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# REPORT:

## BACKGROUND INFORMATION DOCUMENT FOR GERGARUB ML 245 MINING PROJECT, //KHARAS REGION, NAMIBIA.

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## TERMS AND ABBREVIATIONS

Abbreviation	Definition
BID	Background information document
DAF	Drift and Fill
ECC	Environmental Compliance Consultancy
ECC	Environmental Clearance Certificate
EMP	environmental management plan
EPA	Environmental Assessment Practitioner
ESIA	Environmental and Social Impact Assessment
GDP	Gross Domestic produce
I&APs	Interested and Affected Parties
KV	Kilovolt
LHOS	Long hole open stoping
m <sup>3</sup>	cubic meters
MDRL	Mineral Deposit Retention Licence
MEFT	Ministry of Environment, Forestry and Tourism
ML	Mining Licence
MME	Ministry of Mines and Energy
MVA	Megavolt-amperes
NamPower	Namibia Power Corporation
NamWater	Namibia Water Corporation
OZ	ore zones
t	tons
tpa	Million tons per annum
RoD	Record of Decision
RPZC	Rosh Pinah Zinc Company

# 1 BACKGROUND INFORMATION DOCUMENT

## 1.2 PURPOSE OF THIS DOCUMENT

Environmental Compliance Consultancy (ECC) has been contracted by Gergarub Exploration and Mining (Pty) Ltd to conduct an environmental and social impact assessment (ESIA) and develop an environmental management plan (EMP), for mining activities of zinc, lead and silver on ML 245 in the //Kharas Region, Namibia. Consistent with the Environmental Management Act, 2007 and its regulations. An environmental clearance certificate application will be submitted to the Ministry of Environment, Forestry and Tourism (MEFT) for the Project, which is the relevant authority to make a Record of Decision (RoD) with regards to the proposed project.

The purpose of this Background Information Document (BID) 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 Social Impact Assessment (ESIA) process.

All those who register as an I&AP will be kept informed throughout the ESIA process. Registration provides a platform for participants to submit comments, concerns, or recommendations regarding the proposed project. This BID includes the following information:

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

## 1.3 DESCRIPTION OF THE PROPOSED PROJECT

Gergarub Exploration and Mining (Pty) Ltd hold Mining Licence (ML) 245 located on the farm Spitskop 111, along the C13 road between Rosh Pinah and Aus within the Oranjemund Constituency. It lies approximately 10km south-east of Skorpion Zinc Mine and 15km north-west of Rosh Pinah Mine as set out in Figure 1.



