

# Zhonghe Resources (Namibia) Development (Pty) Ltd

Final Environmental Performance Monitoring  
Report for the Period January 2021–July 2021  
Support the Renewal of the Environmental  
Clearance Certificate (ECC) for Mining License  
(ML) No. 177, Karibib / Swakopmund Districts,  
**ERONGO REGION, NAMIBIA**

July 2021

Zhonghe Resources (Namibia)  
• Development (Pty) Ltd  
29 Charles Cathrall Street,  
Olympia, P. O. Box 40903,  
Ausspannplatz,  
WINDHOEK, NAMIBIA

# PROPONENT, LISTED ACTIVITIES AND RELATED INFORMATION SUMMARY

## TYPE OF AUTHORISATIONS REQUIRING ECC

Mining License (ML) No. 177

## NAME OF THE PROPONENT

Zhonghe Resources (Namibia) Development (Pty) Ltd

## COMPETENT AUTHORITY

Ministry of Mines and Energy (MME)

## ADDRESS OF THE PROPONENT AND CONTACT PERSON

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## PROPOSED PROJECT

Proposed Uranium Mining and Ongoing Exploration in the  
Mining License (ML) No. 177

## PROJECT LOCATION

Swakopmund / Karibib Districts, Erongo Region  
(Latitude: -22.430833, Longitude: 15.112500)

## ENVIRONMENTAL CONSULTANTS



*Risk-Based Solutions (RBS) CC*

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## ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

Dr. Sindila Mwiya  
*PhD, PG Cert, MPhil, BEng (Hons), Pr Eng*

## Summary Profile and Qualifications of the Environmental Assessment Practitioner (EAP) / International Resources Consultant – Dr Sindila Mwiya

Dr Sindila Mwiya has more than eighteen (18) years of practical field-based technical industry experience in Environmental Assessment (SEA, EIA, EMP, EMS), Energy (Renewable and Non-renewable energy sources), onshore and offshore resources (minerals, oil, gas and water) exploration / prospecting, operation and utilisation, covering general and specialist technical exploration and recovery support, Health, Safety and Environment (HSE) permitting for Geophysical Surveys such as 2D, 3D and 4D Seismic, Gravity and Electromagnetic Surveys for mining, energy and petroleum (oil and gas) operations support, through to engineering planning, layout, designing, logistical support, recovery, production / operations, compliance monitoring, rehabilitation, closure and aftercare projects lifecycles. He continues to work internationally in the resources (mining and petroleum) and energy sectors, from permitting through to exploration and production. From the frontier regions (high risk hydrocarbons exploration zones) of South Africa and Namibia, to the prolific oil and gas fields of the Middle East, Angola and the West African Gulf of Guinea, Dr Mwiya has been directly involved in field-based aerial, ground and marine geophysical (gravity, magnetics and seismic) surveys, been onboard exploration drilling rigs, onboard production platforms, conducted public and stakeholder consultations and engagements, and worked with highly technical and well organised and committed clients and third-party teams from emerging and well established global resources and energy companies from many countries such as the UK, France, USA, Russia, Canada, Croatia, Norway, the Netherlands, Spain, Brazil, China, South Africa, Equatorial Guinea, Angola and Nigeria. He is fully aware of all the competing interests and niche donation-based business environmental advocacy opportunism that exists in the resources sector from the local, regional, and international perspectives.

Through his companies, Risk-Based Solutions (RBS) CC and Foresight Group Namibia (FGN) (Pty) Ltd which he founded, he has undertaken more than 200 projects for Local (Namibia), Continental (Africa) and International (Global) based clients. He has worked and continue to work for Global, Continental and Namibian based reputable resources (petroleum and mining / minerals) and energy companies such as Dundee Precious Metals (Namibia / Canada), Headspring Investment (Namibia/ Russia), Green Energy (Namibia/UK/Russia), EMGS (UK/ Norway), Lepidico (Australia / UK), Best Sheer / Bohale (Namibia / China), CGG Services UK Limited (UK/ France/Namibia), BW Offshore (Norway/Singapore /Namibia), Shell Namibia B. V. Limited (Namibia/ the Netherlands), Tullow Oil (UK/Namibia), Debmarine (DBMN) (Namibia), Reconnaissance Energy Africa Ltd (ReconAfrica) (UK/Canada/Namibia), Osino Resource Corporation (Canada/USA/Namibia), Petrobras Oil and Gas (Brazil) / BP (UK) / Namibia, REPSOL (Spain/ Namibia), ACREP (Namibia/Angola), Preview Energy Resources (UK), HRT Africa (Brazil / USA/ Namibia), Chariot Oil and Gas Exploration (UK/ Namibia), NABIRM (USA/ Namibia), Serica Energy (UK/ Namibia), Eco (Atlantic) Oil and Gas (Canada / USA/ Namibia), ION GeoVentures (USA), PGS UK Exploration (UK), TGS-NOPEC (UK), Maurel & Prom (France/ Namibia), GeoPartners (UK), PetroSA Equatorial Guinea (South Africa / Equatorial Guinea/ Namibia), Preview Energy Resources (Namibia / UK), Sintezneftegaz Namibia Ltd (Russia/ Namibia), INA Namibia (INA INDUSTRIJA NAFTE d.d) (Croatia/ Namibia), Namibia Underwater Technologies (NUTAM) (South Africa/Namibia), InnoSun Holdings (Pty) Ltd and all its subsidiary renewable energy companies and projects in Namibia (Namibia / France), HopSol (Namibia/Switzerland), Momentous Solar One (Pty) Ltd (Namibia / Canada), OLC Northern Sun Energy (Pty) Ltd (Namibia) and more than 100 local companies. Dr Sindila Mwiya is highly qualified with extensive practical field-based experience in petroleum, mining, renewable energy (Solar, Wind, Biomass, Geothermal and Hydropower), Non-Renewable energy (Coal, Petroleum, and Natural Gas), applied environmental assessment, management, and monitoring (Scoping, EIA, EMP, EMP, EMS) and overall industry specific HSE, cleaner production programmes, Geoenvironmental, geological and geotechnical engineering specialist fields.

