













ECC-117-323-REP-02-A

# EXPLORATION ACTIVITIES ON EPL 7935 (ETJO GOLD PROJECT)

FOR BASE AND RARE METALS, AND PRECIOUS METALS

PREPARED FOR

CHEETAH MINERALS EXPLORATION (PTY) LTD



# TITLE AND APPROVAL PAGE

**Project Name:** Proposed exploration activities on EPL 7935 for base and rare metals, and precious

metals within the Otjozondjupa Region

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Authors: Dr Pierré Smit

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#### **ENVIRONMENTAL COMPLIANCE CONSULTANCY CONTACT DETAILS:**

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

Stephan Bezuidenhout Jessica Bezuidenhout (Mooney)

Environmental Consultant & Practitioner Environmental Consultant & Practitioner

Tel: +264 81 669 7608 Tel: +264 81 669 7608

Email: <a href="mailto:stephan@eccenvironmental.com">stephan@eccenvironmental.com</a>
Email: <a href="mailto:jessica@eccenvironmental.com">jessica@eccenvironmental.com</a>

www.eccenvironmental.com www.eccenvironmental.com

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# **EXECUTIVE SUMMARY**

Cheetah Minerals Exploration (Pty) Ltd (herein referred to as the proponent), intends to undertake exploration activities on Exclusive Prospecting Licence (EPL) 7935 for base and rare metals, and precious metals in the Otjozondjupa Region, in an area northwest of Okahandja and east of Omaruru.

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

The proposed exploration activities on EPL 7935 may include geological mapping, soil sampling, ground and airborne geophysical surveys, and exploration drilling in selected target areas. Some limited bush-clearing may be required, for the creation of working areas and access tracks where necessary. All sites of activity will be managed according to stringent environmental requirements that the proponent upholds in its exploration projects. Access agreements will be entered into with all landowners where access might be required.

The exploration activities will commence as soon as an environmental clearance certificate has been granted by the Environmental Commissioner and activities are expected to be conducted over a 3-year period, which is the duration of the exploration licence. However, the period of each phase of the exploration programme may vary and will be refined as geological information becomes available. In the event that exploration is successful, and a commercially viable mineral resource is defined, exploration operations can potentially transcend into mining operations. This phase will involve application for a Mining Licence and will be assessed in a separate and detailed environmental impact assessment at the appropriate stage.

EPL 7935 is covered with the Thornbush Shrubland vegetation type of the Acacia tree-and-shrub savanna subbiome (Figure 9). Most of the woody vegetation vary between 1 and 5m in height. Bush encroachment is noticeable, mainly on farmland exposed to continuous periods of selective grazing by livestock. Overall terrestrial biodiversity where EPL 7935 is located, ranges from medium to low. On a local scale it is expected that diversity increases with the increase in habitats, which is closely coupled to shelter, food and water availability and migration routes. Elevation and water availability play a prominent role in this regard and is directly related to the increase in terrestrial diversity towards the west. Erindi Private Game Reserve is located to the west of the EPL.

EPL 7935 is located in an area without any noticeable tributaries of the Omaruru River to the west or tributaries of the Omatako River to the east. EPL 7935 is located in the Okahandja Groundwater Basin and the general direction of the groundwater flow is east to northeast. This basin shows a generally moderate potential of groundwater with an increased potential to the east.

This study concluded that a potential environmental risk, which may require further investigation, is related to the cumulative impacts as a result of physical disturbance, nuisance of noise and dust and the loss of sense of place. Receptors are landowners and their neighbours. Impacts with respect to airborne dust are expected to be limited to vehicular traffic and drilling activities. There will be some release of exhaust fumes from machinery that will impact the immediate vicinity but will be of short duration. Additionally, there will be associated drilling and machinery noise, which could be a disturbance to immediate neighbours, but this will be of short duration. Through further investigation, it was determined that the visual disturbance and temporary qualitative reduction in the sense of place is considered to be of moderate significance, however with additional mitigation, the significance can be reduced to minor. These additional mitigation measures include:

 Positioning of drill equipment in such a way that it is out of sight from human receptors, where possible;



- Barriers or fences shall be used if drilling occurs in locations that may affect residents or livestock;
- Restrict excessive noise and dust to areas of activity only;
- Restrict activities to daylight working hours;
- Residents need to be informed at least two weeks in advance that drilling operations are within 1km of their property; and
- Continual engagement with residents to identify any concerns or issues, and appropriate mitigation and management measures agreed upon.

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

- Implementation of security plans in cooperation with organizations such as Intelligence Support Against Poaching (ISAP), Namibian Police and Farmers Associations;
- Restrict the movements and activities of people and vehicles to areas of activities only and restrict activities and movements to daytime hours;
- Provide appropriate information, training and awareness about fire, poaching, stock theft and collecting of organisms;
- Strict contractor management plans and program to be put in place; and
- Continual engagement with residents to identify any concerns or issues, and appropriate mitigation and management measures agreed upon.

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



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# **LIST OF ACRONYMS AND ABBREVIATIONS**

ABBREVIATIONS	DESCRIPTION
AEM	Airborne electromagnetic
AIDS	Acquired Immune Deficiency Syndrome
AMT	Audio Magneto Telluric
CAA	Civil Aviation Authority
COVID19	Corona Virus Disease 2019
DEA	Directorate of Environmental Affairs
ECC	Environmental Compliance Consultancy
EM	Electromagnetic
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPL	Exclusive Prospecting Licence
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
GDP	Gross Domestic Product
GSN	Geological Survey of Namibia
HIV	Human Immunodeficiency Virus
I&AP	Interested & Affected Party
IFC	International Finance Corporation
IHME	Institute for Health Metrics and Evaluation
IP	Induced Polarization
ISAP	Intelligence Support Against Poaching
MAWLR	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
MoHSS	Ministry of Health and Social Services
MME	Ministry of Mines and Energy
MPMRC	Minerals (Prospecting and Mining Rights) Committee
NDP5	National Development Plan five
NSA	National Statistics Agency
NTS	Non-Technical Summary
RAB	Rotary Air Blast
SOP	Standard Operational Procedure



ABBREVIATIONS	DESCRIPTION
ТВ	Tuberculosis



# 1 INTRODUCTION

## 1.1 PROJECT OVERVIEW

EPL 7935 is located northwest of Okahandja in the Otjozondjupa Region. Omaruru is located to the west and Otjiwarongo to the northeast of the EPL (Figure 1).

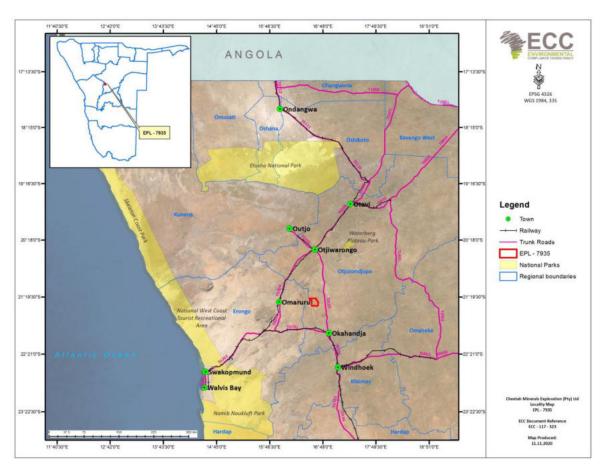


FIGURE 1 - EPL 7935 LOCALITY MAP

The proposed project aims to undertake mineral exploration activities on the said EPL for base and rare metals, and precious metals, which are described in detail throughout the report.

Figure 2 provides more detail about the location of EPL 7935 in relation to the access routes. Access is possible from Omaruru in the west while access from the B1 in the east is possible via the district roads D2187 and the D2414. EPL 7935 is located directly south of EPL 7729 and about 15 km west of the B1. The Erindi Private Game Reserve is located to the west of the EPL.



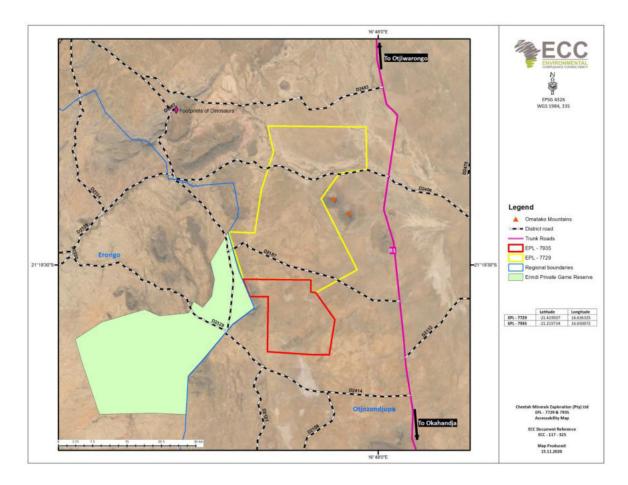


FIGURE 2 – LOCATION OF EPL 7935 IN TERMS OF ACCESS ROUTES

## 1.2 SCOPE OF WORK

Environmental Compliance Consultancy (ECC) has been engaged by the proponent, to undertake the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) in terms of the Environmental Management Act, 2007 and its regulations.

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

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

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

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

- Provide a description of the proposed activity and the site on which the activity is to be undertaken, and the location of the activity on the site;
- Provide a description of the environment that may be affected by the activity;
- Identify the laws and guidelines that have been considered in the assessment and preparation of this report;



- Provide details of the public consultation process;
- Describe the need and desirability of the activity;
- Provide a high level of environmental and social impact assessment on feasible alternatives that were considered; and
- Report the assessment findings, identifying the significance of effects, including cumulative effects.

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

# 1.3 THE PROPONENT OF THE PROPOSED PROJECT

Cheetah Mineral Exploration (Pty) Ltd is a Namibian company. The exploration program will be most likely be operated in a joint venture with Cheetah Mineral Exploration (Pty) Ltd.

The details of Cheetah Mineral Exploration (Pty) Ltd (the proponent) are set out in Table 1.

**TABLE 1 - PROPONENTS DETAILS** 

CONTACT	POSTAL ADDRESS	EMAIL ADDRESS	TELEPHONE
Cheetah Minerals Exploration (Pty) Ltd	P O Box 2055 Swakopmund	branko@iafrica.com.na	+264 81 124 6757
	Namibia		

## 1.4 Environmental compliance consultancy

ECC, a Namibian consultancy (registration number Close Corporation 2013/11401), has prepared this scoping report, impact assessment and EMP on behalf of the proponent. ECC operates exclusively in the environmental, social, health and safety fields for clients across southern Africa, in both the public and private sectors. ECC is independent of the proponent and has no vested or financial interest in the proposed project, except for fair remuneration for professional services rendered.

All compliance and regulatory requirements regarding this EIA report should be forwarded by email or posted to the following address:

## **Environmental Compliance Consultancy**

PO BOX 91193 Klein Windhoek, Namibia

Tel: +264 81 669 7608

Email: info@eccenvironmental.com

## 1.5 ENVIRONMENTAL LEGAL REQUIREMENTS

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



## MINING AND QUARRYING ACTIVITIES (with relevance here only to exploration activities)

- The construction of facilities for any process or activities which requires a licence, right or other forms
  of authorisation, and the renewal of a licence, right or other forms of authorisation, in terms of the
  Minerals (Prospecting and Mining) Act, No. 33 of 1992.
  - The proposed project operates under a licence that permits for the construction of temporal exploration campsites, drill sites and access roads.
  - Furthermore, this listed activity infers the provisions of the Act under a different licence category as a basis upon which certain activities qualify for an EIA. The Act defines prospecting and exploration activities under the lawful ownership of an EPL. An EPL excludes any mining activities, but includes activities strictly relating to exploration work. Hence the current project strictly focuses on exploration and not mining.
- Other forms of mining or extraction of any natural resources whether regulated by law or not
  - Ground exploration activities may include soil and stream sediment geochemical sampling, geophysical surveys, geological mapping and drilling within EPL 7935.
- Resource extraction, manipulation, conservation, and related activities
  - o The proposed project will explore for base and rare metals, and precious metals.

#### WATER RESOURCE DEVELOPMENT

- The abstraction of ground or surface water for industrial or commercial purposes
  - Due to the exploration activities, groundwater will need to be abstracted, or sourced, particularly for the drilling phase. It is intended that water will be obtained from existing boreholes in the proposed project area, in liaison with landowners Any additional borehole drilled for the intention of abstracting water for use on site should be permitted by the authorities in the form of an abstraction permit.