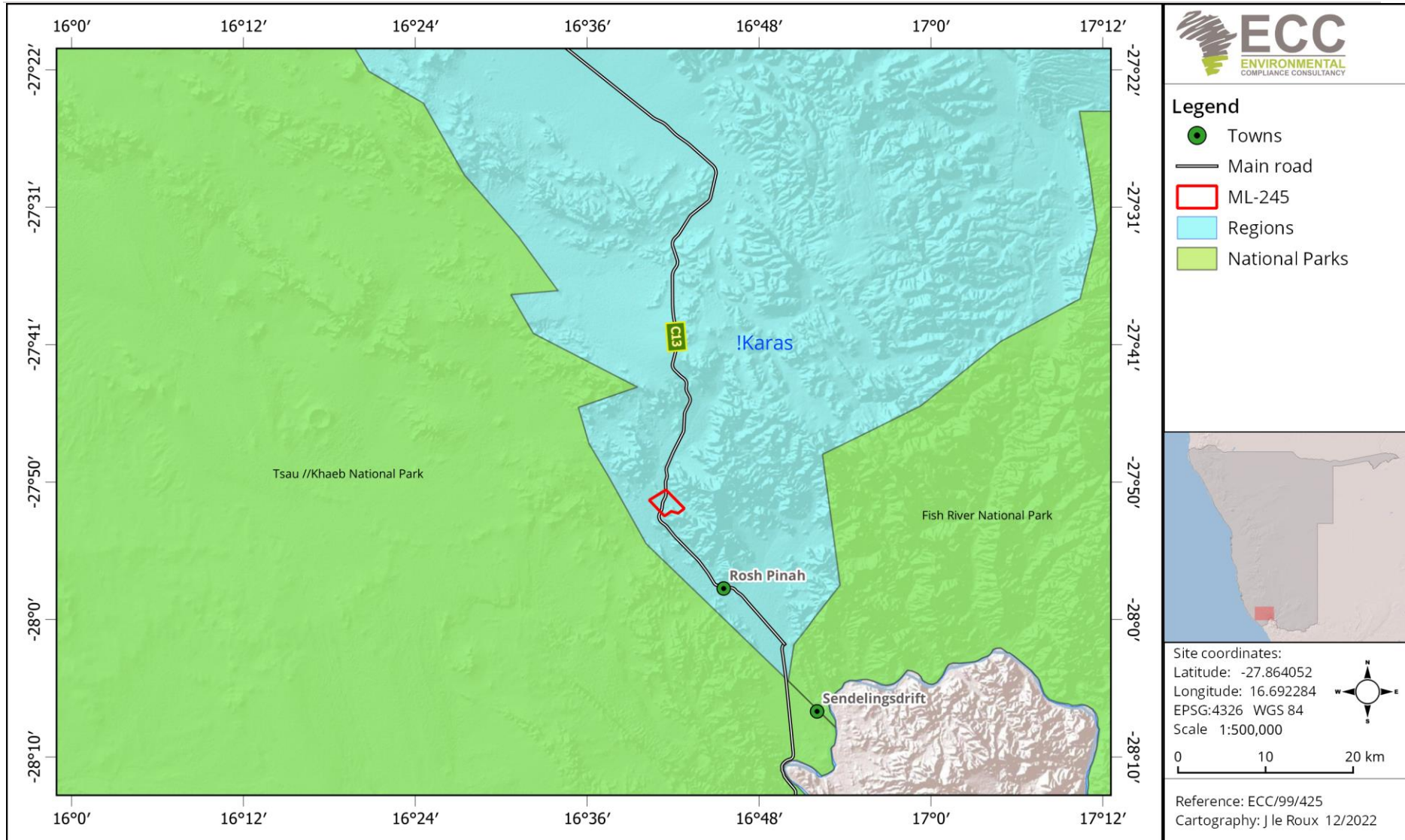


Figure 1 – Site Locality Map

The Gergarub deposit was first discovered in 2008 and is now jointly owned by Skorpion Zinc Mining (Pty) Ltd and Rosh Pinah Zinc Company (Pty) Ltd. On 15 August 2017, RPZC was granted a mineral retention deposit license over the mining area covering the Gergarub mineral deposit for future development (MDRL 2616).

Effective 17 June 2019, MDRL 2616 was transferred by RPZC to Gergarub Exploration and Mining Pty Ltd (Gergarub). The Gergarub Project is owned by Gergarub Exploration and Mining Pty Ltd which is a joint venture between Rosh Pinah Zinc Company (RPZC) and Vedanta Zinc International (Vedanta). The overall project ownership is 49% RPZC (effective 44.1% Trevali, 4.9% Namibian Empowerment Companies) and 51% Skorpion Zinc (subsidiary of Vedanta Resources PLC).

The mining method for Gergarub will be long hole open stoping (LHOS) with backfill, mining stopes in an overhand (bottom-up) extraction sequence. LHOS will be supplemented with Drift and Fill (DAF) mining which will be used to mine the orebody extremities and maximize the overall recovery of the Mineral Resource with an ultimate capacity of producing 150 000 t combined metal in concentrate from a diversified mineral production facility.

Ore will be sourced from five moderate to shallow-dipping mineralized ore zones (OZ), separated into two distinct mining areas. Backfill will be used for areas where fill is required. The mine will be accessed via a decline located in a position so that it can be directed into the side of a hill, thus minimizing the amount of development that would need to be done in the soft overburden. Gergarub will construct and commission a 1.0 Mtpa concentrator at Gergarub to process the mined ore. Specifications for the concentrator will be aligned with the RPZC concentrator.

## 1.4 MINING AND PROJECT PROCESSES

The primary goal of the 2020 exploration program was to focus on near-mine exploration targets with the objective to discover new resources in proximity to existing mine infrastructure and increase the mineral resources base.

Exploration and resource development of the Gergarub project up until October 2013 has defined Mineral Resources as set out in Table 1.