Dr Sindila Mwiya has undertaken and continue to undertake and manage high value projects on behalf of global and local resources and energy companies. Currently, (2020-2023) Dr Sindila Mwiya is responsible for permitting planning through to operational and completion compliance monitoring, HSE and engineering technical support for multiple major upstream onshore and offshore petroleum, minerals, and mining projects, Solar and Wind Energy Projects, manufacturing and environmentally sustainable, automated / smart and Climate Change resilient homes developments in different parts of the World including Namibia. He continue to worked as an International Resources Consultant, national Environmental Assessment Practitioner (EAP) / Environmentally Sustainable, automated / smart and Climate Change resilient homes developer, Engineering / Technical Consultant (RBS / FGN), Project Manager, Programme Advisor for the Department of Natural and Applied Sciences, Namibia University of Science and Technology (NUST) and has worked as a Lecturer, University of Namibia (UNAM), External Examiner/ Moderator, NUST, National (Namibia) Technical Advisor (Directorate of Environmental Affairs, Ministry of Environment, Forestry and Tourism / DANIDA – Cleaner Production Component) and Chief Geologist for Engineering and Environment Division, Geological Survey of Namibia, Ministry of Mines and Energy and a Field-Based Geotechnician (Specialised in Magnetism, Seismic, Gravity and Electromagnetics Exploration and Survey Methods) under the Federal Institute for Geoscience and Natural Resources (BGR) German Mineral Exploration Promotion Project to Namibia, Geophysics Division, Geological Survey of Namibia, Ministry of Mines and Energy.

He has supervised and continue to support a number of MScs and PhDs research programmes and has been a reviewer on international, national and regional researches, plans, programmes and projects with the objective to ensure substantial local skills development, pivotal to the national socioeconomic development through the promotion of sustainable natural resources coexistence, management, development, recovery, utilisation and for development policies, plans, programmes and projects financed by governments, private investors and Namibian development partners. Since 2006 until 2017, he has provided extensive technical support to the Department of Environmental Affairs (DEA), Ministry of Environment, Forestry and Tourism (MEFT) through GIZ in the preparation and amendments of the Namibian Environmental Management Act, 2007, (Act No. 7 of 2007), Strategic Environmental Assessment (SEA) Regulations, Environmental Impact Assessment (EIA) Regulations as well as the SEA and EIA Guidelines and Procedures all aimed at promoting effective environmental assessment and management practices in Namibia. Among his academic achievements, Dr Sindila Mwiya is a holder of a PhD within the broader fields of Engineering Geology/Geotechnical / Geoenvironmental / Environmental Engineering and Artificial Intelligence with a research thesis titled Development of a Knowledge-Based System Methodology (KBSM) for the Design of Solid Waste Disposal Sites in Arid and Semiarid Environments, MPhil/PG Cert and BEng (Hons) (Engineering Geology and Geotechnics) qualifications from the University of Portsmouth, School of Earth and Environmental Sciences, United Kingdom. During the 2004 Namibia National Science Awards, organised by the Namibian Ministry of Education, and held in Windhoek, Dr Sindila Mwiya was awarded the Geologist of the Year for 2004, in the professional category. Furthermore, as part of his professional career recognition, Dr Sindila Mwiya is a life member of the Geological Society of Namibia, Consulting member of the Hydrogeological Society of Namibia and a Professional Engineer registered with the Engineering Council of Namibia.

**WINDHOEK JULY 2021**

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# EXECUTIVE SUMMARY

## 1. Introduction

Zhonghe Resource (Namibia) Development (Pty) Ltd holds exclusive nuclear fuel mineral rights under the Mining License (ML) No. 177 measuring 12, 863 Ha. The ML No. 177 granted on the 30/11/2012 and will expire on the 29/11/2031 is situated in Karibib / Swakopmund Districts in the Erongo Region. To date no mine construction related activities have taken place in the ML area due to low global demand and prices of uranium.

The development of the proposed mine in the ML No. 177 will require a valid ECC to be in place before the start of the construction activities. In accordance with the provisions of the Environmental Management Act, 2007, (Act No. 7 of 2007) and the EIA Regulations, 2012, this updated summary Environmental Impact Assessment and Environmental Management Plan (EMP) Report has been prepared to support the application for the renewal of the ECC granted on the 28<sup>th</sup> January 2019 and expiring on the 28<sup>th</sup> January 2022. A compressive detailed EIA Report prepared in 2011 is available on request from the Proponent.

## 2. The Environmental Monitoring Requirements and Reporting

This Environmental Compliance Monitoring Report covering the combined period from January 2019 to July 2021 has been prepared by Risk-Based Solution (RBS) CC on behalf of Zhonghe Resource (Namibia) Development (Pty) Ltd (the Proponent) in line with the provisions of the Environmental Management Plan (EMP) and the conditions of the Environmental Clearance Certificate (ECC) issued by the Environmental Commissioner in the Ministry of Environment and Tourism (MET) dated 28<sup>th</sup> January 2019.

This report has been prepared to support the application for renewal of the expired ECC issued on the 28<sup>th</sup> January 2019.

Since the granting of the ML No. 177 on the 30/11/2012, no mining or mine related construction activities have been undertake due to the low global uranium price that currently makes the project not economic. No EMP monitoring provisions were implemented by the Proponent.

## 3. Conclusions

The Proponent has undertaken no environmental monitoring activities for the period under review January 2019 to July 2021. No mining related activities have been undertaken for the period under review because the mining project is not economic at the current global uranium prices.

However, in anticipation for a rebound in global uranium prices driven by the need for global clean pivotal to fighting global Climate Change, the Proponent intend to renew the current ECC expiring in January 2022 in order not to delay the implementation of the mine construction and operation once the global uranium trading environment improves.

It is hereby recommended that the ML 177 be issued with a new Environmental Clearance Certificate (ECC) that will be in line with the provisions of Environmental Impact Assessment Regulations (2012) and the Environmental Management Act, 2007, (Act No. 7 of 2007).