## 1.6 TERMINOLOGIES APPLIED IN THIS REPORT

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

- REMOTE SENSING techniques in mineral exploration enable explorers to evaluate large areas of the earth remotely without having to undertake ground-based exploration operations. Remote sensing may be used to map the geology and structure that potentially localise the ore deposits, or may be used to identify rocks, which have been hydrothermally altered. Remote sensing involves the use of aircraft and satellite-based equipment to obtain the data to record spectral data from the surface of the earth. Remote sensing includes a number of tools and techniques including geographical information systems, radar and sonar. Typically, satellites or a high-flying aircraft are used in the data collection process. It is a useful tool when searching for minerals and can give an indication of where deposits could be located. Remote sensing aids in narrowing down the field survey area and helps to identify target areas that may be considered for more.
- AIRBORNE GEOPHYSICAL SURVEYS, using magnetic, radiometric and electromagnetic techniques, are a key aspect in mineral exploration, enabling explorers to probe under cover, mapping geology and structure, including potentially direct identification of mineral deposits. Modern airborne geophysical surveys are flown at a low level in a grid pattern, adhering fully to the safety margins prescribed by the Civil Aviation Authority (CAA) of Namibia.
- **GEOLOGICAL MAPPING** of outcrops is used to describe the primary lithology and morphology of rock bodies as well as age relationships between rock units. Mapping is a crucial part of refining subsurface



targets, as it provides structural information and can be used to predict the subsurface geology. This will be conducted concurrently with the geochemical sampling.

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



# 2 METHODOLOGY AND APPROACH

## 2.1 Purpose and scope of the assessment

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

Scoping of the Environmental and Social Impact Assessment (ESIA) was undertaken by the ECC team. The scope of the assessment was determined through undertaking a preliminary assessment of the proposed project against the receiving environment obtained through a desktop review, available site-specific literature, monitoring data and site reports.

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

# 2.2 THE ASSESSMENT PROCESS AND METHODOLOGY

The EIA methodology applied here 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' (IFC, 2012), which establishes the importance of:

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

Furthermore, the Namibian Draft Procedures and Guidance for ESIA and EMP (GRN, 2008) as well as the international and national best practice; and over 25 years of combined EIA experience, were also drawn upon in the assessment process.

This impact assessment is a formal process (Figure 3) in which the potential effects of the project on the biophysical, social and economic environments are identified, assessed and reported, so that the significance of potential impacts can be taken into account when considering whether to grant approval, consent or support for the proposed project.



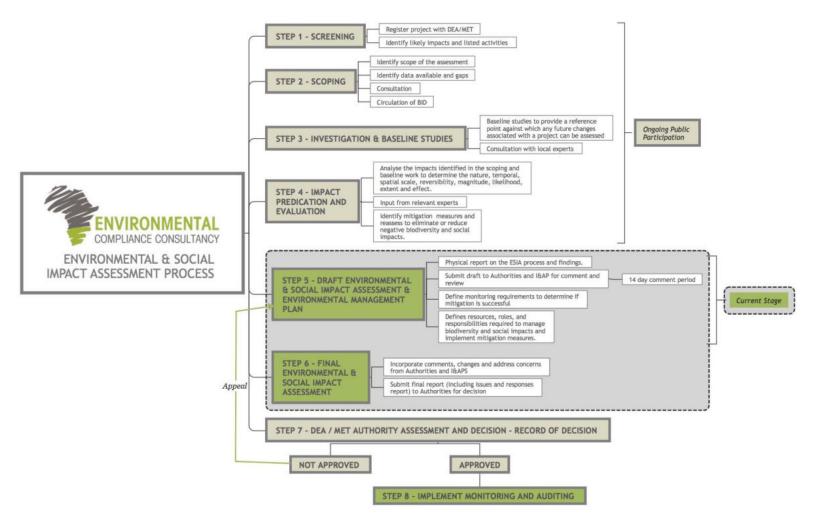


FIGURE 3 - ECC ESIA METHOD



## 2.3 SCREENING OF THE PROJECT

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

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

## 2.4 SCOPING OF THE ENVIRONMENTAL ASSESSMENT

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

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

Subsequently, scoping of the ESIA was undertaken by the EIA team. The scope of the assessment was determined through undertaking a preliminary assessment of the proposed project against the receiving environment obtained through a high-level desktop review. Feedback from consultation with the client and stakeholders also informed this process.

The following environmental and social topics and subtopics were scoped into the assessment, as there was potential for significant impacts to occur:

## SOCIO-ECONOMIC ENVIRONMENT

- Limited goods and services procurement within the local economy.
- Heritage

#### **BIOPHYSICAL ENVIRONMENT**

- Dust emissions
- Soil and geology
- Terrestrial ecology
- Terrestrial biodiversity (including fauna and flora)
- Groundwater (potential cumulative impact). Water management suggestions are contained in the EMP.

## **HERITAGE**

Although a desktop review of the national heritage database has not revealed any site of interest with a heritage connotation to it within the EPL, it is possible that sites with a paleontological value could be discovered during the exploration activities. For this reason, the EMP makes provision for a Standard Operating Procedure (SOP) called a chance find procedure to be utilised in case of a possible find.



## 2.5 BASELINE STUDIES

Baseline studies are undertaken as part of the scoping stage, which involves collecting all pertinent information from the current status of the receiving environment. This provides a baseline against which changes that occur as a result of the proposed project can be measured.

For the proposed project, baseline information was obtained through a desktop study, focusing on environmental receptors that could be affected by the proposed project, verified through site-specific information. The baseline information is covered in Section 5.

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

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

- Desktop studies;
- Consultation with stakeholders; and
- Engagement with Interested and Affected Parties (I&APs). See Appendix C.

## 2.6 IMPACT PREDICATION AND EVALUATION

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

# 2.7 ESIA CONSULTATION

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

The objectives of the stakeholder engagement process are to:

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

# 2.8 Interested and affected parties

EPL 7935 overlaps with several farms (Figure 4). Two district roads, the D2187 and the D2401 (Figure 2) run east-west north and south of the EPL respectively, and provide access to the farms that overlap with and border the EPL. The D2187 provides also access to the Erindi Private Game Reserve, which borders the EPL to the west. All owners of the farms that overlap or border EPL 7935 were identified as I&APs, as well as the relevant authoritative bodies. Other I&APs are identified through invitations such as the newspaper advertisements and site notices.



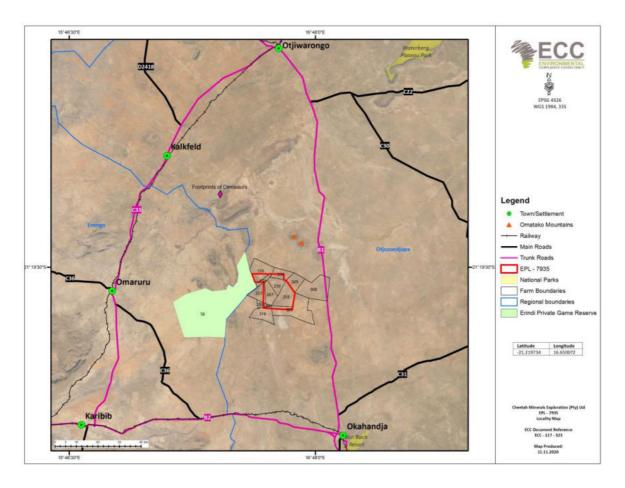


FIGURE 4 - FARMS OVERLAPPING AND BORDERING EPL 7935

## 2.9 SITE NOTICES

A site notice ensures neighbouring properties and stakeholders are made aware of a proposed project. Site notices were set up at a strategic location along the main access routes to the EPL. A copy of the site notice is illustrated in Appendix C.

# 2.10 NEWSPAPER ADVERTISEMENTS

Notices regarding the proposed project and associated activities were circulated in three newspapers namely the 'Republikein', Allgemeine Zeitung' and 'Namibian Sun" on 17 and 24 November 2020. The purpose of this was to commence the consultation process and enable I&APs to register an interest with the project. The adverts can be found in Appendix C.1.

## 2.11 Non-technical summary

The Non-Technical Summary (NTS) presents a high-level description of the proposed project; sets out the ESIA process and when and how consultation is undertaken; and provides contact details for further project-specific inquiries to all registered I&APs. The NTS was distributed to all registered I&APs and the NTS can be found in Appendix B.

## 2.12 SUMMARY OF ISSUED RAISED

All comments received from the initial public participation phase involving the notifications of the project through media such as the newspaper adverts, direct mail sent to identified I&APs and the display of site notices will be



contained in an Addendum report. Moreover, the most pertinent issues brought forward will be addressed and summarised here.

The key areas raised from the review can be summarised in the following categories:

- Vagueness of some mitigation measures: Stakeholders highlighted this to be a concern and wish to be
  provided with specific measures and plans that the proponent will enforce. The concerns include the issue of
  veld fires, poaching, potential conflicts with farm owners and neighbours as well as contamination of the soil,
  surface and groundwater.
  - ✓ ECC conducted further research and included information in the ESIA report to address this concern.
- Details about the joint venture: The stakeholders demanded to be informed on further details (i.e., name(s), nationality) of the probable joint venture that was mentioned in the documents.
  - ✓ Cheetah Minerals, being the EPL holder, is the responsible party in all respects. It should be stated that a joint venture is not formed yet, and until such a joint venture is formed, if at all, Cheetah Minerals remains the only responsible party.

## 2.13 DRAFT ESIA AND EMP

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

The ESIA report documents the findings of the assessment process, provides stakeholders with the opportunity to comment and continue consultation and forms part of the environmental clearance application. The EMP provides measures to manage the environmental and social impacts of the proposed project and outlines specific roles and responsibilities to fulfil the plan.

This ESIA report focuses on the significant impacts that may arise from the proposed project as described in Step 4 (Figure 3). These impacts are discussed in Chapter 6.

This ESIA report is open to stakeholders and I&APs for consultation for a period ending on the 22<sup>nd</sup> January 2021, exceeding the mandatory requirement of 7 days as set out in the Environmental Management Act, No. 7 of 2007 and its regulations, including the Environmental Impact Assessment Regulations, No. 30 of 2012. The aim of this stage was to ensure all stakeholders and I&APs have the opportunity to provide final comments on the assessment process and findings and register their concerns.

## 2.14 FINAL ESIA AND EMP

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

# 2.15 AUTHORITY ASSESSMENT AND DECISION MAKING

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

## 2.16 Monitoring and Auditing

DECEMBER 2020

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



# 3 REGULATORY FRAMEWORK

This chapter outlines the regulatory framework applicable to the proposed project. Table 2 provides a list of applicable legislation and the relevance to the project. An environmental clearance is required for any activity listed as per Government Notice No 29 of 2012 of the EMA.

## 3.1 NATIONAL LEGISLATION

**TABLE 2 - LEGAL FRAMEWORK** 

DECEMBER 2020

TABLE 2 - LEGAL F	TABLE 2 - LEGAL FRAMEWORK		
NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT	
Constitution of the Republic of Namibia of 1990	The Constitution of the Republic of Namibia, 1990 clearly defines the country's position in relation to sustainable development and environmental management. The constitution refers that the state shall actively promote and maintain the welfare of the people by adopting policies aimed at the following:  "Maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present, and future"	The proponent is committed to engage the local community for the proposed project by providing local opportunities, as well as exploring for recourses that could be to the benefit of Namibians.	
Minerals (Prospecting and Mining) Act, No. 33 of 1992	Provides for the reconnaissance, prospecting and mining for, disposal of, and the exercise of control over minerals in Namibia.  Section 50 (i) requires "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"  Section 50 sets out that in addition to any term and condition contained in a mineral agreement and any term and condition contained in any mineral licence, it shall be a term and condition of any mineral licence that the holder of such mineral licence shall:  - Exercise any right granted to him or her in terms of the provisions of this Act reasonably and in such manner that the rights and interests of the owner of any land to which such licence relates are not adversely affected, except to the extent to which such owner is compensated.  Section 52 sets out that the holder of a mineral licence shall not exercise any rights conferred upon such holder by this Act or under any terms and conditions of such mineral licence	The proposed activity is prospecting for minerals; hence it requires an EIA to be carried out as it triggers listed activities in the Environmental Management Act and its regulations. This report presents the findings of the EIA.  Work shall not commence until all conditions in the Act are met, which includes an agreement with the landowners and conditions of compensation have been agreed.  The project shall be compliant with Section 76. With regards to records, maps, plans and financial statements, information, reports, and returns submitted.  As the proponent will need to access privately owned land the proponent will ensure Sections 50 and 52 are complied with.	