**Table 1 - Mineral resource summary on October 2013**

Class	Tonnes (Mt)	Zn (%)	Pb (%)	Ag (g/t)
Measured	18.1	8.68	2.37	40.6

## 1.5 CONSTRUCTION AND OPERATIONAL PHASES

### 1.5.1 POWER SUPPLY

Nampower has been approached regarding the power supply to Gergarub.

### 1.5.2 WATER SUPPLY

At present the town of Rosh Pinah, Skorpion Zinc Mine as well as Namzinc Refinery is supplied with water from the Orange River by NamWater. An application for an increase in water supply has been lodged with the Namibia Water Corporation (NamWater). It is estimated that the mine will require 81 000m<sup>3</sup> of water monthly to meet its consumption needs. This will be supplied to the site via a 200NB main pipeline from the reservoirs.

### 1.5.3 HOUSING AND EMPLOYMENT

It is estimated that approximately 800 employment opportunities will be created at the new mine and 200 new employment opportunities during the construction phase. It has not yet been determined what the ratio of local to foreign employees will be, but it can be assumed that most of the workforce will be from Namibia. However, additional accommodation facilities will not be constructed as there is sufficient accommodation capacity in Rosh Pinah.

### 1.5.4 TAILINGS STORAGE FACILITY

To adequately deal with discarded process residue, the development of a tailings storage facility (TSF) is proposed in close vicinity to the envisaged mine.

### 1.5.5 PROPOSED SITE LAYOUT

The proposed site layout for the mining scenarios is indicated in Figure 2. These layouts are indicative since the various facilities for both scenarios are still being investigated and locations have not yet been fixed.

### 1.5.6 MINE INFRASTRUCTURE REQUIREMENTS

The following facilities are needed (including but limited to):

- A trackless mobile equipment and machinery workshop, parking and tyre bay
- A main surface workshop
- Tailings Storage Facility
- Wastewater Treatment Plant
- Main power sub-station
- Re-fueling station
- General engineering workshop facilities
- Offices on surface for the administration of the mining operations
- Communications
  - Existing data link to be upgraded.

### 1.5.7 PROCESSING AND CONCENTRATOR INFRASTRUCTURE

The infrastructure and bulk services needed at the concentrator are as follows:

- Operational offices, change rooms and ablution facilities;
- Concentrator stores and workshop;



- A new sewage plant closer to the Gergarub development, with the sewage purification system for the operating phase.