# 1. INTRODUCTION

## 1.1 Project Overview

Zhonghe Resources (Namibia) Development (Pty) Ltd is a Namibian registered company founded in 2008. The main investors are China Uranium Corporation Limited (CUC) (58%) a wholly owned subsidiary by China National Nuclear Corporation (CNNC), and a private enterprise, Namibia-China Mineral Resources Investment and Development (Pty) Ltd (Nam-China) (42%).

Zhonghe Resource (Namibia) Development (Pty) Ltd holds exclusive nuclear fuel mineral rights under the Mining License (ML) No. 177. The ML No. 177 granted on the 30/11/2012 and will expire on the 29/11/2031. Since the granting of the ML No. 177 in 2012 and the previous and current Environmental Clearance Certificates (ECCs) in June 2011 and January 2019 respectively, no mine construction related activities have taken place within the ML area mainly due to globally depressed uranium prices that makes the proposed mine development not viable at the current global uranium prices. However, once there are some improvements on the global demand and price of uranium, the proposed mine in ML No. 177 will be developed.

The proposed mining activities in the ML No. 177 are listed in the Environmental Management Act, 2007, (Act No. 7 of 2007) and cannot be undertaken without valid Environmental Clearance Certificate (ECC). To obtain the ECC for the listed activities, the Proponent was required to have undertaken Environmental Assessment comprising Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Reports for the proposed mining operations. In fulfilment of the environmental requirements, the Proponent appointed Risk-Based Solutions (RBS) CC as the Environmental Consultant, led by Dr Sindila Mwiya as the Environmental Assessment Practitioner (EAP) to prepare the EIA and EMP Reports to support the application for Environmental Clearance Certificate (ECC).

The current ECC granted by the Environmental Commissioner in the Ministry of Environment , Forestry and Tourism (MEFT) dated 28<sup>th</sup> January 2019 and will expire on the 28<sup>th</sup> January 2022 (Fig. 1.1). This updated summary EIA and EMP Report has been prepared by Risk-Based Solutions on behalf of the Proponent to support the application for the renewal of the ECC granted on the 28<sup>th</sup> January 2019 as shown in Fig. 1.1. The Environmental Assessment process was undertaken in accordance with the provisions of the Environmental Impact Assessment Regulations, 2012 and the Environmental Management Act, 2007, (Act No. 7 of 2007).

## 1.2 Proposed Project Objectives

The overall objective of the proposed project development by Zhonghe Resources (Namibia) Development (Pty) Ltd is to open a new uranium mine in the ML No. 177. The company intends to define the full economic potential of the uranium deposit found in the ML No. 177. The company intends to develop a uranium mine within the ML No. 177 area with an annual output of between 700 – 1000 ton of uranium oxide. The following is the summary of the indicative sizes of the various proposed development areas within the proposed Mining License in the ML No. 177:

(i)	Proposed Mining Licenses (ML) Area:	151 035 m <sup>2</sup> .
(ii)	Proposed PIT 1	3 000 m <sup>2</sup> .
(iii)	Proposed PIT 2	1 800 m <sup>2</sup> .
(iv)	Proposed PIT 15	700 m <sup>2</sup> .
(v)	Proposed PIT 18 (Main Pit) (Figs 1.3 and 1.4):	6 700 m <sup>2</sup> , and.
(vi)	Administration, Plant and Heap Leaching Area:	22 000 m <sup>2</sup> .

## **1.3 Location and Access**

### **1.3.1 Location of the Mining License Area**

The ML No. 177 is situated in Karibib / Swakopmund Districts in the Erongo Region (Figs. 1.2 and 1.3). The ML No. 177 is in the internationally well-known uranium mining province of Namibia approximately 30 km east of Arandis, 55 km south of the town of Usakos and 90 km east of Swakopmund in straight line distance (Fig. 1.3). The main targeted mining area (Anomaly No. 18) is situated to the east of Rössing Mine, just across the Khan River (Fig. 1.4). Other future pit areas have also been delineated with three (3) such targets situated just to the north of the Rössing Mine on the western side of the Khan River. The heap leaching area, the processing plant, administration, and office blocks will be situated just to the east of the anomaly No. 18. Apart from Rössing Mine, the proposed uranium project is also located near to several other uranium projects such as the Husab Mine (Former Rössing South) and Langer Heinrich Uranium Mine both situated to the south and Valencia Mine situated to the north of the proposed new mine in the ML No. 177.

### **1.3.2 Access to the Proposed Mining License Area**

The license area can be reached through the B2 main road to Swakopmund, on the Valencia Mine Road turn off. Access inside the ML area and, to the main pit area (anomaly No. 18) is currently very challenging. Currently, the exploration team are using the Valencia Mine Road from the B2. At the Khan River, the access road follows the Khan River Channel. This access cannot be utilised during the mining stage of the proposed new uranium mine because it passes along the highly sensitive and potential seasonal flooding Khan River Channel. Any accidental chemical / fuel spillage will have devastating negative effects to the downstream environment and communities. The more favourable proposed access road alternative includes the following:

- (i) Using the existing Valencia Mine main access road (with permission from the Valencia Mine) and upgrading / creating a link road to the D1914 road (Fig. 1.3). A new access from the D1914 to the main mining site comprising processing plant, administration, office, heap leaching with a link road to the main pit area (anomaly No. 18) will need to be created.
- (ii) Using the existing Rössing Mine Road (with permission from the Rössing Mine) and creating a new link with a bridge across the Khan River connecting the pit area (anomaly No. 18) and the main mining site comprising processing plant, administration, office, and heap leaching, and.
- (iii) Using the existing Husab Mine main access road (with permission from the Husab Mine) and upgrading / creating a new link to the D1914 road (Fig. 1.3). However, the road will mean driving through the Namib Naukluft Park because part of the current existing Husab Mine Road passes through the park resulting in challenging logistical arrangement and permitting requirements with the Ministry of Environment, Forestry and Tourism (MEFT).