NATIONAL REGULATORY	SUMMARY	APPLICABILITY TO THE PROJECT
REGIME	SUIVIIVIARY	APPLICABILITY TO THE PROJECT
	<ul> <li>(a) In, on or under any private land until such time as such holder.</li> <li>(i) Has entered into an agreement in writing with the owner of such land containing terms and conditions relating to the payment of compensation, or the owner of such land has in writing waived any right to such compensation and has submitted a copy of such agreement or waiver to the Commissioner.</li> </ul>	
Environmental Management Act, (No. 7 of 2007) and its regulations, including the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2012)	The Act aims to promote sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the environment.  It sets the principles of environmental management as well as the functions and powers of the minister. The Act requires certain activities to obtain an environmental clearance certificate prior to project development. The Act states an EIA may be undertaken and submitted as part of the environmental clearance certificate application.  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 environmental scoping report (and EMP) documents the findings of the environmental assessment undertaken for the proposed project, which will form part of the environmental clearance application.  The assessment and report have been undertaken in line with the requirements under the Act and associated regulations.
Water Act, No. 54 of 1956	Although the Water Resources Management Act, No 11 of 2013 has been billed, but not promulgated, it cannot be enacted as the regulations have not been passed – so the Water Act 54 of 1956 is still in effect. This act provides for "the control, conservation and use of water for domestic, agricultural, urban and industrial purposes; to make provision for the control, in certain respect and for the control of certain activities on or in water in certain areas".  The Department of Water Affairs within the Ministry of Agriculture Water and Land Reform (MAWLR) is responsible for the administration of the Act.  The Minister may issue a permit in terms of the regulations 5 and 9 of the government notice R1278 of 23 July 1971 as promulgated under section 30 (2) of the Water Act no. 54 of 1956, as amended.	The Act stipulates obligations to prevent pollution of water. Should wastewater be discharged, a permit is required. The EMP sets out measures to avoid polluting the water environment.  Measures to minimise potential groundwater and surface water pollution are contained in the EMP.  Abstraction of water from boreholes requires an abstraction permit.  Abstraction rates need to be measured and reported to the authorities in accordance with the requirements of this legislation. In addition, annual reporting on the environmental impacts of water abstraction is recommendable. Should the project require drilling and abstraction of water from underground sources, an application should be submitted to the authorities.
Soil Conservation	Makes provision for the prevention and control of soil erosion and the protection, improvement and the	This will be taken into consideration during the intention of the works to be



NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Act, No. 76 of 1969) and the Soil Conservation Amendment Act, No. 38 of 1971)	conservation, improvement and manner of use of the soil and vegetation.	undertaken within EPL 7935 site.  Measures in the EMP set out methods to avoid soil erosion.
The Forestry Act, No. 12 of 2001 as amended by the Forest Amendment Act, No. 13 of 2005	Section 22 requires a permit for the cutting, destruction or removal of vegetation that are classified under rare and or protected species; clearing the vegetation on more than 15 hectares on any piece of land or several pieces of land situated in the same locality which has predominantly woody vegetation; or cut or remove more than 500 cubic metres of forest produce from any piece of land in a period of one year.	The planned project activities will include minimal vegetation clearing to support exploration activities. The necessary permit should be obtained from the MEFT, where the application should satisfy that the cutting and removal of vegetation will not interfere with the conservation of soil, water or forest resources.
National Heritage Act, No. 27 of 2004.	The Act provides provision of the protection and conservation of places and objects with heritage significance.  Section 55 stipulates that exploration companies must report any archaeological findings to the National Heritage Council after which a heritage permit needs to be issued	There might be potential for heritage objects to be found on site, therefore the stipulations in the Act have been taken into consideration and are incorporated into the EMP.  Section 55 compels exploration companies to report any archaeological findings to the National Heritage Council after which a permit needs to be issued before the find can be disturbed. In cases where heritage sites are discovered the 'chance find procedure' will be used



# 3.2 NATIONAL REGULATORY REGIME

## **TABLE 3 - NATIONAL POLICIES**

NATIONAL	SUMMARY	APPLICABILITY TO THE PROJECT
REGULATORY		
REGIME		
Vision 2030	Vision 2030 sets out the nation's development programmes and strategies to achieve its national objectives. It sets out eight themes to realise the country's long-term vision. Vision 2030 states that the overall goal is to improve the quality of life of the Namibian people to a level in line with the developed world.	The planned project shall meet the objectives of Vision 2030 and shall contribute to the overall development of the country through continued employment opportunities.
The Fifth National Development Plan (NDP5)	NDP5 is the fifth in the series of seven five-year national development plans that outline the objectives and aspiration of Namibia's long-term vision as expressed in Vision 2030. NDP5 is structured on the pillars of economic progression, social transformation, environmental sustainability and good governance. Under the social transformation pillar is the goal of improved education.	The planned project supports meeting the objectives of NDP5 by creating opportunities for employment to the nearby community and the Namibian nation.
Minerals Policy	The Minerals Policy was adopted in 2002 and sets guiding principles and direction for the development of the Namibian mining sector while communicating the values of the Namibian people. It sets out to achieve several objectives in line with the sustainable development of Namibia's natural resources. The policy strives to create an enabling environment for local and foreign investments in the mining sector and seeks to maximise the benefits for the Namibian people from the mining sector while encouraging local participation, amongst others. The objectives of the Minerals Policy are in line with the objectives of the NDP5 that include reduction of poverty, employment creation and economic empowerment in Namibia.	The objectives of the Minerals Policy are in line with the objectives of the NDP5, i.e. reduction of poverty, employment creation, and economic empowerment in Namibia. The proposed project conforms to the policy, which has been considered through the EIA process and the production of this report.
Labour Act, No. 11 of 2007	The Labour Act, No. 11 of 2007 (Regulations relating to the Occupational Health & Safety provisions of Employees at Work promulgated in terms of Section 101 of the Labour Act, No. 6 of 1992 - GN156, GG 1617 of 1 August 1997)	The proposed project will comply with stringent health and safety policies, including the compulsory use of specific personal protective equipment in designated areas to ensure adequate protection against health and safety risks. Proper storage and labelling of hazardous substances are required. The project will ensure employees in charge of and working with hazardous substances need to be aware of the specific hazardous substances in order not to compromise worker and environmental safety.



## 3.3 PERMITS AND LICENCES

#### 3.3.1 EXCLUSIVE PROSPECTING LICENCES

EPL 7935 was granted on 25/08/2020 and expires on the 24/08/2023. In terms of the Minerals (Prospecting and Mining) Act, No. 33 of 1992, an EPL may be renewed, however, it may only be extended twice for two-year periods if demonstrable progress is shown. Renewals beyond seven years require special approvals from the Minister (MME, 2018).

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

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

The permits and licences that may be relevant to the proposed projects are outlined in Table 4.

**TABLE 4 - NATIONAL POLICIES** 

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

## 3.4 WORLD BANK STANDARDS

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



# 4 PROJECT DESCRIPTION

## 4.1 NEED FOR THE PROJECT

Namibia is relatively rich in a variety of minerals, and mining has always been a critical sector of the Namibian economy. The sector contributes significantly to the country's Gross Domestic Product (GDP), through taxation, royalties, fees and equities as well as export revenues. For this reason, exploration activities are encouraged in Namibia and the vision of the Minerals Policy being to "further attract investment and enable the private sector to take the lead in exploration, mining, mineral beneficiation and marketing" supports the development.

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

## 4.2 EXPLORATION

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

## 4.3 EXPLORATION METHODOLOGY

Exploration work will be entirely conducted by dedicated professional geological, geophysical consultants as well as drilling consultants and companies. The schedule of activities for the project is presented in Table 5.

**TABLE 5 - LIST OF ACTIVITIES PLANNED PER PHASE** 

PHASE	DATE	ACTIVITY DESCRIPTION
Phase 1	2020-2021	Field inspection – short preliminary field visits on public roads. Activities involve desktop interpretation of available airborne magnetic and radiometric data, mapping, analysis satellite imagery and archival data from the Geological Survey of Namibia (GSN). Additionally, preliminary field inspection of onsite geology and possibly initial stream sediment sampling may take place.
Phase 2	2021	Initial exploration from temporary fly camps on selected farms. Geological mapping, soil and stream sediment geochemical sampling and ground geophysical surveys and drilling. Possible high-resolution aeromagnetic surveys, with limited extent.
Phase 3:	2021-2022	Further drilling and possible trenching (although latter not favoured). RAB and or Aircore, and diamond-core drilling in selected areas only (locations unknown), depending on results from the first two phases.



## 4.4 ALTERNATIVES CONSIDERED

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

Exploration activities range from extremely low impact exploration such as sampling and geophysical surveying to more invasive activities such as drilling. The initial exploration results will define the need, if at all, of the more invasive activities.

The following activities are proposed:

- Desktop analysis of all open file historical reports and data housed at the MME (GSN)
- Interpretation of existing aeromagnetic and radiometric data nationally acquired by GSN;
- Satellite image interpretation;
- Possible acquisition of high-resolution aeromagnetic data in limited areas;
- Initial field visits;
- Stream sediment and rock-chip sampling for geochemistry;
- Detailed geochemical sampling, ground and airborne geophysical surveys.

Once the exploration programme is further defined with new information generated from the initial geophysical surveying and data analysis activities, the following more invasive techniques are envisaged at strategic locations as informed by new data:

- RAB and or Aircore drilling in advanced stages of the programme, followed by
- Diamond core drilling.

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

## 4.5 No-go alternative

Should exploration activities within EPL 7935 not take place, the anticipated environmental impacts from exploration activities would not occur, however, the social and economic benefits associated with project would also not be materialized.

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

# 4.6 EQUIPMENT REQUIREMENTS

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In the early exploration phase contractor vehicles and equipment will comprise:

- 4x4 vehicles for personnel and field equipment;
- Field equipment including tents, mobile toilets and ablution facilities, spades, axes, soil sampling equipment such as sieves, sample bags, surveying apparatus;
- Portable or semi-portable geophysical equipment such as magnetometers, electromagnetic or IP apparatus (all passive and non-invasive); and



In the ensuing phases drilling is envisioned. The equipment requirements would therefore be an RAB / Aircore / Diamond-core Drill rig initially then followed by diamond core drilling with the possibility of proceeding directly to the latter in selected areas, if necessary. This is anticipated to be a specific provision within tender documentation.

## 4.7 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 prefers the use of solar panels and small-scale generators.

## 4.8 WATER SUPPLY

Water demand per day for the exploration project can be broken down into two usage categories. These are:

- Water for domestic use within field camps (5m³ per day); and
- Water for exploration activities, particularly for drilling (approximately 20m³ per day).

Water can be sourced from two sources. These are:

**SOURCE 1:** Supplied by local authorities in the vicinity i.e., from Omaruru or Okahandja. In this case a water supply form needs to be completed and submitted to the local authority.

SOURCE 2: Supplied directly from farm boreholes with permission from the landowners. Alternatively, if a demand for water arises and where many holes are to be drilled in an area, then a borehole may be drilled. In this case the required water borehole permits, and abstraction permit shall be obtained from the MAWLR.

## 4.9 WORKERS ACCOMMODATION

Less than ten possible job opportunities are foreseen during the exploration phase and workers will be sourced from Omaruru. The workers will be deployed at various stages of the project for activities like soil sampling, geological mapping, ground geophysical surveys and drilling operations.

It is envisaged that for most of the exploration programme workers will reside in Omaruru and be transported to and from the site. The proponent will provide transport. However, during the latter part of the prospecting (drilling) workers may be required to stay in temporary fly camps, away from any farmhouses. It is anticipated that the contractor will be completely self-sufficient with regard to power supply and waste management.

The proponent shall provide suitable living facilities during this period. Furthermore, the camping equipment shall include tents, temporary sanitation centres and a portable kitchen.

#### 4.10 WASTE MANAGEMENT

Solid and effluent waste will be generated by the project, whilst exploration works throughout the phases are ongoing. Waste produced on site will include sewerage and solid waste such as packaging. Wastewater (e.g. water with drill additives) used during drilling will be recycled where possible, and effluent contained and allowed to evaporate after use. Drill-sludge (depending on its composition) will be disposed of at an appropriate municipal waste disposal site. In case of the provision of mobile toilets to be used on site, sewerage generated shall be managed by the toilet contractor. The proponent shall ensure waste transport certificates are provided by the toilet contractor for sewerage waste removed from site. No toxic waste will be discharged into the environment.

## 4.11 WASTEWATER EFFLUENT

Wastewater will be diverted into a lined sump to evaporate. The remaining solid residue will be buried in the soil if not toxic. Hazardous waste (hydrocarbon contaminated soil, etc.) will be disposed of at a municipal landfill site.



## 4.12 REHABILITATION

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



# 5 BASELINE / CURRENT BIOPHYSICAL ENVIRONMENT

This section provides an overview of the existing biophysical environment through the analysis of the baseline data regarding the existing natural and socio-economic environment. Desktop studies on the national database are undertaken to get information of the current status of the receiving environment. This provides a baseline where changes that occur as a result of the proposed project can be measured.