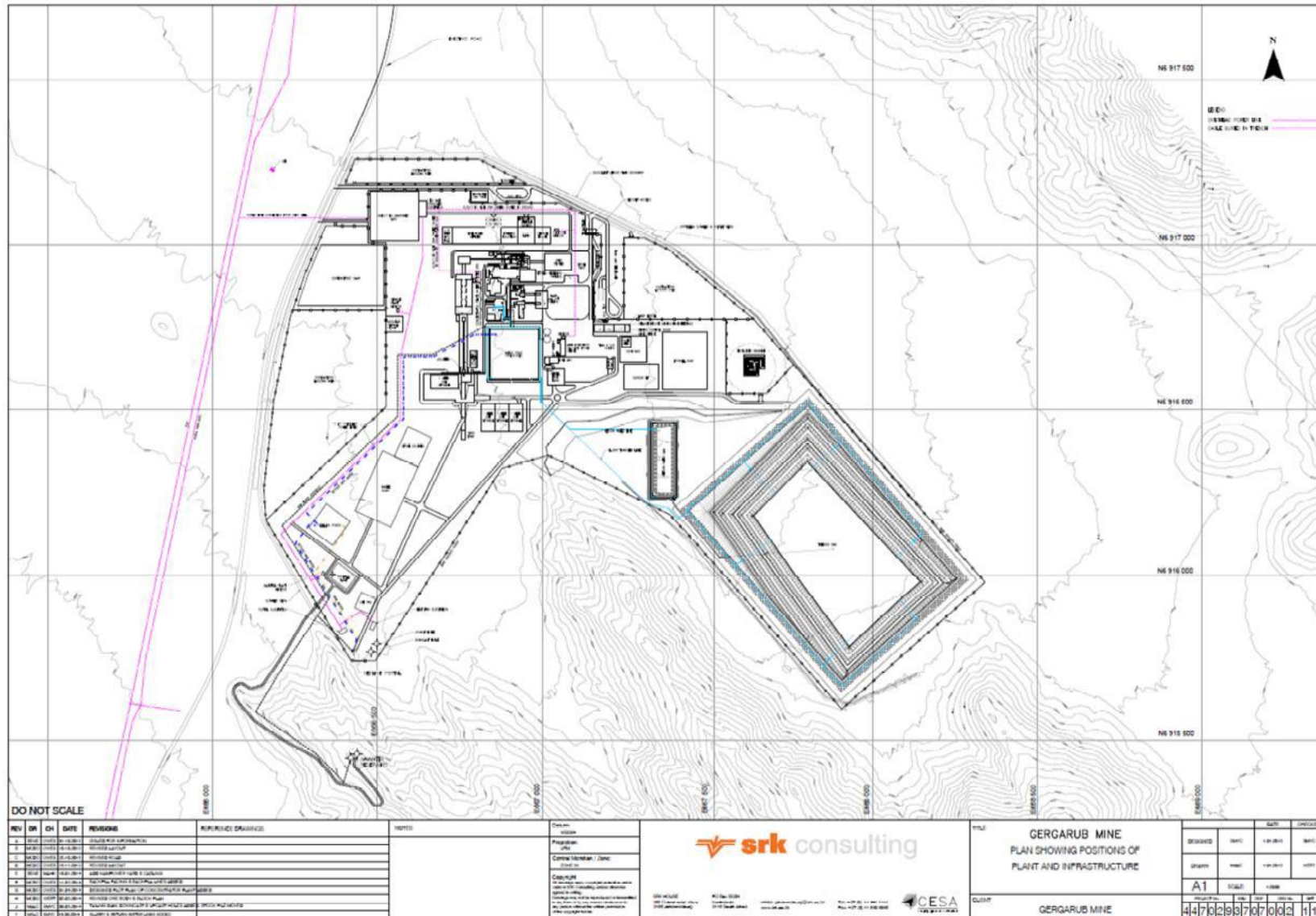


Figure 2 - Proposed infrastructure and processing plant layout

In terms of Section 32 (1) of the Environmental Management Act, No. 7 of 2007, ECC has determined that the Ministry of Mines and Energy (MME) is the competent authority for the proposed mining project. The mining activity triggers the listed activities as per the Environmental Management Act Regulations. The relevant activities list provided later in the BID.

## 1.6 NEED FOR THE PROJECT

Namibia is rich in natural resources and the minerals sector is a key contributor to the nation's GDP in Namibia. The Proponent intends to pursue mining activities in Namibia which will contribute to the national and local economies and may have a positive impact on the country's economy.

The Gergarub Project is significantly large operation which contribute significantly to the country's GDP through royalties paid per annum. The Project will also assist in easing a national unemployment crisis through employing a significant workforce. That workforce along with their families will continue to add to the local economy of Rosh Pinah.

## 1.7 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 need of the proposed Project; the activities shall be specific to ML 245, which was granted by the MME to Gergarub Exploration and Mining (Pty) Ltd.

During the ESIA assessment, alternatives will take the form of consideration of optimisation and using eco-friendly solutions to reduce potential impacts. Some aspects where alternatives may be required could include:

- Processing and metallurgy
- Different access routes
- Different mining techniques

## **2 THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT PROCESS**

The ESIA for the proposed project is being conducted by ECC and will be undertaken in terms of the Environmental Management Act, 2007 and its regulations. The process followed for this ESIA is set out in the flowchart in Figure 3.

ECC has been contracted by Gergarub Exploration and Mining (Pty) Ltd as the independent Environmental Assessment Practitioner (EPA) to facilitate the entire ESIA process. Prior to the start of the proposed project, an environmental clearance certificate is required in terms of the Environmental Management Act, 7 of 2007 and the associated EIA Regulations.

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

The related environmental process will include:

1. Screening phase (completed)
2. Scoping phase which includes baseline studies and the development of the Terms of Reference (ToR) for the ESIA (initiated)
3. Assessment Phase which includes impact prediction and evaluation of alternatives, assigning mitigation measures and developing monitoring and conceptual rehabilitation plans. This phase culminates in the drafting of the ESIA report and draft Environmental Management Plan (EMP) and submission to the appropriate competent authorities

The main objectives of the ESIA are to:

- a) Provide information describing the proposed mining activities;
- b) Provide an independent environmental and social assessment of the activities associated with the proposed project; and
- c) Develop management and mitigation measures associated with any identified potential impacts where necessary.