Of the above three road access options, the uses of the existing Valencia Mine Road seemed to be the most favourable options. While the Rössing Mine link is the shortest of all the available potential options, the cost of building a new bridge across the Khan River will require substantial capital investment and is likely to have high negative environmental impacts.

The development of any of three (3) road access options is likely to have some negative impacts on the environment throughout the proposed project lifecycle. It is hereby recommended that, a feasibility study as well as a separate Environmental Impact Assessment (EIA) and development of an Environmental Management Plan (EMP) be undertaken to select the most economically favourable and environmentally friendly road access option for the new proposed uranium mine in the ML No. 177. The feasibility, EIA and EMP must cover the preconstruction, construction, operation, and ongoing rehabilitation, decommissioning and final rehabilitation and aftercare stages.





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22 January 2019

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

The Manager  
Zhonghe Resources (Namibia) Development (Pty) Ltd  
P O Box 40903  
Ausspannplatz  
Windhoek

Dear Sir/Madam

**SUBJECT: ENVIRONMENTAL CLEARANCE CERTIFICATE FOR THE PROPOSED MINING ACTIVITIES WITHIN MINING LICENSE (ML) NO. 177, IN SWAKOMUND/KARIBIB DISTRICT, ERONGO REGION**

The Environmental Scoping report and Environmental Management Plan submitted are sufficient as these have made an adequate provision of the environmental management for the proposed activities. From this perspective, regular environmental monitoring and evaluations on environmental performance should be conducted. Targets for improvements should be established and monitored throughout this process.

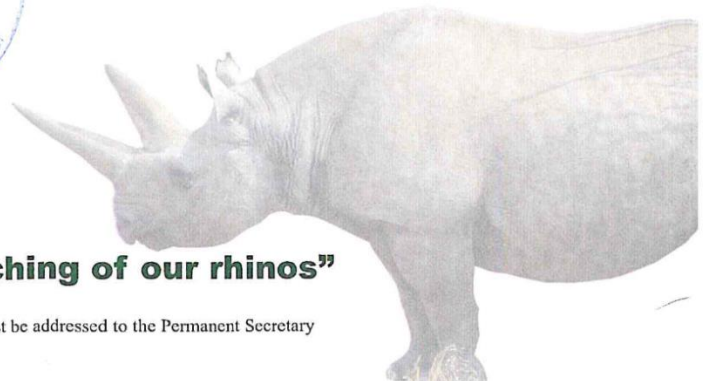
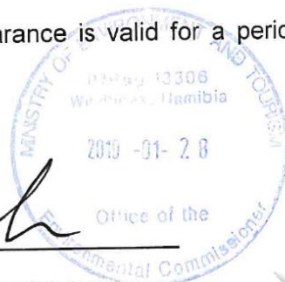
This Ministry reserves the right to attach further legislative and regulatory conditions during the operational phase of the project. From this perspective, I issue this clearance with the following condition: All relevant permits are obtained prior to the commencement of the proposed activities.

On the basis of the above, this letter serves as an environmental clearance certificate for the project to proceed. However, this clearance letter does not in any way hold the Ministry of Environment and Tourism accountable for misleading information, nor any adverse effects that may arise from this project's activities. Instead, full accountability rests with Zhonghe Resources (Namibia) Development (Pty) Ltd and their consultants.

This environmental clearance is valid for a period of (three) 3 years, from the date of issue unless withdrawn by this office.

Yours sincerely,

Teofilus Nghitila  
ENVIRONMENTAL COMMISSIONER



**“Stop the poaching of our rhinos”**

All official correspondence must be addressed to the Permanent Secretary

Figure 1.1: Copy of the ECC for the ML No. 177 issued on the 28<sup>th</sup> January 2019 and expiring on the 28<sup>th</sup> January 2022.