## 5.1 CLIMATE

EPL 7935 is located in a part of Namibia which receives between 350 and 400 mm of rain per year, with a variation coefficient of 30 - 40%. Rainfall events are limited to the summer months, mainly between December and March, in the form of thunderstorms often associated with heavy downpours. Potential evaporation is between 1,820 and 1,960 mm per year, meaning an average water deficit of between 1,400 and 1,600 mm per year. Relative humidity is low, rarely more than 20% in winter but may reach 85% in summer before or after thunderstorm build-up. Maximum temperatures average around 34 - 36°C, mainly recorded during the afternoons between November and January, while minimum temperatures are around 4 - 6°C and are normally recorded during nights in June and July. Deviations from these averages are common, with the highest temperatures reaching 38 - 40°C and the lowest temperatures below 0°C. Frost during the winter months may occur but is not common (Mendelsohn et al., 2002).

Due to the rhythm of the air pressure systems, the wind patterns over the interior remain fairly predictable. Prevailing wind over EPL 7935 is expected to be from the east and northeast, with occasional airflow from the southeast and southwest. Wind speed is expected to be low with more than two-thirds of the time lower than 2 m/s. The stronger air movements during the afternoons and evenings are the result of the ground being heated more in some places than others. During the winter months wind speed is slightly higher (Mendelsohn, et al., 2002).

# 5.2 GEOLOGY

Namibia can be divided into two broad geological provinces, one covering the western parts and the other in the east. The western parts consist of a variety of geological formations of different ages and composition and formed under very diverse environmental conditions – some were formed in the depths of primeval oceans, others as a result of the movement of the earth's crust or because of collisions or volcanic eruptions. Most of these formations are exposed in the west as rugged landscapes of mountains, hills, valleys and plains with sparse vegetation. In eastern Namibia, the formations are covered with deposits of a much more recent past (Mendelsohn et al., 2002). The deposits are loose, aeolian of origin, sandy and unconsolidated. On the surface the east of Namibia appears monotonous and uniform, covered with dense vegetation in the north and decreasing to the south. Most of the knowledge about these sediments has been derived from water abstraction boreholes, and rare outcrops and underlying formations exposed along drainage lines and around isolated pans.

EPL 7935 is located where the Waterberg Basin of the Karoo Supergroup shows a surficial transition to the more recent Kalahari deposits (<70 million years old). See Figure 5. During the Karoo age (300 – 180 million years ago), braided rivers emptied into a huge basin, depositing the material that became the Omingonde Sequence of the Waterberg Basin. During this wet period, dinosaurs lived in the area, but their living conditions continuously deteriorated as the entire landscape became drier. When the wetlands finally dried up about 180 million years ago, the former landscape was covered with sand, which solidified as the Etjo sandstones. It is within these sediments that paleontological remains and dinosaur tracks are found, at Otjihaenamaparero to the northwest of the EPL.

In the west the Waterberg Basin is bordered by schists of the Swakop Group (between 850 and 600 million years old) as well as Damara granite intrusions (650 - 470 million years old). To the northeast the flat-lying Kalahari deposits cover most of the older formations and show vary little geological variation on the surface (Mendelsohn et al., 2002).



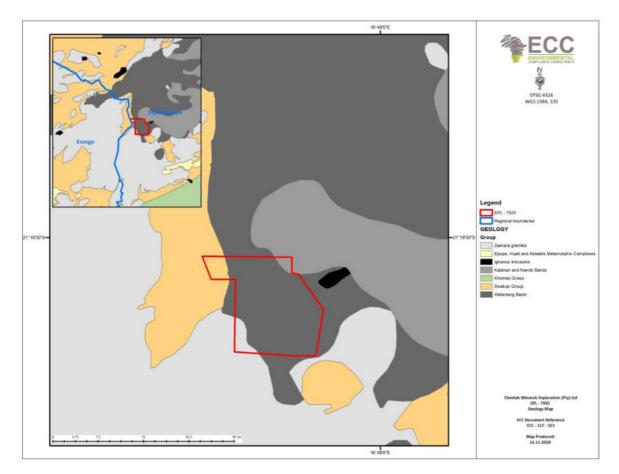


FIGURE 5 - REGIONAL GEOLOGICAL SETTING OF EPL 7935

## 5.3 TOPOGRAPHY AND SOILS

The topography of the EPL is influenced by the increasing elevation towards the Etjo Mountains in the west, reaching an elevation of more than 2,200 m above mean sea level. These mountains form a major watershed between the tributaries of the Omatako River flowing to the east and the tributaries of the Omaruru and Khan Rivers flowing west.

Towards the east the topography of the landscape flattens gradually to about 1,370 m above sea level (Figure 6). Except for the two Omatako Mountains to the north of the EPL, the entire landscape east of the Etjo Mountains has a gentle gradient dipping towards the south and east, as the Kalahari landscape dominates.



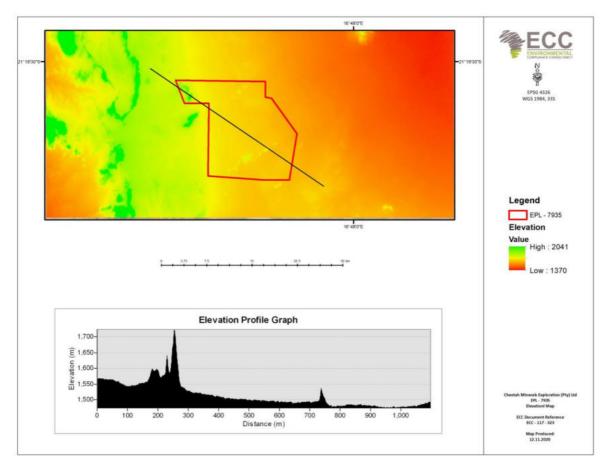


FIGURE 6 - ELEVATION PROFILE FOR EPL 7935

Cambisols cover the largest portion of EPL 7935 (Figure 7). These soils are of a dark yellow brown colour, loose and with an open texture. Cambisols can reach a thickness up to 1 m, but is often underlain by a near-surface hardpan to boulder-calcrete unit. These soils are recent and its parent material is only slightly weathered, therefore cambisols are characterised by an absence of appreciable quantities of accumulated clay and organic material. Fairly fertile, these soils have a good water-holding capacity and internal drainage (Mendelsohn et al., 2002). Although fine and silty, it occasionally contains coarse, medium and fine grained sub-rounded calcrete nodules.

Towards the west of EPL 7935 eutric regosols are common (Figure 7). These soils are medium to fine-textured, typically associated with weathered landscapes. Although reasonably fertile, these soils form thin layers (not exceeding 50 cm) lying directly above the rock surfaces from which they originated. Regosols are susceptible to water erosion, especially where there is any degree of slope (Mendelsohn, et al., 2002).



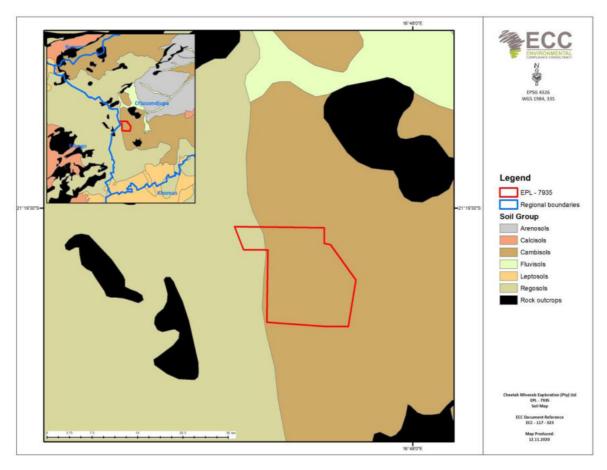


FIGURE 7 - REGIONAL SOIL MAP OF EPL 7935

## 5.4 HYDROLOGY

EPL 7935 is located east of the watershed constituted by the Etjo Mountains to the west. Tributaries of the Omaruru and Khan Rivers flow west of the mountains and tributaries of the Omatako River flow to the east (Figure 8). All of these drainage lines are ephemeral, i.e., it only contains surficial water for brief periods shortly after sufficient run-off is received in the headwaters as a result of downpours. None of these tributaries flow over the EPL though.

The entire EPL is located in the Okahandja Groundwater Basin (Figure 8). The general direction of the groundwater flow in the EPL is east and northeast towards a through associated with the Omatako River. In the west the groundwater potential is less favourable but it improves over a short distance towards the east and northeast, following the same direction as the Omatako River (Christelis and Struckmeier, 2001).

Farms located within and nearby EPL 7935 obtain water from borehole abstraction. Should the project require the drilling and abstraction of water from an additional borehole, an application must be submitted to the authorities.



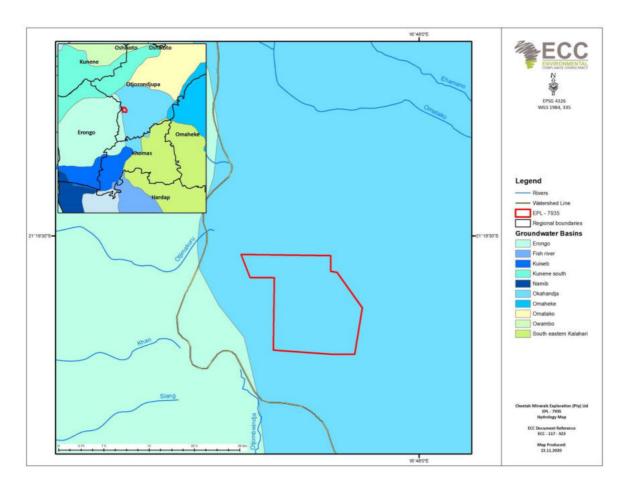


FIGURE 8 - REGIONAL HYDROLOGY MAP OF EPL 7935

## 5.5 VEGETATION

EPL 7935 is covered with the Thornbush Shrubland vegetation type of the Acacia tree-and-shrub savanna sub-biome (Figure 9). Where the soils are shallower and the landscape hillier, plant growth tends to be shrubby. Eastwards, where the soils become deeper and the landscape flattens, vegetation is characterized by a dense tree and bush savanna, dominated by Acacia species and annual and perennial grasses. Thornbush thickets dominate on the sandy parts. Most of the woody vegetation vary between 1 and 5m in height. Plant diversity is estimated between 300 and 399 species, although local differentiation as a result of topography, shelter and the availability of water is possible. Biophysical baseline information does not accentuate the uniqueness of mountain vegetation and the diversity of plants species may converge on relatively small areas in which there are several habitats and niches offered by microclimate, elevation, water and sheltered spaces. Endemic, near-endemic and protected floral species may occur, although most of these are common and widespread. A detailed vegetation study may identify matters that requires further investigation. Plant endemism is nevertheless low, estimated as not exceeding five species (Mendelsohn et al., 2002).

The most important environmental variable affecting the vegetation in this part of the country is rain and to a lesser extent frost, but micro-habitat conditions and rangeland management practices determine bush density and grass composition. Grazing resources are made up of a wide variety of grass species, which vary widely in palatability and abundance. Bush encroachment is noticeable, mainly on farmland exposed to continuous periods of selective grazing by livestock. Moreover, the densification of bush has led to a decreased carrying capacity on some farms in the area where EPL 7935 is located.



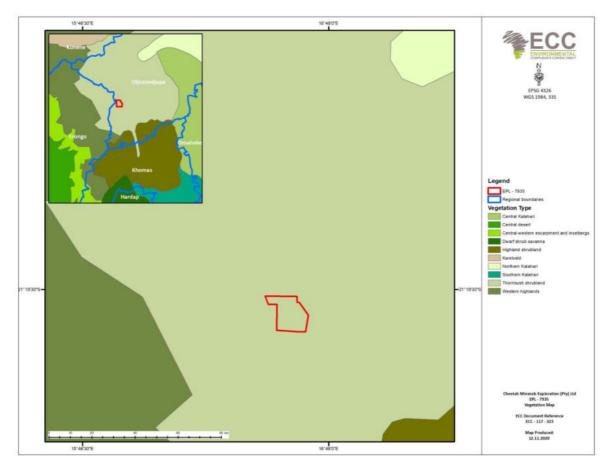


FIGURE 9 - REGIONAL VEGETATION MAP OF EPL 7935

## 5.6 FAUNA SPECIES

Overall terrestrial biodiversity where EPL 7935 is located, ranges from medium to low. As endemism trends in Namibia show a clear decline to the east, the number of endemic fauna species possible in EPL 7935 is expected to be low. The number of mammal species ranges between 61 and 75, the number of bird species is between 201 and 230, with 71 - 80 reptile species, 8 - 11 frog species and 12 - 13 scorpion species that could be expected (Mendelsohn et al., 2002). Three of Namibia's iconic and unusual animals – rhinoceros, pangolin and cheetah – are closely coupled with the wider landscape within which the EPL is located. On a local scale it is expected that diversity increases with the increase in habitats, which is closely coupled to shelter, food and water availability and migration routes. Elevation and water availability play a prominent role in this regard and is directly related to the increase in terrestrial diversity towards the west.