Figure 3 - Flowchart of the environmental and social assessment process

### 3.1 SCREENING

A review of the planned project was undertaken and the screening findings against the listed activities was conducted; the findings of which are summarised in Table 2.

**Table 2- Listed activities triggered by the proposed project**

LISTED ACTIVITY	EIA SCREENING FINDING
<p><b>ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES</b>            The construction of facilities for:            (1a) The generation of electricity.            (1b) The transmission and supply of electricity.</p>	<ul style="list-style-type: none"> <li>- The proposed Project will connect to the national power grid supplied by NamPower.</li> <li>- Alternatively, the Proponent may possibly consider developing a renewable energy plant (i.e. solar) for the generation of supplementary power</li> </ul>
<p><b>WASTE MANAGEMENT, TREATMENT, HANDLING, AND DISPOSAL ACTIVITIES</b>            (2.1) The construction of facilities for waste sites, treatment of waste and disposal of waste.            (2.2) Any activity entailing a scheduled process referred to in the Atmospheric Pollution Prevention Ordinance, 1976.            (2.3) The import, processing, use and recycling, temporary storage, transit or export of waste.</p>	<ul style="list-style-type: none"> <li>- Facilities for the disposal of mine and domestic waste will need to be constructed.</li> <li>- In terms of the Atmospheric Pollution Prevention Ordinance, the bulk storage and handling of mineralised or metallic ore on waste dumps designed to hold 100 000 metric tonnes or more, is defined as a scheduled process</li> </ul>
<p><b>MINING AND QUARRYING ACTIVITIES</b>            (3.1) The construction of facilities for any process or activities which requires a license, right or another form of authorization, and the renewal of a license, right or another form of authorization, in terms of the Minerals (Prospecting and Mining Act), 1992.            (3.2) Other forms of mining or extraction of any natural resources whether regulated by law or not.            (3.3) Resource extraction, manipulation, conservation and related activities.</p>	<ul style="list-style-type: none"> <li>- This listed activity infers the provisions of the Minerals (Prospecting and Mining) Act 33 of 1992. The very nature of the Project is mining, which therefore triggers this listed activity.</li> </ul>
<p><b>FORESTRY ACTIVITIES</b>            (4.) The clearance of forest areas, deforestation, aforestation, timber harvesting or any other related activity that requires authorisation in term of the Forest Act, 2001 (Act No. 12 of 2001) or any other law</p>	<ul style="list-style-type: none"> <li>- Vegetation clearing will be required for site construction and infrastructure establishment.</li> <li>- During operations, vegetation clearing will be required as the Project develops. The necessary permits will be acquired as needed</li> </ul>

LISTED ACTIVITY	EIA SCREENING FINDING
<p><b>WATER RESOURCE DEVELOPMENT</b>            (8.5) Construction of dams, reservoirs, levees and weirs.            (8.6) Construction of industrial and domestic wastewater treatment plants and related pipeline systems.</p>	<ul style="list-style-type: none"> <li>- Water will be supplied from the Orange River by NamWater via +/- 20km, 200NB pipeline. An estimated volume of 81 000m<sup>3</sup></li> </ul>
<p><b>HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE</b>            (9.1) The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.            (9.2) Any process or activity which requires a permit, licence or other form of authorization, or the modification of or changes to existing facilities for any process or activity which requires amendment of an existing permit, licence or authorization or which requires a new permit, licence or authorization in terms of a governing the generation or release of emissions, pollution, effluent or waste.            (9.4) The storage and handling of a dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.</p>	<ul style="list-style-type: none"> <li>- The proposed mining operations and process</li> <li>- method triggers this activity, as both fuel and hazardous substances are required for mining and processing activities.</li> <li>- Bulk fuel may be required for onsite for refuelling the mining fleet.</li> <li>- Consumer installation certificates are required for bulk fuel storage and dispensing.</li> <li>- Hazardous reagents will be used within the extraction and processing plant</li> </ul>
<p><b>INFRASTRUCTURE</b>            (10.1) The construction of:            (g) communication networks including towers, telecommunications and marine telecommunication lines and cables</p>	<ul style="list-style-type: none"> <li>- The Proponent may possibly consider developing a telecommunication tower.</li> </ul>

### 3.2 SCOPING

The scoping phase is directed towards defining the range and nature of anticipated potential impacts that may have significance to the biophysical and social environments at the scale of the proposed operations. The appropriate available data and the literature are identified forming the starting point for the assessment of the required baseline and specialist studies that may be required for assessment of the project impacts.