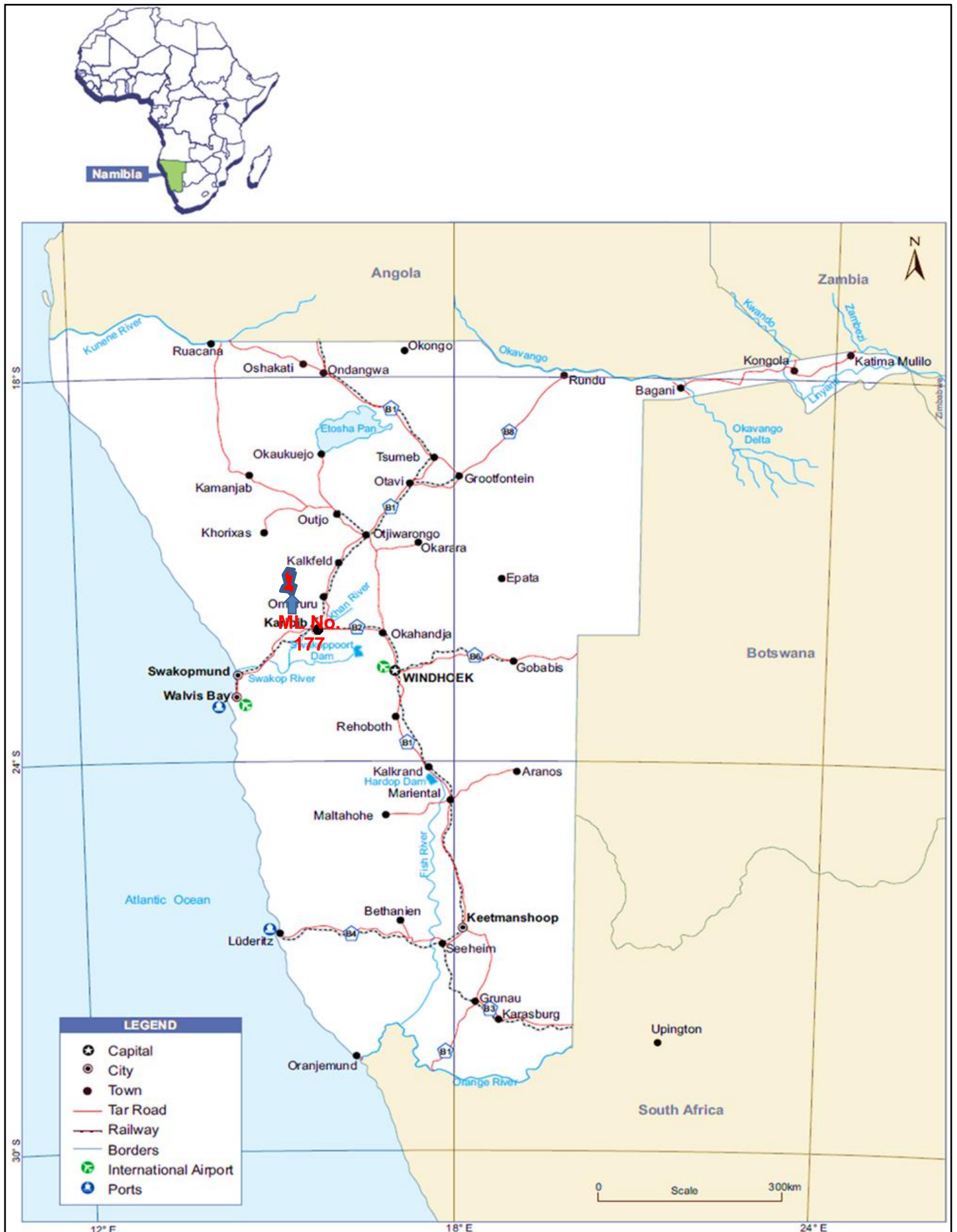


Figure 1.2: Regional location of the ML No. 177.

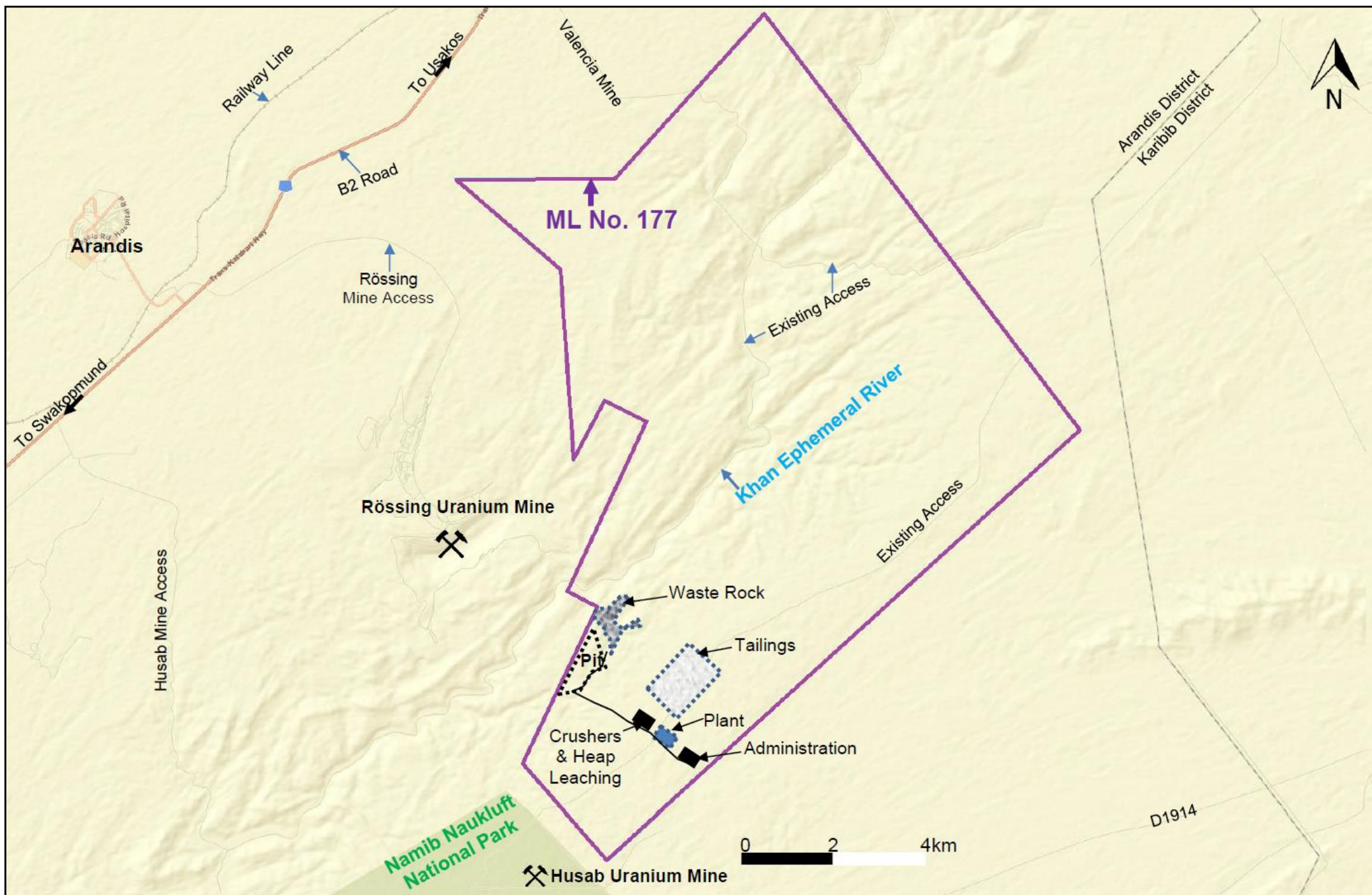


Figure 1.3: Detailed location of the ML No. 177 showing key infrastructures over the main anomaly No. 18 (Pit No. 18), and access (Source: <https://maps.landfolio.com/Namibia>).