Ephemeral pans and drainage lines are viewed as important for flora as most of the larger specimens, protected and otherwise, are often associated with such areas and serve as habitat for various vertebrate fauna – to amphibians it is a suitable habitat and breeding site, to reptiles it is a foraging site, and to birds and mammals it provides drinking water, shade and shelter. Birds often use the higher vegetation near pans and drainage lines for roosting, nesting and perching.

The dominant land use of the surroundings is extensive agriculture, in particular large livestock farming. To protect their livestock, farmers are required to manage predators such as cheetahs, leopards and caracals.



# 5.7 SOCIO-ECONOMIC ENVIRONMENT

EPL 7935 is located within the Otjozondjupa Region. Otjozondjupa is one of the bigger regions of Namibia and is located in the northern half of the country, bordering the Khomas and Omaheke regions in the south, the Erongo and Kunene regions in the west and the Oshikoto, Kavango-West and Kavango-East regions in the north.

## 5.7.1 DEMOGRAPHY

Namibia is one of the least densely populated countries in the world (2.8 person per km<sup>2</sup>). Vast areas of Namibia are without people, in contrast to some fairly dense concentrations, such as the central-north and along the Kavango River. The population density of the Otjozondjupa Region, where the project is located, is low (1.5 persons per km<sup>2</sup>) when compared to the national average, and the total population of the region was estimated at 154,342 in 2016. In 2011 54% of the total population in the region lived in urban settlements – this figure has increased to 66% in 2016 (NSA, 2017), confirming the current growth of urban areas like Otjiwarongo.

Otjiherero and Oshiwambo are the most spoken languages in the region (both 29% of all households) and the average household size in the Otjozondjupa Region comprises 3.9 persons. The literacy rate is 83% for people older than 15. 98% of all households have access to safe water, 39% have no toilet facility, 63% have electricity for lighting and 48% of the population depend on open fires to prepare food (NSA, 2017).

## 5.7.2 GOVERNANCE

Namibia is divided in 14 regions, subdivided by 121 constituencies. Otjozondjupa Region is divided into seven constituencies. Each region has a regional council, elected during regional elections per constituency. Towns are governed through local authorities, in the form of municipalities.

Otjiwarongo is the capital and also the largest town of the Otjozondjupa Region. Many of the region's head offices are located in the town. Other towns of the region are Grootfontein, Otavi, Okahandja and Okakarara.

## 5.7.3 EMPLOYMENT

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

The rate of unemployment is estimated at 33.4% for Namibia, using the broad definition of unemployment. More than 60% of the population is over 15 years of age and about one-third of the total population can be regarded as part of the labour force. The unemployment rate in rural and urban areas is almost the same – 33.4% in urban areas and 33.5% in rural areas. The highest unemployment rates are found amongst persons with education levels lower that junior secondary. The unemployment rate of persons with no formal education is 28.6%, with primary education 34.6% and with junior secondary education 32.7% (NSA, 2019).

#### 5.7.4 ECONOMY

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The economy of the Otjozondjupa Region is predominantly agriculture-based. Extensive livestock farming forms the livelihood of many people and is one of the reasons for the low intensity land use over much of the 105,460 km² the region covers, the low total population as well as the low population density. Large parts of the region are covered by commercial and communal farms, mainly for cattle ranching. Guest farms and hunting farms are also common. On both commercial and communal land, bush encroachment decreased the carrying capacity of the farms markedly over the last four decades. The invader bush is managed in several ways, one of which is the production of charcoal for export. Of lately the charcoal industry became a significant source of income and employment in the rural parts of Namibia, including the Otjozondjupa Region.



Several mining activities emerged in the Otjozondjupa Region during the last decade and had a strong influence on the regional demography and economy – not only as a result of the establishment of the Otjikoto Gold Mine of B2Gold between Otavi and Otjiwarongo, but also as a result of other mining projects such as Okuruso and Okanjande and the Whale Rock cement factory of Cheetah Cement near Otjiwarongo and Ohorongo Cement near Otavi.

Several new government offices have been established in Otjiwarongo as part of an effort to accentuate the town as regional capital. Other factors that influenced the socio-economy of the region, is the continuous growth of the tourism industry as well as the growing importance of the charcoal industry. Combined, all these factors had a cumulative role in the changing land use patterns and socio-economic landscape of the region (and the towns), which can only be quantified when comparisons from the next national census with the 2011 census are possible.

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

# 5.7.5 HEALTH

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

According to the website of the Ministry of Health and Social Services (MoHSS) the Otjozondjupa Region has a total of 20 primary health care facilities, including three health centres, 18 clinics and four district hospitals – in Grootfontein, Okahandja, Okakarara and Otjiwarongo. There are also private hospitals in Otjiwarongo and Grootfontein.

Like elsewhere in Namibia, HIV/AIDS remains a major reason for low life expectancy and is one of the leading causes of death in the Otjozondjupa Region. HIV/AIDS remains the leading cause of death and premature mortality for all ages, killing up to half of all males and females aged 40 - 44 years in 2013 (IHME, 2016). Tuberculosis (TB) is a leading killer of people infected by HIV/AIDS, and Namibia had a high burden in 2018, 35% of people notified with TB were infected with HIV. The country is included among the top 30 high-burden TB countries in the world, with an estimated incidence rate of 423 per 100,000 people and 60 fatalities per 100,000 people in 2018 (retrieved from www.mhss.gov.na).

In 2016 it was estimated that 15% of all people in the Otjozondjupa Region are younger than five years of age and 22% between five and fourteen years of age. Only 18.3% of children younger than five years of age in the region attended programs of early childhood development in 2016 (NSA, 2017), implying that access to these facilities and access to infant health care facilities is limited.

The largest percentage of people in the Otjozondjupa Region utilize hospitals for medical care (45.9%) and only 25% have to rely on a clinic. Less than 10% of the total population of the Otjozondjupa Region receive their medical treatment from a doctor (NSA, 2017). The death rate of 13.1 deaths per 1000 people for the region was higher than the national average of 10.8% in 2016 (NSA, 2017).

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



# 5.7.6 HERITAGE

In Namibia several mountains are closely coupled to heritage sites, in particular sites with cultural, historical or archaeological importance, and it is possible that this applies to some of the higher elevations in EPL 7935 as well. Drainage lines were also important routes for early inhabitants, and it could be expected that some heritage assets along the tributaries of the Omatako River could be found. The Etjo Mountains are also known for its paleontological importance, mainly due to the dinosaur tracks at Otjihaenamaparero, which is a proclaimed national monument. It is to be expected that more paleontological sites of the same kind may exist in the wider landscape associated with the Etjo Mountains.

In cases where heritage sites are discovered the chance find procedure will be used.



# 6 IDENTIFICATION AND EVALUATION OF IMPACTS

# 6.1 Introduction

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

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

This chapter provides the following:

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



# IMPACT PREDICATION AND EVALUATION



#### FCC ESIA METHOD

- · Predication 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.

# BIOPHYSICAL SOCIAL





# 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 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 occurring.

## 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 after over time, therefore temporal variation is considered (short-term, mediumterm, long-term, reversible, reversible

direct interaction

planned project

activity and the receiving

environmen

receptors

VERY HIGH /

UNKNOWN

MODERATE

#### 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 Compration.
- International Finance Composition. CIA and Management Good Practice Handbook (International Finance
- Namibian Draft Procedures and Guidance for EIA and EMP (Republic of Namibia, 2008).

# ECC - NATURE OF IMPACT

# BENEFICIAL (POSITIVE) An impact that is considered

on the baseline or infroduces a positive change

ADVERSE (NEGATIVE) An impact that is considered to from the baseline or introduces a new undesirable factor.



PARTLY REVERSIRI E

Some norte of the impact can be reversed while

others remain

# TIRREVERSIBLE

### Impacts which are permonent

### ECC - TYPE OF IMPACT

#### - DIRECT Impacts causin

with the project and may occur at a later time or wider area

# TEMPORARY SHORT TERM MEDIUM TERM less than 1

future

year

ON-SITE

Impacts that are

proposed project site

of the activity (1-5 years)

(5-15 years)

the activity

SCALE OF CHANGE - EXTENT / GEOGRAPHIC SCALE

A LOCAL

Impacts that occur in the

local area of influence, including around the

proposed site and within

#### LONG TERM Impacts that are likely to last for heupond the causing the damage (greater than 15 years with impact ceasing

REGIONAL

Impacts that affect a

receptor that is regionally important by virtue of scale,

areat to quantify as it is unknown.

Large scale or major improvement of resources quality; extensive restoration or enhancement, major improvement of attribute quality. MAJOR

> loss al/damage to key characteristics, features or elements; or Benefit to, or addition of, key characteristics, features or elements; improvements of attribute quality.

LOW / MINOR Minor benefit to, or addition of, one (or maybe more) key characteristic,

Very minor loss or detrimental alteration to one (or maybe more)

NONE /

designation, quality or rarity INTERNATIONAL

#### NATIONAL impacts that affect a receptor that

scale, designation, quality or rarity.

# Impacts that affect a receptor that

is nationally important by virtue of scale, designation, quality or rarity

#### IMPROBABLY (RARE) LOW PROBABILITY (UNLIKELY) MEDIUM PROBABILITY (POSSIBLE) HIGH PROBABILITY (LIKELY) DEFINITE (ALMOST CERTAIN)

The event may occur in elsewhere yet, is unlikely to occur. The event could exceptional circumstances yet, rarely occurs in the industry. The occur once every 10 years 100 years

#### The event could occur The event has happened

under some nimumstances every 5 years.

# The event is expected to occur twice per year

more) characteristic, feature or element

The event will occur. The event could occur once per month

#### 1 INDIRECT

Impacts that result from other activities that are encouraged to happen as a result / consequence of the Project. Associated

#### 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

## MAGNITUDE OF CHANGE

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

Loss of resource, and quality and integrity of resource; severe damage to key characteristics, features or elements; or

oss of resource, but not adversely affecting its integrity; partial

Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (or maybe more) key characteristic, feature

leature or element: some beneficial effect on attribute quality or a reduced risk of a negative effect occurring.

characteristic, feature or element; or NEGLIGIBLE Very minor benefit to, or positive addition of, one (or maybe

1

Low

Of value, importance or

ratify on a local scale

sensitive to change or has

accommodate a change.

Milligation comprises a hierarchy of measures ranging from preventative environmental impacts by avoidance, to reasures that provide apportunities for environmental enhancement. The milligation hierarchy is avoidance, reduction at source; reduction at receptor level; repairing and correcting; compensation; remediation; and enhancement. Mitigation measures can be split into three distinct categories, broadly defined as:

SENSITIVITY AND VALUE

Of value, importance or rarity on

noderate sensitivity to change, a

a change.

people's livelihood

The FIA is an iterative process whereby the outcomes of the environmental and social assessments inform the project The EMP provides the good practice miligation measures and specified additional measures or follow-up action ECC has recommended for the project

# SIGNIFICANCE OF IMPACT Impacts are ceptable limits and standards. Impacts are long-term, but reversible and/

key decision-making he experienced, but the or have regional impact magnitude is sufficiently small (with are generally (but and without miliaation' not exclusively) and well within accepte sites and features a the receptor is of low sensitivity/value. Impacts are considered to be features that are and/or localized in if lost cannot extent be replaced or

Impacts are considered

to be important factors but are unlikely to be

neidered to be low nav have an impac or large magnitude impacts occur to mpacts are expecte to be nermanent and national scale and or have international significance or resul in a leastative non

Biophysical Social Low Minor (2) Moderate (3) Major (4) that is anatostart unda hase affected people be able to adopt to led as rare, threater High (3) Moderate (6) Major (9) Major (12) changes or confinu (3) or endangered IUCN maintain nre-imnac necidies. Highly valued/ sensitive resource/ recentors. Of value, importance d with limited potentic for exhetitution; and/o Able to adopt with some alobally) but may be a difficulty and maintain pre-impact status but only with a degree of Medium (2) Moderate (6) Major (8) n the country: with little seliegnos fo ponevetan changes, important to or one under threat o population decline hase affected are able to adapt with relative ease and maintain pre-Not protected or listed Low (1) Moderate (4) Low (1) Low (2) Minor (3) or not ciriteal to other impact status. There is

Impacts are

lo be loco

that are

to be

Significance of Impact



Impacts are considered to be local factors that are



High Of value, importance or rarity on and with very limited potential for substitution: and/or very sensitive accommodate a chance

0

# unlikely to be critical to decision-making. Minor (negative) 25 - 50

Low (negative) 0 - 25

environment and society

Impacts are considered to be important factors but are unlikely to be key decision-making factors. The is sufficiently small (with and without mitration) and well within accepted standards, and/or the receptor is of low sensitivity/value. Impacts are considered to be short-term, reversible and/or localized in extent.

