Heritage Impact Assessment has identified the likely existence of various heritage resources in the broader area surrounding EPL 8791. These include both tangible heritage, such as sacred sites, traditional landmarks, and places of cultural significance, and intangible heritage, including local cuisines, traditional dances, oral histories, and belief systems that form part of the community's cultural identity.

10. Management actions

Since the area designated for the proposed upgrade has already been extensively disturbed by the construction and long-term use of the existing aerodrome, it is unlikely that any significant heritage resources remain intact within the immediate project footprint, particularly the surface. Previous development activities likely displaced or destroyed most surface or near-surface cultural materials. It is critical to note that part of EPL 8791, which forms part of Farm Marencia, was not assessed due to accessibility challenges. As such issuance of consent need to take note of this aspect.

The potential for encountering buried or subsurface heritage resources, though low, cannot be completely dismissed. Therefore, as a precaution, all upgrade activities should be conducted with awareness of the possibility of uncovering unexpected buried heritage materials. Additionally, though heritage resources were found outside the EPL, the GPS coordinates of identified heritage resources have been provided to ensure that the proponent avoids disturbing these areas through access roads or related project infrastructure. We recommend a one kilometre radius as a buffer zone free from any access road or related project developments.

If any archaeological materials, human remains, or other heritage resources are unearthed during upgrade activities or ground-disturbing activities, all work in the affected area must be halted immediately. The discovery should then be reported to the relevant heritage authority without delay, and the **Chance Finds Procedure** outlined below must be followed to ensure that such findings are managed under national heritage legislation and best practice protocols.

1. <u>Chance Finds Procedure (CFP) management guideline:</u>

   These assessments were desktop-based, and field surveys were carried out, therefore; significant subsurface heritage resources might be discovered in the course of upgrade activities. On-site personnel and contractors must be sensitized to recognize “chance finds heritage” in the course of their work. The procedure set out here covers the reporting and management of such finds. The CFP covers the actions to be taken from the discovery of a heritage site or object to its investigation and assessment by a trained archaeologist. The CFP is intended to ensure compliance with the relevant provisions of the National Heritage Act (27 of 2004), especially Section 55 (4): “a person who discovers any archaeological objects must as soon as possible report the discovery to the council”. The procedure of reporting set out below must be observed so that heritage materials are reported to the authorities.

A. Responsibilities:

Operator To exercise due caution if archaeological remains are found

Foreman To secure site and advise management timeously

Superintendent To determine safe working boundary and request inspection

Archaeologist To inspect, identify, advise management, and recover remain

B. Procedure:

Action by the person (operator) identifying archaeological or heritage material

- If operating machinery or equipment: **stop work**
- Identify the site with flag tape
- Determine GPS position if possible
- Report findings to foreman

C. Action by foreman:

- Report findings, site location and actions are taken to the superintendent
- Cease any works in the immediate vicinity

D. Action by superintendent

- Visit the site and determine whether work can proceed without damage to findings;
- Determine and mark the exclusion boundary
- Site location and details to be added to the Archaeological Heritage database system

E. Action by archaeologist

- Inspect site and confirm the addition to AH database system;
- Advise National Heritage Council and request a permit to remove findings;
- Recovery, packaging and labelling of findings for transfer to National Museum.

F. In the event of discovering human remains

- Actions as above;
- Field inspection by archaeologist to confirm that remains are human;
- Advise and liaise with NHC Guidelines; and
- Recovery of remains and removal to National Museum or National Forensic Laboratory, or as directed.

11. Conclusion

Based on the results of the archaeological field assessment, no archaeological or cultural heritage sites were identified within the assessed areas of EPL 8791. The surveyed area is largely characterised by disturbed and geologically exposed terrain with minimal evidence of past human occupation. The few archaeological sites observed during the assessment were located **outside** the EPL boundary, predominantly in areas associated with historical and contemporary settlements. This distribution pattern is consistent with regional settlement trends, as communities have historically established themselves near permanent water sources and habitable terrain situated **beyond** the EPL limits. Furthermore, the most archaeologically

significant sites in the broader area particularly rock art shelters and Later Stone Age occupational sites are concentrated around the **Spitzkoppe mountains**, which are known to represent a major cultural landscape of high heritage value due to the number of archaeological findings located within it. The project recognises the cultural value of the Spitzkoppe to descendant communities and Namibia's national heritage and is fully committed to implementing chance find procedures, consultation with the National Heritage Council, and heritage monitoring during ground disturbance activities.

In light of this, it is recommended that approval or consent for the proposed exploration activities to be granted, subject to it being confined to the surveyed area, excluding Farm Marenca, and also that the **Chance Find Procedure** is strictly implemented. This protocol ensures that if any unexpected heritage materials, human remains, or artefacts are encountered during exploration, appropriate steps will be taken to report the find, halt work in the area, and engage with the relevant heritage authorities for assessment and guidance in line with applicable heritage legislation.

References

1. Kinahan, J. 2011. From the beginning: the archaeological evidence. In Wallace, M. and Kinahan, J. A history of Namibia: from the beginning to 1990. London: Hurst & Co., pp 15-44.

2. Kinahan, John. 2012. Archaeological Guidelines for Exploration & Mining in the Namib Desert, the Namibia Archaeological Trust.

3. Kinahan John. 2021. Archaeological assessment of proposed mining license claims 71609-71617 located on farms Sukses and Hakskeen, and an area of interest located on farm Trekopje within EPL 5161, Erongo region, Namibia.

4. Katjavivi, P. (1998). A History of Resistance in Namibia

5. National Heritage Act 27 of 2004.2004. Government Gazzete, Republic of Namibia.

6. Shamunkuni, N. (1972). History and Culture of the Subiya People

7. Smith, A. (1956). The Ancient Peoples of Southern Africa

8. Stals, E. (1988). Natural Monuments of Namibia