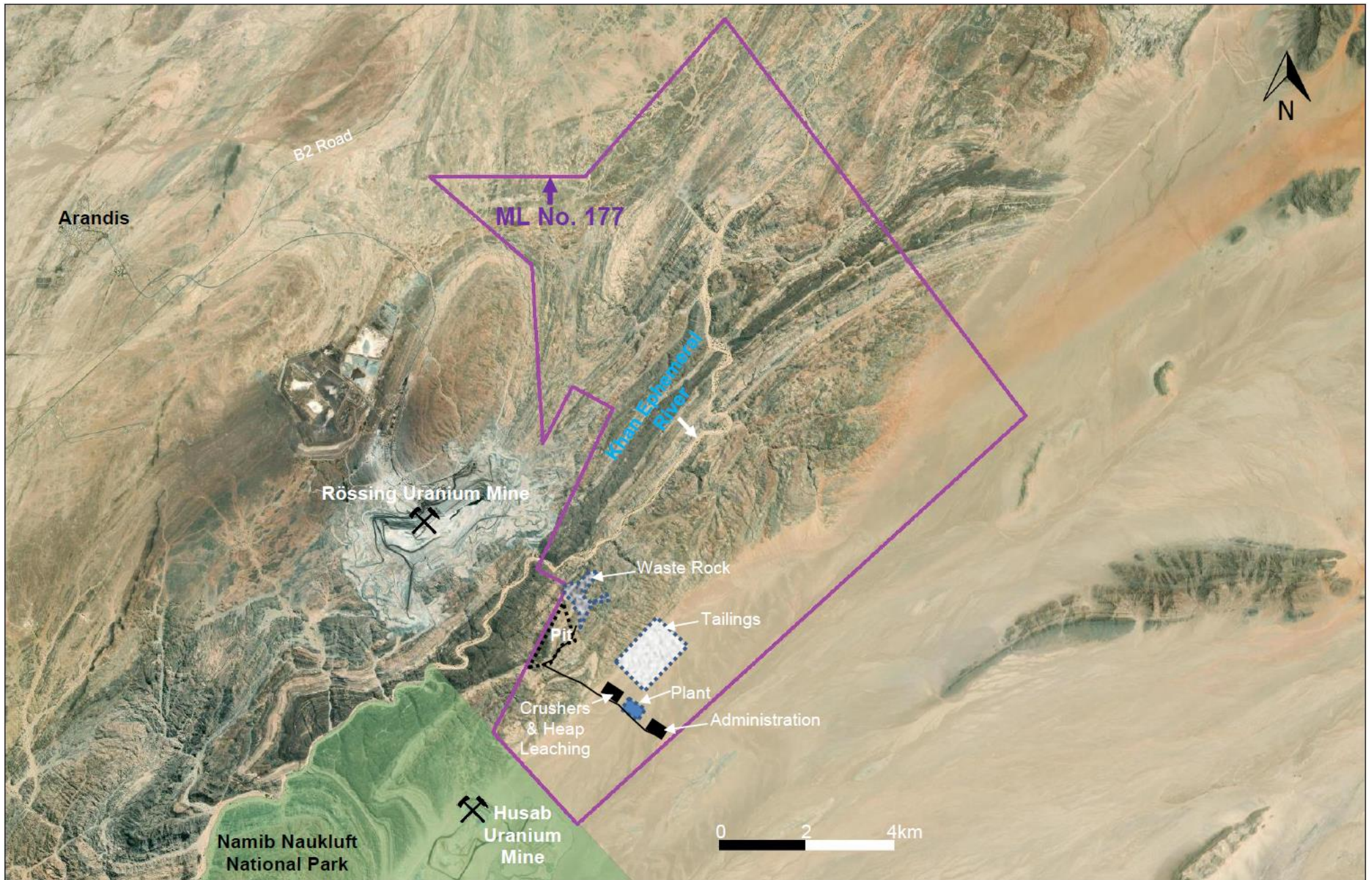


Figure 1.4: Detailed location of the ML No. 177, key infrastructures over anomaly No. 18 (Pit No. 18), and other mining operations in the area (Source: <https://maps.landfolio.com/Namibia>).

## 2. ENVIRONMENTAL MONITORING PLAN

### 2.1 Objectives of the Environmental Monitoring Plan

The main objectives of the environmental monitoring plan are the following:

- ❖ Verify of the correct application of the monitoring measures as presented in the Environmental Management Plan (EMP);
- ❖ Establish a monitoring program for the most relevant environmental parameters, identifying the monitoring activities and frequencies;
- ❖ Identify the impacts foreseen by the project and any unforeseen deviations, allowing for the implementation of corrective measures as needed;
- ❖ Provide assurance to stakeholders requirements with respect to environmental and social performance;
- ❖ Check the overall effectiveness of the preconstruction, construction and operational procedures in protecting the receiving environment;
- ❖ Comply with regulations, standards and EPL and ECC licence conditions, and;
- ❖ Compare actual impacts with those predicted in the Scoping and EMP Report and thereby aim to improve the assessment and monitoring processes for possible.

### 2.2 Roles and Responsibilities

#### 2.2.1 Implementation of the EMP

Management of the environmental elements that may be affected by the different activities of the ongoing mining and exploration activities. The EMP also identified the activity groups / environmental elements, the aspects / targets, the indicators, the schedule for implementation and who should be responsible for the management to prevent major impacts that the different ongoing mining and exploration activities may have on the receiving environment (physical and biological environments).

#### 2.2.2 Proponent's Representative (PR) / Project Manager (PM)

The Proponent is to appoint a **Proponent's Representative (PR) / Project Manager (PM)** with overall project management responsibilities and EMP implementation, monitoring and reporting not limited to the following as may be applicable:

- ❖ Act as the site project manager and implementing agent.
- ❖ Ensure that the Proponent's responsibilities are executed in compliance with the relevant legislation.
- ❖ Ensure that all the necessary environmental authorisations and permits have been obtained.
- ❖ Assist the project team and contractor/s in finding environmentally responsible solutions to challenges that may arise.
- ❖ Should the PR believe a serious threat to, or impact on the environment may be caused by the ongoing activities, he/she may stop work. The Proponent shall be informed of the reasons for the stoppage as soon as possible.