## Moderate (negative) 50 - 75

Impacts are considered within acceptable limits and standards. Impacts are long-term, but reversible and/ or have regional significance. These are generally (but not exclusively) associated with sites and leatures of national importance and resources features that are unique and which, if last, cannot be replaced or relocated.

# Major (negative) 75 - 100

Impacts are considered to be key factors in the decision-making process that may have an impact of major significance, or large magnitude impacts occur o highly valued/sensitive resource/receptors. Impacts a national scale and/or have international significance or result in a legislative non-compliance.

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# 6.2 ASSESSMENT GUIDANCE

The principal documents used to inform the assessment method are:

- IFC standards and models, in particular Performance Standard 1: 'Assessment and management of environmental and social risks and impacts' (IFC, 2012);
- IFC Cumulative Impact Assessment and Management Good Practice Handbook (IFC, 2013); and
- Namibian Draft Procedures and Guidance for EIA and EMP (GRN, 2008).

# 6.3 LIMITATIONS, UNCERTAINTIES AND ASSUMPTIONS

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

- Topic-specific assessment guidance has not been developed in Namibia. A generic assessment methodology was applied to all topics using IFC guidance and professional judgement;
- Guidance for cumulative impact assessments has not been developed in Namibia, and a single accepted state of global practice has been established. The IFC's guidance document (IFC, 2013) has been used for the cumulative impact assessment.

A number of limitations and uncertainties were acknowledged during the EIA process. In line with EIA best practice, assumptions have been made based on realistic worst-case scenarios, thereby ensuring that the worst-case potential environmental impacts are identified and assessed. Table 6 contains the assumptions and uncertainties identified during the assessment process.

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

TABLE 6 – SUMMARY OF LIMITATION, UNCERTAINTIES AND ASSUMPTION OF THE EIA PROCESS

LIMITATION / UNCERTAINTY	ASSUMPTION
Program of activities	As per the EPL award, work will take place over an initial three-year period to establish potential resources of interest. A detailed timeline of the activities is not available at this point in time.  If commercially viable concentrations can be defined by preliminary drilling, a next phase of advanced resource drilling operations is possible.
	Phase 1 – 2020. Activities include short preliminary field visits and inspections on public roads, involving desktop interpretation of, and mapping from, available airborne magnetic and radiometric data, analysis of satellite imagery and archival data from the GSN.
	Phase 2 – 2021: Initial exploration activities from temporary fly camps on selected farms. Geological mapping, soil and stream sediment geochemical sampling and ground geophysical surveys and probable initial drilling. A high-resolution aeromagnetic survey may be flown in a limited area.
	Phase 3 – 2022: Further drilling and possible trenching, if warranted. RAB and or Aircore, and diamond-core drilling in selected areas only (locations unknown), depending on results from the first two phases.
	It is assumed that exploration activities are limited to these stipulated undertakings.



LIMITATION / UNCERTAINTY	ASSUMPTION
Number of workers and area they will come from	Dedicated professional geoscience contractors will be used. It is planned that a full-time field team will comprise of less than 10 staff members and contract workers. The number of contractors is expected to include the following teams: field sampling and mapping; ground geophysics; possible trenching; and a drilling contractor. Moreover, where possible staff will be sourced from Omaruru.
Water supply	Water will be required for field camps and especially for the drilling activities.  It is estimated that the water demand for domestic use would 5m³ per day.  Agreements with farm owners to abstract water from privately owned boreholes will have to be reached between the proponent and the farm owners. The exact volume of water needed for advanced drilling campaigns are uncertain at this point in time.
	Water is anticipated to be obtained from and transported to site, using a mobile water-bowser, from either a local borehole or from a local authority. This is subject to permission granted by relevant landowners or a permit from the local authority. If new boreholes are to be created for water supply purposes for the advanced exploration phase, the exact placement would need to be confirmed in relation to a drill grid.
Access route and creation of new tracks	Creating new tracks or access roads will be avoided, and existing routes will be used as far as possible. While every effort will be made to use farm roads and to minimize environmental damage, in some cases it will be necessary to clear some areas to create small access roads to conduct exploration activities.
Structures	No permanent infrastructure development will take place in the greenfield phase of operations which will span the 3-year award period. Depending on results, the proponent will set up temporary field camps required to house field staff for the purpose of sample collection, ground surveys and drilling. The camps will be such that their locations can be fully rehabilitated post completion of the field work.



# 7 IMPACT ASSESSMENT FINDINGS AND PROPOSED MITIGATION MANAGEMENT MEASURES

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

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

The following topics were considered during the scoping phase:

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

Table 7 sets out the findings of the scoping assessment phase. Activities that could be the source of an impact have been listed, followed by receptors that could be affected. The pathway between the source and the receptor has been identified where both are present. Where an activity and or receptor has not been identified, an impact is unlikely, thus no further assessment or justification is provided. Where the activity, receptor and pathway have been identified, a justification has been provided documenting if further assessment is required or not required.

Due to the nature and localised scale of the exploration activities, and the environmental context of the EPL, the potential environmental and social effects are limited and unlikely to be significant. Aspects that prompted uncertainty relate to the potential increase in movements and the presence of people, which may cause the introduction of illegal and covert activities such as poaching, stock theft and the collection of organisms. Similarly, the potential of accidental veld fires may increase. In both cases the terrestrial ecology and biodiversity of Namibia is the receptor, although local landowners and their neighbours may experience these adversities firsthand. The recommended mitigation measures are contained in Table 7.

Cumulative impacts as a result of physical disturbance, the nuisance of noise and dust and the loss of sense of place may be experienced as well; in this case the receptors are the landowners, neighbours, visitors and tourists. Noise may have an effect on some organisms as well, though. Mitigation measures are recommended and contained in Table 7.

All precautions must be taken to prevent damage to heritage sites, in particular when a site with paleontological remains is discovered as a result of the exploration activities. The chance find procedure will be implemented in such a case. With the necessary mitigation measures in place (Table 7), the significance of the impact reduces from moderate to minor.



# TABLE 7 - IDENTIFICATION AND EVALUATION OF IMPACTS AND MITIGATION MEASURES

RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
<b>Groundwater</b> quality	Site operations such as maintenance activities, loss of containment, accidental fuel / hydraulic fluid leaks and spills, or similar sources.	Hydrocarbon leaks and spills could enter the aquifer causing contamination.	Adverse Direct Partly reversible Moderate Short term Regional Possible	Medium	Minor	Minor (4)	Good house keeping  Training through toolbox talks and induction  All stationary vehicles and machinery must have drip trays to collect leakages of lubricants and oil  Spill kits and absorption material available during fuel delivery, storage or use  Accidental spills and leaks (including absorption material) to be cleaned as soon as possible  Major spills to be reported, also to the authorities  Maintenance and service schedules on equipment is in place  Store bulk fuel in adequate containment areas (non-porous surface, bunded,	Low (2)



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							within a fenced-in area)  Ensure integrity of containment with regularly inspections)  No damaged containers in use  Preventative measures will be in place when service and maintenance activities are done (drip trays, non-porous surfaces, funnels, non-damaged containers)  Refuelling is done in areas with adequate preventative measures in place	
Groundwater quality	Potential spillages of drill fluid, sludge, lubrication, etc. or exploration activities that penetrate the groundwater table.	Hydrocarbon leaks and spills could enter the aquifer causing contamination.	Adverse Indirect Partly reversible Minor Short term Local Possible	Low	Minor	Low (2)	Ensure spill kits and preventative measures (e.g. drill pads) are in place at exploration sites  Drill system should be dug to direct any accidental spills into sumps  Extraction volumes of water shall be minimal during exploration and where	Low (1)



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							possible, water from existing water sources shall be used	
Water	Discharge and infiltration of non-contained wastewater and effluent	Wastewater can contaminate surface and groundwater	Adverse Direct Partly reversible Minor Short term Regional Unlikely	Low	Minor	Low (2)	Wastewater discharges will be contained  Workers will be made aware about the importance of wastewater management  Good housekeeping  Ensure prompt clean-up of spills	Low (1)
Water	Inadequate management of solid waste	Waste items and litter can pollute drainage channels	Adverse Cumulative Reversible Minor Temporary Onsite Unlikely	Low	Low	Low (1)	Good housekeeping  Training and awareness through toolbox talks and induction  Implement a Standard Operational Procedure (SOP) on waste management, from	Low (1)
Soil	Inadequate management of hazardous, hydrocarbon and liquid waste	Pollution of soil	Adverse Direct Reversible Minor Short term Onsite Possible	Low	Minor	Low (2)	cradle to grave for all kinds of waste possible onsite (e.g. domestic, mineral, hydrocarbons, etc.)  Raise awareness about the importance of responsible	Low (1)



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							waste management  Implement a culture of correct waste collection, waste segregation and waste disposal  Avoid hazardous waste onsite  Wastewater discharges will be contained – no disposal of wastewater or effluent	
Terrestrial ecology and biodiversity	Vegetation clearing for access routes and exploration activities	Loss / alteration of terrestrial habitats and loss of species	Adverse Direct Reversible Minor Short term Onsite Possible	Low	Minor	Low (2)	Use existing roads for access to avoid new tracks  Minimise clearance areas through proper planning of the exploration activities, especially at drill areas  Where necessary, rescue and relocate plants of significance  Promote revegetation of cleared areas upon completion of exploration activities	Low (1)



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
Terrestrial ecology and biodiversity	Ambient noise as a result of machinery and equipment use (i.e. drill rigs, generators, vehicles) and movement (also through the use of airborne equipment)	Residing, nesting and slow moving organisms can be disturbed	Adverse Direct Reversible Minor Short term Onsite Likely	Low	Minor	Low (2)	Restrict excessive noise to areas of activities only Restrict excessive noise to daytime hours (7 am to 5 pm weekdays and 7 am until 1 pm on Saturday) No activities between dusk and dawn Exploration equipment shall be suitably positioned to ensure that noisy equipment is away from receptors, as best possible All equipment to be shut down or throttled back between periods of use, Respect civic aviation regulations about the use of a drone	Low (1)
Terrestrial ecology and biodiversity	Increased movement of vehicles and equipment and trenching	Residing, nesting and slow-moving organisms can be disturbed,	Adverse Direct Partly reversible Moderate Short term Onsite	Low	Minor	Low (2)	Restrict movements to areas of activities only Use existing tracks and routes only Identify rare, endangered,	Low (1)



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
		injured or killed	Possible				threatened and protected species in advance	
							Route new tracks around protected species and sensitive areas	
							Restrict movements to daytime hours	
							Make workers aware and notify them on avoiding some areas	
							No driving off designated access routes / off-road driving	
							No animals or birds may be collected, caught, consumed or removed from site	
Terrestrial ecology and biodiversity	Increased disturbance of areas with natural vegetation	Alien species and weeds can be introduced to the area	Adverse Direct Reversible Minor Short term Onsite Possible	Low	Minor	Low (2)	All project equipment arriving on site from an area outside of the project or coming from an area of known weed infestations (not present on the project site) should have an internal weed and seed inspection completed prior to	Low (1)



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							equipment being used  Monitor areas of activity for weed and alien species  Eradicate weeds and alien species as soon as they appear  Make workers aware about alien species and weeds	
Terrestrial ecology and biodiversity	Increased movements and presence of people	Illegal and covert activities such as poaching, stock theft and collecting of organisms are introduced	Adverse Cumulative Reversible Moderate Temporary Local Possible	High	Minor	Moderate (6)	Use existing tracks and routes only  Restrict movements of people to areas of activities only  Restrict vehicle and equipment movements to daytime hours  Identify rare, endangered, threatened and protected species in advance  Route new tracks around protected species and sensitive areas  Train people and raise awareness about legal activities such as poaching,	Minor (3)



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							stock theft, collecting of small creatures and rare plants  Ensure that staff is informed that no animals, birds or plants may be collected, caught, consumed or removed from site  Establish a security plan to prevent illegal activities, in cooperation with Intelligence Support Against Poaching, Namibian Police, Farmers Association  Strict rules should be implemented to prevent the sharing of information about rhino and pangolin sightings, livestock, rare plants, etc. via verbal exchanges, geographical tagging, photographs or any other means	



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
Terrestrial ecology and biodiversity	Accidental and uncontrolled fire	Destroys grazing and kill living organisms	Adverse Direct Reversible Moderate Temporary Local Possible	High	Minor	Moderate (6)	Restrict movements of people to areas of activities only  Train people and raise awareness about veld fires and firefighting  No open fire outside designated areas  Ensure proper cooking facilities at fly camps  No cigarette buds are discarded but contained and disposed of at an appropriate facility  Proper fire hazard identification signage to be placed in areas that store flammable material (i.e. hydrocarbons and gas bottles)  Control and reduce the potential risk of fire by segregating and safe storage of materials  Avoid potential sources of ignition by prohibiting	Minor (3)