### 3.3 BASELINE STUDIES

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. The baseline studies chapter is broken into three sections, the baseline context, environmental (physical and biological), and social (including economic).

Desktop studies as well as all available field surveys and specialist studies from the project area will be used to help define the baseline. These studies also give a further indication of whether there are any local or regional future developments that could impact the project or vice versa.

Lastly, the socio-economic section of the baseline studies helps to gain information on the governance, demographic profile, social stratification (employment, education, crime, infectious disease), occupation and livelihood (economic activities, occupations in study area, employment rates), land patterns (noise and vibrations) and access to services (drinking water, sanitation, healthcare facilities etc.).

### 3.4 TERMS OF REFERENCE

Based on the stakeholder engagement through the defined public consultation process including any written correspondence and the baseline studies, the ToRs for the impact assessment will be finalised and confirmed with the Environmental Commissioner.

### 3.5 STAKEHOLDER ENGAGEMENT

The public and key stakeholders receive invitations to register as I&APs. After the presentation of the proposed project and ESIA process through the defined public consultation process, a period of time for input will be granted for the Environmental Assessment Practitioner (EAP) to receive any additional concerns or comments from registered I&APs. All feedback from the initial public consultation process will be incorporated into the scoping report.

### 3.6 SCOPING REPORT

The scoping report will be drafted and made available to the registered I&APs for comment before being submitted to the competent authority and MEFT. The scoping report will contain a description of the project and the biophysical and socio-economic environments, the specialist baseline studies, the stakeholder engagement report and the terms of reference for the ESIA.

### 3.7 ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT PHASE

#### 3.7.1 POTENTIAL IMPACTS

The potential social and economic impacts should be considered with due regard to the nature and scale of the proposed operations its location within the broader ecological, commercial and



social environments. The potential environmental and social impacts that have been anticipated may include the following:

- Heritage impacts
- Power and water supply
- Water use, contamination, and management
- Waste management
- Waste resource management
- Visual impacts
- Biodiversity impacts
- Potential air quality pollution
- Noise, vibration and blasting impacts,
- Socioeconomic and social impacts, such as job creation
- Potential pollution impacts
- Rehabilitation

#### 3.7.2 DRAFT ENVIRONMENTAL AND SOCIAL 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 in respect of the surrounding environment and community. The EMP becomes the legally binding commitments upon approval of the EMP and issuing of the environmental clearance certificate. Environmental clearance certificates are issued for a period of 3 years and renewal is subject to compliance with the provisions and conditions of the environmental clearance certificate.

## 4. THE WAY FORWARD – PUBLIC PARTICIPATION

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

- Prepare and submit the application for the environmental clearance certificate in the prescribed manner
- Identify relevant key stakeholders, authorities, municipalities, environmental groups and interested or affected members of the public, hereafter referred to as I&APs
- Carry out a public consultation process in accordance with Regulation 21 of the EMA 2007 including:
  - o Distribute the BID for the proposed Gergarub Exploration and Mining (Pty) Ltd mining Project (this document)
  - o Advertise the environmental application and call for registration of I&APs in two national newspapers
  - o Open the project I&AP register and record all comments of I&APs and present both comments and responses provided by ECC, in the comments and responses report, which will be included in the scoping report and submitted with the application
- Prepare a scoping report and provide it to registered I&APs for comment
- Submit the scoping report and the I&AP comments to the competent authority and Environmental Commissioner for a record of decision

Your request for registration as an I&AP as well as any comments on the BID or Project must be submitted in writing and can be emailed using the details in the contact us section below. Registration as an I&AP for the project can be completed online on ECCs website on the projects page, or by using this link: <https://eccenvironmental.com/download/the-proposed-gergarub-mining-project-on-ml-245-within-the-kharas-region-namibia/>

Registration as an I&AP should be submitted on or before **28 February 2023**.

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

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