- ❖ The ER or as may be contractually delegated, has the authority to institute disciplinary proceedings in accordance with the provisions of the national laws for transgressions of basic conduct rules and/or contravention of the EMP.
- ❖ Should the Contractor or his/her employees fail to show adequate consideration for the environmental aspects related to the EMP, the ER can have person(s) and/or equipment removed from the site or work suspended until the matter is remedied.
- ❖ Report to the Employer on the implementation of the EMP on site (with input from the HSE and Environmental Social Governance (ESG) / EMP Coordinators and/or independent environmental auditor).
- ❖ Maintain open and direct lines of communication between the Employer, ESG/ EMP Coordinators, Contractor, and stakeholders with regards to environmental matters, and.
- ❖ Attend regular site meetings and inspections.

### **2.2.3 Project Health, Safety and Environment (Project HSE)**

The Proponent is to appoint a Project Health, Safety and Environment (Project HSE) with responsibilities not limited to the following as may be applicable and with respect to the EMP implementation, monitoring and reporting:

- ❖ Manage the site HSE day to day issues.
- ❖ Assist the PR and Contractor in finding environmentally responsible solutions to challenges that may arise.
- ❖ Conduct HSE site reviews.
- ❖ Carry out regular site inspections (on average once per week) of all exploration areas with regards to compliance with the EMP and document any non-compliance(s) and report to the PR as soon as possible.
- ❖ Support external HSE regulatory inspections / audits as may be required.
- ❖ Continuously review the site HSE requirements and recommend additions and/or changes to the EMP and other documents.
- ❖ Monitor the Contractor's HSE awareness training for all new personnel coming onto site.
- ❖ Keep records of all activities related to HSE control and monitoring. the latter to include a photographic record of the site preparation, construction, drilling operations / activities, rehabilitation process, and a register of all major incidents, and.
- ❖ Attend regular site meetings / debriefing and training.

### **2.2.4 Environmental Social Governance (ESG) / EMP Coordinator/s**

The **Environmental Social Governance (ESG) / EMP Coordinator/s** shall have responsibilities not limited to the following as may be applicable and with respect to the EMP implementation, monitoring and reporting:

- ❖ Provide guidance on the implementation of the EMP and Environmental Social Governance (ESG) requirements.
- ❖ Coordinates, implement and monitor all the Corporate Social Responsibilities (CSRs) projects.

- ❖ Assist the project team in ensuring that the necessary environmental authorisations and permits are in place and valid.
- ❖ Assist the project team in finding environmentally responsible solutions to challenges that may arise.
- ❖ Conduct internal environmental review / monitoring as per EMP requirements.
- ❖ Oversee basic EMP conduct rules/ protocols and/or contraventions.
- ❖ Advise the PM / Proponent on the removal of person(s) and/or equipment not complying with the specifications of the EMP.
- ❖ Carry out regular site inspections / reviews (on average once per week) of all operations project areas with regards to compliance with the EMP provisions and report any non-compliance(s) to the PM as soon as possible.
- ❖ Support regulatory / inspections on the implementation of and compliance to the EMP.
- ❖ Organise and support regular independent environmental monitoring as may be required.
- ❖ Continuously review the EMP and recommend additions and/or changes to the EMP document as may be applicable.
- ❖ Monitor the Contractor's environmental awareness training for all new personnel coming onto site.
- ❖ Keep records of all activities related to environmental control and monitoring. the latter to include a photographic record of the construction and environmental control and rehabilitation process, and a register of all major incidents, and.
- ❖ Attend site and community/ stakeholders engagements or consultations meetings as may be required.

### 2.2.5 Contractors and Subcontractors

The responsibilities of the **Contractors and Subcontractors** that may be appointed by the Proponent to undertake certain field-based activities related to the project:

- ❖ Comply with the relevant legislation and the EMP provision.
- ❖ Preparation and submission to the Proponent through the Project HSE of the following Management Plans:
  - Environmental awareness training and inductions.
  - Emergency preparedness and response.
  - Waste management, and.
  - HSE.
- ❖ Ensure adequate environmental awareness training for senior site personnel.
- ❖ Environmental awareness presentations (inductions) to be given to all site personnel prior to work commencement. the Project HSE is to provide the course content and the following topics, at least but not limited to, should be covered:
  - The importance of complying with the EMP provisions.

- Roles and responsibilities, including emergency preparedness.
  - Basic rules of conduct (Do's and Don'ts).
  - EMP: aspects, impacts and mitigation.
  - Disciplinary actions to be taken for failure to adhere to the EMP, and.
  - Health and safety requirements.
- ❖ Record keeping of all environmental awareness training and induction presentations, and.
  - ❖ Attend regular site meetings and environmental inspections.

## **2.2.6 Construction Supporting Teams**

The construction of mine, processing plant and supporting infrastructure will require an array of specialist teams working very closely with their suppliers and core Zhonghe Resource (Namibia) Development (Pty) Ltd Namibia onsite operations team. The following is a summary of some of the specialists that will be required during the construction phase as part of the team of contractors:

- ❖ Civil/Structural Contractors, Metallurgist, Mechanical and Crane Contractors, Electrical Contractors and each with their respective Sub-contractors and Suppliers, would report directly to the Employer's Representative (ER), acting as the onsite Project Manager.

## **2.2.7 Risk-Based Solutions (External)**

The responsibilities of Risk-Based Solutions (RBS) included the following:

- ❖ Provided external independent monitoring / auditing support services;
- ❖ Undertook independent monitoring activities;
- ❖ Provided external HSE compliance monitoring and reporting, and;
- ❖ Prepared this environmental monitoring report.

## **2.3 Reporting Process**

The daily, weekly, monthly and annual related environmental monitoring activities have all contributed to the preparation of this environmental monitoring report.

## **2.4 Monitoring Strategy**

### **2.4.1 Overview**

The monitoring programme was developed to allow maximum flexibility in both the timing and change to the site conditions encountered and to allow decisions to be made in the field and based on all available data.