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							smoking in and around facilities  Firefighting equipment and fire breaks should always be at designated areas and should be maintained regularly	
Soil	Vegetation clearing	Increased exposure due to vegetation clearance can cause soil erosion	Adverse Direct Reversible Moderate Short term Onsite Possible	Low	Minor	Low (2)	Ensure erosion control and prevention measures are in place when vegetation clearance is required, especially in upslope areas Where possible, plan access routes, drill pads and other activities outside of existing drainage lines Where necessary, install diversions to curb possible erosion Restore drainage lines when disturbed	Low (1)
Soil	Exploration activities, heavy equipment and vehicles	Loss of soil quality due to mixing of earth matter, trampling and	Adverse Direct Reversible Moderate Short term	Low	Minor	Low (2)	Limit the possibility of compaction and creating of a hard subsurface Limit the possibility of	Low (1)



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
		compaction	Onsite Possible				trampling  Compacted soil areas should be loosed by ripping methods  Where possible, topsoil should be stockpiled separately, and re-spread during rehabilitation  During exploration activities with heavy equipment, oil absorbent matting should be placed under and around the equipment  Equipment must be in a good condition to ensure that accidental oil spills do not occur and contaminate soil  In the event of spills and leaks, polluted soils must be collected and disposed of at an approved site  Limit the possibility to mix mineral waste with topsoil	
Heritage	Exploration activities, movement of	Potential damage to heritage	Adverse Direct Partly reversible	High	Minor	Moderate (6)	Implement a chance find procedure  Raise awareness about	Minor (4)



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
	machinery and vehicles	(cultural, historical, archaeological and paleontological) sites	Negligible Permanent Onsite Possible				possible heritage finds Report all finds that could be of heritage importance In case a heritage site to be uncovered, cease activities and the site manager has to assess and demarcate the area Project manager to visit the site and determine whether work can proceed without damage to findings, mark exclusion boundaries and inform ECC with GPS position If needed, further investigation has to be requested for a professional assessment and the necessary protocols of the chance find procedure have to be followed,  Specialists will evaluate the significance of the site and identify appropriate action, (record and remove; relocate or leave premises, depending	



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							on the nature and value of the site), Inform the police if the remains are human, Obtain appropriate clearance or approval from the competent authority, if required, and recover and remove the remains to the National Museum or National Forensic Laboratory as directed.	
Community	Exploration activities, nuisances as a result of noise, dust and emissions	Physical disturbance and temporary reduction in the sense of place	Adverse Direct Reversible Negligible Temporary Local Likely	Medium	Minor	Minor (4)	Limit trenching as far as possible  Position heavy equipment in such a way that it is out of sight from human receptors  Apply dust suppression where possible  Restrict speed of vehicles (<30km/h)  Restrict excessive noise to areas of activities only  Restrict excessive noise to	Low (2)



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							daytime hours (7 am to 5 pm weekdays and 7 am until 1 pm on Saturday)	
							Specific activities that may generate dust and impact on residents shall be avoided during high wind events	
							All vehicles and machinery / equipment to be shut down or throttled back between periods of use	
							Barriers or fences shall be used if exploration occurs in locations that may affect people, livestock or wildlife	
							Residents need to be informed at least two weeks in advance that exploration operations are within 1km of their property	
							Maintain good housekeeping  Continual engagement with residents to identify any concerns or issues, and appropriate mitigation and	



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							management measures agreed upon	
Community	Movement of vehicles, exploration activities	Create conflict with landowners and neighbours about access, leaving gates open, suspicious movements, loss of farming area, etc.	Adverse Indirect Reversible Minor Short term Onsite Likely	Low	Minor	Low (2)	Ensure documented permission to enter farms  Farmers should have access to all farm areas at all times  Residents shall be provided at least two weeks' notice of exploration operations within 1 km of their property  Existing water points and feeding areas need to be left unaffected  Use existing roads for access, avoid new tracks, clearances  Compliance with all applicable laws and agreements  Continuous engagement with residents to identify any concerns or issues, and mitigation and management measures agreed upon	Low (1)
Community	Movement of vehicles,	Presence of exploration	Adverse Cumulative	Low	Low	Low (1)	Develop and implement an operations manual of	Low (1)



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
	exploration	team can be	Reversible				procedures to work on private	
	activities	blamed for	Minor				farms and implement	
		stock theft and	Temporary				monitoring programmes	
		poaching	Local				thereafter	
			Unlikely				Maintain continuous	
							engagement with residents to	
							identify any concerns or	
							issues, and appropriate	
							mitigation and management	
							measures agreed upon	
							Ensure appropriate	
							supervision of all activities by	
							putting in place a security plan	
							to prevent illegal activities in	
							cooperation with Intelligence	
							Support Against Poaching, the	
							Namibian Police and the	
							Farmers Association.	
							Raise awareness and sensitize	
							employees about contentious	
							issues such as stock theft and	
							poaching	
							Accidents and incidents need	
							to be reported to the project	
							manager and recorded in an	



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							incident register	
Community and livestock	Airborne electromagnetic surveying over the EPL, possible low flying	Perceived impact from surveying activities on livestock and humans	Adverse indirect Reversible Minor Temporary Local Unlikely	Low	Minor	Low (2)	Prior to conducting aerial surveying, both directly and indirectly affected parties should be informed in writing of exploration activities at least 2 weeks prior to conducting the aerial surveys.  The following information is to be included in the written communication sent  - Company name, - Survey dates, time and duration, - Purpose of the survey, - Flight altitude, - Survey location, Map of survey area and flight lines, and - Contact details for enquiries.  Compliance with all applicable laws and agreements  Maintain continuous	Low (1)



RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT / DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT / CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							engagement with residents to identify any concerns or issues, and appropriate mitigation and management measures agreed upon  Ensure appropriate supervision of all activities  Restrict surveying activities to daytime hours (7 am to 5 pm weekdays and 7 am until 1 pm on Saturday)	
Community	Exploration activities	Triggers job creation, skills development and opportunities for the local economy	Beneficial Direct Reversible Minor Short term Local Possible	Medium	Low (beneficial)	Low (2)	Maximize local employment As far as possible promote local procurement Enhance development of local skills where possible	Low beneficial



# 8 ENVIRONMENTAL MANAGEMENT PLAN

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

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

The objectives of the EMP are:

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



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# 9 CONCLUSION

ECC's EIA methodology was used to undertake the environmental assessment for the proposed exploration activities on EPL 7935, to identify if there is potential for significant effects to occur as a result of the proposed project.

Through the scoping process, the only risk to the environment is related to the cumulative impacts as a result of physical disturbance, nuisance of noise and dust and the loss of sense of place, thereby impacting human receptors in the area. Impacts with respect to airborne dust are expected to be limited to vehicular traffic and drilling activities. There will be some release of exhaust fumes from machinery that will impact the immediate vicinity but will be of short duration. Additionally, there will be associated drilling and machinery noise, which could be a disturbance to immediate neighbours, but this will be of short duration as well. Through further analysis and identification of mitigation and management methods, the assessment concludes that the likely significance of effects on humans from the cumulative impacts of physical disturbance, noise, dust and emissions will be a temporary qualitative reduction in the sense of place and expected to be minor. Prior awareness and communication about the project shall be encouraged.

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

In Namibia the Etjo Mountains are known for its palaeontological importance, mainly due to the dinosaur tracks at Otjihaenamaparero, which is a proclaimed national monument. More palaeontological sites of the same kind may exist in the wider landscape associated with the Etjo Mountains, in which EPL 7935 is located. All precautions will be taken to prevent damage to heritage sites, in particular when a site with paleontological remains is discovered as a result of the exploration activities. The chance find procedure will be implemented in such a case. With the necessary mitigation in place, the significance reduces from moderate to minor.

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



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# 10 APPENDIX A – EMP



#### APPENDIX B – NON-TECHNICAL SUMMARY 11





ECC-117-323-NTS-03-D

# NON-TECHNICAL SUMMARY

**EXPLORATION ACTIVITIES ON EPL 7935 (ETJO GOLD PROJECT)** 

FOR BASE AND RARE METALS, AND PRECIOUS METALS

PREPARED FOR

CHEETAH MINERALS EXPLORATION (PTY) LTD

**NOVEMBER 2020** 

PO BOX 91193 Windhoek Namibia Environmental Compliance Consultancy CC CC/2013/11404





# NON-TECHNICAL SUMMARY

# PROPOSED EXPLORATION ACTIVITIES ON EPL 7935 (ETJO GOLD PROJECT)

# FOR BASE AND RARE METALS, AND PRECIOUS METALS IN THE OTJOZONDJUPA REGION

# 1 PURPOSE OF THIS DOCUMENT

The purpose of this Non-Technical Summary (NTS) is to provide Interested and Affected Parties (I&APs) a background to the proposed project and to invite I&APs to register as part of the Environmental and Social Impact Assessment (ESIA) process.

The proposed project involves exploration activities for base and rare, and precious metals on Exclusive Prospecting License (EPL) 7935, operated by Cheetah Minerals Exploration (Pty) Ltd, a Namibian company.

Through registering for the project, all I&APs will be kept informed throughout the ESIA process. A platform for participation will be provided to submit comments / recommendations pertaining to the project.

This NTS includes the following information:

- The proposed project and location;
- The necessity of the project, benefits or adverse impacts anticipated;
- The alternatives to the project that have been considered and assessed:
- How the ESIA process works;
- The public participation process and how to become involved; and
- Next steps and the way forward.

# 2 DESCRIPTION OF PROPOSED PROJECT

# 2.1 BRIEF INTRODUCTION

Environmental Compliance Consultancy (ECC) has been engaged by the proponent Cheetah Minerals Exploration (Pty) Ltd to undertake an ESIA and an Environmental Management Plan (EMP) in terms of the Environmental Management Act, No. 7 of 2007 and its regulations. An environmental clearance application will be submitted to the relevant competent authorities; the Ministry of Mines and Energy (MME) and Ministry of Environment, Forestry and Tourism (MEFT).

# 2.2 LOCATION

Cheetah Minerals Exploration (Pty) Ltd proposes to explore on EPL 7935 in an area potentially prospective for gold east of Omaruru and in the vicinity of the Etjo Mountains in the Otjozondjupa Region of Namibia. The EPL can be accessed via the district roads D2414 and D2187 west of the B1 main road between Okahandja and Otjiwarongo. The location is shown in Figure 1.

# 2.3 WHAT IS PROPOSED

The exploration program will most likely be operated in a Joint Venture with Cheetah Minerals Exploration (Pty) in the search for base and rare metals, and precious metals. Various exploration techniques and methods will be used on the EPL as set out in Section 2.5.

Cheetah Minerals Exploration (Pty) Ltd adheres fully to the norms of Health, Safety, Environment and Community, as will its Joint Venture partner if appointed.

# 2.4 WHY IS THE PROJECT NEEDED

Cheetah Minerals Exploration (Pty) Ltd intends to pursue exploration opportunities with the aim of identifying new mining prospects. Exploration could possibly lead to mining activities, which would contribute to the national and local economies.

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# 2.5 OPERATION PHASE

The proposed exploration activities are generally low-impact and non-intrusive. The exploration activities to be used may be 'scaled up' depending on exploration findings. The following are envisaged during the proposed project term:

- Preliminary field inspection of onsite geology (non-invasive);
- Potential creation of access tracks, where existing tracks cannot be utilised;
- Limited vegetation clearing for the creation of tracks, and survey access; and
- Ground exploration activities may include soil and stream sediment geochemical sampling, geophysical surveys, geological mapping and drilling.

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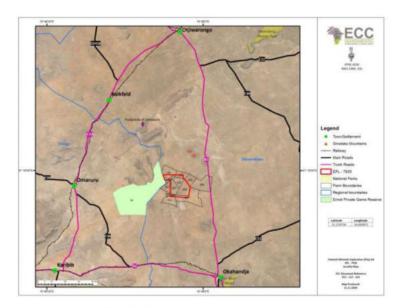


FIGURE 1 - LOCATION MAP OF THE PROPOSED PROJECT

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# 2.6 POTENTIAL IMPACTS OF THE PROJECT

### 2.6.1 SOCIO-ECONOMIC

The potential social impacts are anticipated to be of low significance, and those that may transpire shall be confined within the EPL, these potential impacts may include the following:

- Potential to unearth, damage or destroy undiscovered heritage remains;
- Minor disruption to the residents of the farms within the EPL, including some increase in noise levels and dust arising from drilling and vehicle use;
- Some jobs will be created as a result of the project; and
- There will be economic benefits due to increased investment and investor confidence in the Namibian minerals sector.

# 2.6.2 ENVIRONMENTAL

The potential environmental impacts are anticipated to be of minor significance, and those that may occur shall be contained within the EPL site; these potential impacts may include the following:

- Some potential vegetation loss due to possible tracks creation; the vegetation is expected to recover fully during ensuing rain seasons;
- Potential use of natural resources, including groundwater in liaison with the farmers; and
- Minor risk of loss of contaminants as a result of hydrocarbon, chemical or drill fluids from exploration activities potentially leading to localised soil contamination; this aspect will be controlled at all times.

# 3 CONSIDERATION OF ALTERNATIVES

Best practice environmental assessment methodology calls for consideration and assessment of alternatives to a proposed project.

In a project such as this one, it is difficult to identify alternatives to satisfy the goals of the proposed project; the activities shall be specific to the EPL, which were granted by the MME.

During the assessment, alternatives will take the form of a consideration of optimisation and efficiency to reduce potential effects e.g. different types of technology or operations, route access and exploration methods.

# 4 THE ENVIRONMENTAL ASSESSMENT PROCESS

This ESIA, conducted by ECC, is undertaken in terms of the Environmental Management Act, No. 7 of 2007 and its regulations. The process followed is set out in the flowchart in Figure 2.

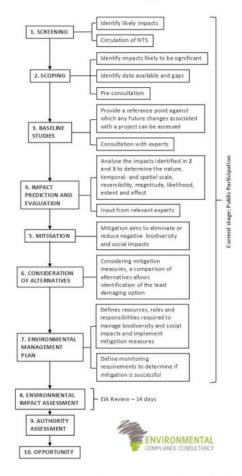


FIGURE 2 - FLOWCHART OF THE ENVIRONMENTAL ASSESSMENT PROCESS

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# 4.1 SCREENING

A review of the proposed project screening findings against the listed activities was conducted; the findings of which are summarised below.

### **FORESTRY ACTIVITIES**

(4) The clearance of forest areas, deforestation, afforestation, timber harvesting or any other related activity that requires authorisation in term of the Forest Act, No. 12 of 2001 or any other law.

 Limited vegetation clearing may be required for tracks and survey access creation, and possibly for the set up for survey teams' field camps.

# WATER RESOURCE DEVELOPMENT

(8.1) The abstraction of ground or surface water for industrial or commercial purposes

 Due to the exploration activities, groundwater will need to be abstracted, or sourced particularly for the drilling phase.

# 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, No. 33 of 1992

 This listed activity infers the provisions of the Act under a different license category as a basis upon which certain activities qualify for an EIA. The Act defines prospecting and exploration activities under the lawful ownership of an EPL. An EPL excludes any mining activities, but includes activities strictly relating to exploration work. Hence the current project strictly focuses on exploration and not mining.

(3.2) Other forms of mining or extraction of any natural resources whether regulated by law or not NOVEMBER 2020

 All extraction during exploration will be for geochemical and geological sampling purposes only.

#### 4.2 BASELINE STUDIES

For the proposed project, baseline information will be obtained through desktop studies and site verification.

The ESIA will focus on the environmental receptors that could be affected by the proposed project. ECC will also engage with stakeholders, I&APs and the proponents to seek input into the assessment.

# 4.3 IMPACT ASSESSMENT

Impacts will be assessed using the ECC ESIA methodology. The ESIA will be conducted in terms of the Environmental Management Act, No. 7 of 2007 and its regulations. ECC's methodology for impact assessments was developed using IFC standards in particular Performance Standard 1 'Assessment and management of environmental and social risks and impacts' (IFC, 2012) and Namibian Draft Procedures and Guidance for ESIA and EMP (GRN, 2008) including international and national best practice with over 25 years of combined ESIA experience.

# 4.4 ENVIRONMENTAL MANAGEMENT PLAN

An EMP 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, respecting the surrounding environment and community.

# 4.5 PUBLIC PARTICIPATION AND

# **ADVERTISING**

Public participation is an important part of the ESIA process; it allows the public and other stakeholders to raise concerns or provide valuable local environmental knowledge that can benefit the assessment, in addition it can aid the design process. This project is currently at the scoping phase and public participation phase.

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At this phase ECC will perform the following:

- Identify key stakeholders, authorities, municipalities, environmental groups and interested or affected members of the public, hereafter referred to as I&APs
- Distribute the NTS for the proposed project (this document)
- Advertise the environmental application in two national newspapers
- Place notices onsite at or near the boundary of the EPL on selected access roads.
- If required host a public meeting to encourage stakeholder participation and engagement, and provide details of issues identified by the environmental practitioner, stakeholders and I&APs
- Record all comments of I&APs and present such comments, as well as responses provided by ECC, in the comments and responses report, which will be included in the scoping report that shall submitted with the application, and
- Circulate I&AP comments to the project team for consideration of project design.

Comments must be submitted in writing and can be emailed using the contact details given below.

# CONTACT US

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

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#### 12 APPENDIX C – EVIDENCE OF PUBLIC CONSULTATION

The following was advertised in 'Die Republikein, Sun, and Allgemeine Zeitung' newspapers on the 17th November 2020.





Market Watch

TUESDAY 17 NOVEMBER 2020



https://eccenvironmental.com/projects/ ID: ECC-117-323-ADT-04-8









The Development Bank of Namibia invites bids for for: REVIEW AND MAKE PROPOSALS TO STRENGTHEN THE BUSINESS STRATEGY OF A PUBLIC ENTERPRISE

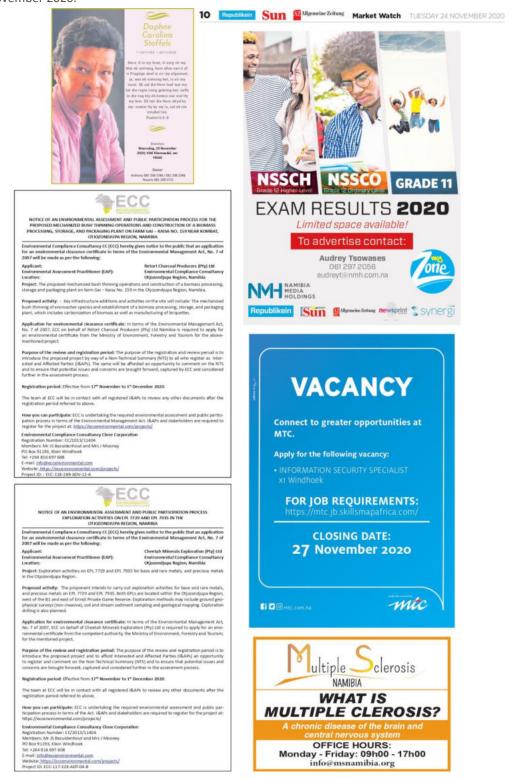
Find more information at https://www.dbn.com.na/procurement



The closing date for either submission is Friday, 27 November 2020.



The following was advertised in the 'Republikein, Sun, and Allgemeine Zeitung' newspapers on the 24<sup>th</sup> November 2020.



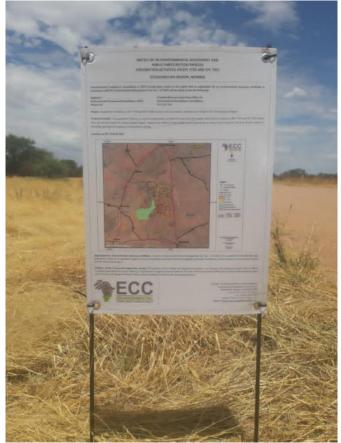


# **SITE NOTICES**

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# **STAKEHOLDER LIST**

FAR	FARM NAME	DISTRICT	REGION	CONTACT	EMAIL
M	FARIVI IVAIVIE	DISTRICT	REGION	PERSON	EIVIAIL
NO				LKSON	
58	ERINDI	OMARURU	Erongo	A Bailleres	Kontak vir Paul
60	CONSTANTIA	OMARURU	Erongo	A Bailleres	
158	OU HENNIE	OKAHANDJA	Otjozondjupa	A Erasmus	adri.tromp1@gmail.com
158	GESONDHEID	OKAHANDJA	Otjozondjupa	N Tromp	nicot@mweb.com
159	FREDERIKSRUST	OKAHANDJA	Otjozondjupa	N Tromp	nicot@mweb.com
159	FREDERIKSRUST	OKAHANDJA	Otjozondjupa	W Tromp	wtromp@iafrica.com.na
160	HELDEWAG	OKAHANDJA	Otjozondjupa	Christo	cvermeulen182@gmail.co
				Vermeulen	<u>m</u>
174	VASTRAP	OKAHANDJA	Otjozondjupa	Alet	aletwittmann@hotmail.co.
				Witmann/Huma	<u>za</u>
				n	
98	BAMBI	OTJIWARONG	Otjozondjupa	Johan Nagel	Farm is now Omaha
		0			
99	ONGANGASEMB	OTJIWARONG	Otjozondjupa	I Wilkens	okaturua@afol.com.na
100	Α	0			
100	OKOZONGUTU-	OTJIWARONG	Otjozondjupa	Dr G Kessel/ I	okaturua@afol.com.na
101	WES	O OTHINA BONG	Otiozondiuma	Wilckens	androwed Compiler
101	OKOZONGUTU- SUD	OTJIWARONG O	Otjozondjupa	Pretorius Trust/ A Campbell	andrewac16@gmail.com
102	OKOZONGUTU-	OTJIWARONG	Otjozondjupa	TS Shepperson	christoph@shepperson.ne
102	OST	0	Осјогонајара	13 Shepperson	<u>t</u>
103	SMALSTREEP	OTJIWARONG	Otjozondjupa	Martie Stohman	<u>-</u>
103	SIVII YESTIYEET	0	O tjozofiajapa	Wartie Storman	
104	OKOSONGUTU	OTJIWARONG	Otjozondjupa	Boet Stohman	
		0			
125	EHUAMENO	OTJIWARONG	Otjozondjupa	Hubertus en Lizi	
		0		von Oppen	
186	WATERLOO-SUD	OTJIWARONG	Otjozondjupa	A Jameson	
		0			
186	WATERLOO	OTJIWARONG	Otjozondjupa	Dirk Potgieter	
		0			
187	PETERKIN	OTJIWARONG	Otjozondjupa	Dr Matter	hp@familie-matter.com
		0			
187	PETERKIN	OTJIWARONG	Otjozondjupa	Dr Matter	hp@familie-matter.com
		0			
188	TRANSVAAL	OTJIWARONG	Otjozondjupa	Dr Matter	hp@familie-matter.com
100		O CTUDA (A DONIC	Otiona II	)/)A/===:	
188		OTJIWARONG	Otjozondjupa	V Woortman	omatako@omatako.com
189	ONATAVO	O OTJIWARONG	Otiozondium	V Woortman	omatako@omatako com
193	OMATAKO	O	Otjozondjupa	v vvoortiilan	omatako@omatako.com
190	ONGURUKENA	OTJIWARONG	Otjozondjupa	A Jameson	
150	CINGUINORLINA	0	Otjozofiajapa	A Jameson	
		J			



DECEMBER 2020

174	OZOMBUSOMAS	OKAHANDJA	Otjozondjupa	W Tromp	wtromp@iafrica.com.na
	SE				
180	BAGBAG	OKAHANDJA	Otjozondjupa	E Kober	em.kober@gmail.com
180	BAGBAG	OKAHANDJA	Otjozondjupa	E Kober	em.kober@gmail.com
180	BAGBAG	OKAHANDJA	Otjozondjupa	E Kober	em.kober@gmail.com
249	KALKWERF	OKAHANDJA	Otjozondjupa	P Louw	
253	AMALIA	OKAHANDJA	Otjozondjupa	W Tromp	wtromp@iafrica.com.na
254	HEUWELSRUS	OKAHANDJA	Otjozondjupa	Ben van der	leeba@entreponamibia.co
				Merwe en	<u>m</u>
				Leeba Fouche	
255	MAADI	OKAHANDJA	Otjozondjupa	W Mosehuus	wilhelm@otjiweb.com
256	OMATAKO SICHT	OKAHANDJA	Otjozondjupa	V Woortman	omatako@omatako.com
257	VREDELUS	OKAHANDJA	Otjozondjupa	W Tromp	wtromp@iafrica.com.na
267	RETREAT	OKAHANDJA	Otjozondjupa	W Tromp	wtromp@iafrica.com.na
270	KOPPIE ALLEEN	OKAHANDJA	Otjozondjupa	W Tromp	wtromp@iafrica.com.na
305	OMATAKO	OKAHANDJA	Otjozondjupa	J Kotze	omatakoranch@iway.na
	RANCH				
308	RIMINI	OKAHANDJA	Otjozondjupa	M Cowley	corenna@iafrica.com.na
316	Welgemoed	OKAHANDJA	Otjozondjupa	TS Shepperson	ts7shep@gmail.com



# 13 APPENDIX D - ECC CVS