### **2.4.2 Monitoring Implementation**

Since the granting of the ML No. 177 on the 30/11/2012, no mining or mine related construction activities have been undertaken due to the low global uranium price that currently makes the project not economic. No EMP monitoring provisions were implemented by the Proponent.



### **3. RESULTS OF THE ENVIRONMENTAL MONITORING**

#### **3.1 Hierarchy of Mitigation Measures Implementation**

A hierarchy of methods for mitigating significant adverse effects was adopted with respect to the implementation of the EMP for the ML 177 and covered the following in order of preference:

- (i) Enhancement, e.g. provision of new habitats;
- (ii) Avoidance, e.g. sensitive design to avoid effects on ecological receptors;
- (iii) Reduction, e.g. limitation of effects on receptors through design changes, and;
- (iv) Compensation, e.g. community benefits.

#### **3.2 EMP and Mitigation Measures**

The Environmental Management Plan (EMP) provides a detailed plan of action required in the implementation of the mitigation measures for minimising and maximising the identified negative and positive impacts respectively.

The EMP also provides the management actions with roles and responsibilities requirements for implementation of environmental management strategies by the Proponent through the Contractors and Subcontractors undertaking mining and exploration activities.

The EMP gives commitments including financial and human resources provisions for effective management of the likely environmental liabilities during and after the implementation of the mining and exploration activities.

#### **3.3 Monitoring Results**

No environmental monitoring activities have been undertaken for the period under review January 2019 to July 2021 because no mining related activities have been undertaken because the mining project is not economic at the current global uranium prices.

Nuclear power, fuelled by uranium, is a key part of the world's energy mix, accounting for approximately 10 percent of the world's electricity requirements ([www.nei.org/resources/statistics](http://www.nei.org/resources/statistics)). Nuclear power a carbon free, efficient, reliable, and abundant source of base-load electricity. A single uranium fuel pellet, the size of a pencil eraser, contains the same amount of energy as 17,000 cubic feet of natural gas, 1,780 pounds of coal or 149 gallons of oil. In addition, five kilograms of natural uranium contain the same amount of energy as 60 tons of hard coal. A single nuclear reactor prevents the emission of approximately 3.0 million tonnes of CO<sub>2</sub> per year.

Nuclear power plants operate on a 24/7 basis, for periods of 18 to 24 months before shutting down briefly for refuelling. No other power source operates at that level of reliability. As important, electricity from nuclear power plants generates significantly lower emissions of carbon dioxide, a greenhouse gas, compared with fossil fuel plants (approximately 60-70 gm of CO<sub>2</sub>/Kwh vs. 500 – 1,000 gm of CO<sub>2</sub>/Kwh).

Nuclear energy is the only source of carbon-free, abundant baseload energy and plays a vital role in providing clean energy for sustainable economic development throughout the world.

Nuclear power plants use the heat produced by nuclear fission to generate steam that drives turbines, similar to fossil fuel plants. Unlike fossil fuel plants, nuclear power stations do not emit carbon dioxide, sulphur dioxide or other air pollutants or greenhouse gases and only very small amounts are produced across the entire nuclear fuel cycle. The current use of nuclear energy saves roughly 2.1 billion tonnes of carbon dioxide equivalent emissions each year. According to the International Energy Agency,

nuclear energy has prevented the emission of some 56 gigatonnes of carbon dioxide, the equivalent of two years' global emissions at today's rate.

In 2012, in the United States alone, nuclear energy facilities prevented 569 million metric tonnes of carbon dioxide emissions (equal to the amount of carbon dioxide emissions from 110 million cars) and the emission of 1 million tonnes of sulphur dioxide and 0.47 million tonnes of nitrogen oxide ([www.nei.org/resources/statistics](http://www.nei.org/resources/statistics)). Almost four years' worth of carbon dioxide emissions will be avoided by 2040 at current nuclear usage levels. The International Energy Agency expects global electricity demand will increase by between 80 percent and 130 percent by 2050.

According to the International Panel on Climate Change, at least 80 percent of the world's electricity must be low carbon by 2050 to keep global warming within two degrees Celsius. Significantly reducing global carbon emissions, while meeting the growing global demand for electricity, will require increasing reliance on nuclear power as a major source of low carbon energy.

## **4. CONCLUSIONS AND RECOMMENDATIONS**

### **4.1 Conclusions**

the Mining License (ML) No. 177 measuring 12, 863 Ha. The ML No. 177 granted on the 30/11/2012 and will expire on the 29/11/2031 is situated in Karibib / Swakopmund Districts in the Erongo Region. To date no mine construction related activities have taken place in the ML area due to low global demand and prices of uranium.

The development of the proposed mine in the ML No. 177 will require a valid ECC to be in place before the start of the construction activities. In accordance with the provisions of the Environmental Management Act, 2007, (Act No. 7 of 2007) and the EIA Regulations, 2012, this updated summary Environmental Impact Assessment and Environmental Management Plan (EMP) Report has been prepared to support the application for the renewal of the ECC granted on the 28<sup>th</sup> January 2019 and expiring on the 28<sup>th</sup> January 2022. A compressive detailed EIA Report prepared in 2011 is available on request from the Proponent.

Since the granting of the ML No. 177 on the 30/11/2012, no mining or mine related construction activities have been undertake due to the low global uranium price that currently makes the project not economic. No EMP monitoring provisions were implemented by the Proponent for the period under review from January 2019 to July 2021.

### **4.2 Monitoring Recommendations**

In anticipation for a rebound in global uranium prices driven by the need for global clean pivotal to fighting global Climate Change, the Proponent intend to renew the current ECC expiring in January 2022 in order not to delay the implementation of the mining project once the global trading environment improves.

It is hereby recommended that the ML 177 be issued with a new Environmental Clearance Certificate (ECC) that will be in line with the provisions of Environmental Impact Assessment Regulations (2012) and the Environmental Management Act, 2007, (Act No. 7 of 2007).