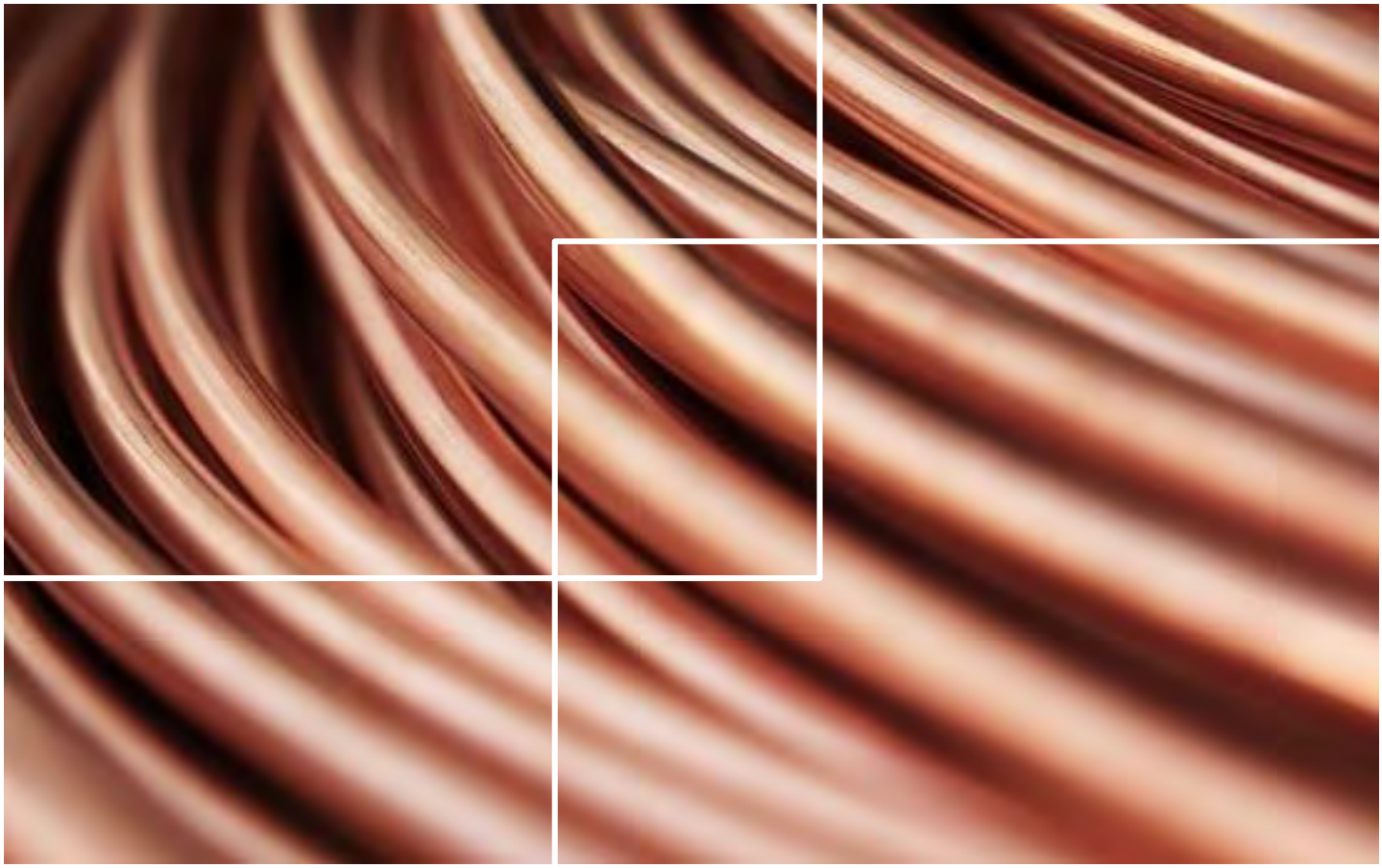

CRATON
Mining and Exploration
(Pty) Ltd

Submitted to: Craton Mining and Exploration (Pty) Ltd
Attention: Mr Mike Stuart
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Windhoek
Namibia

SCOPING REPORT:

THE PROPOSED MINING ACTIVITIES ON ML 197 FOR THE OMITIOMIRE COPPER PROJECT, KHOMAS REGION, NAMIBIA

PROJECT NUMBER: ECC-134-394-REP-07-D

REPORT VERSION: REV 01

DATE: 12 JULY 2023

Prepared by:

ECC
ENVIRONMENTAL
COMPLIANCE CONSULTANCY

TITLE AND APPROVAL PAGE

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LIST OF ABBREVIATIONS

ABBREVIATION	DEFINITION
AIDS	acquired immune deficiency syndrome
AWR	African Wilderness Restoration
BC	before Christ
BID	background information document
BoN	Bank of Namibia
BFS	bankable feasibility study
CBD	Convention on Biological Diversity
CIA	cumulative impact assessment
CITES	Convention on the International Trade in Endangered and Species of Wild Fauna and Flora
Cont.	contained (copper)
COVID -19	coronavirus 2019
Cu	copper
Cu_2S	chalcocite
Cu_5FeS_4	bornite
DD	diamond drilling
DEA	Department of Environmental Affairs
DMS	dense media separation
EAP	environmental assessment practitioner
ECC	environmental clearance certificate
ECC	Environmental Compliance Consultancy
EIA	environmental impact assessment
EMA	Environmental Management Act No. 7 of 2007
EMP	environmental management plan
ENE	east north-east
EPL	exclusive prospecting licence
ESIA	environmental and social impact assessment
GDP	gross domestic product
GSAP	geochemical sampling and analysis plan
HAN	Hospitality Association of Namibia
HIV	human immunodeficiency virus
H_2SO_4	sulfuric acid
I & APs	interested and affected parties
IFC	International Finance Corporation
ICP	inductively coupled plasma
IUCN	International Union for Conservation of Nature
LoM	life of mine
M and I	measured and indicated (ore resources)

ABBREVIATION	DEFINITION
masl	meters above sea level
MEFT	Ministry of Environment, Forestry and Tourism
ML	mining licence
mm	millimetre
MME	Ministry of Mines and Energy
MAWLR	Ministry of Agriculture, Water and Land Reform
NaCl	sodium chloride
NAU	Namibian Agricultural Union
NDP 5	National Development Plan 5
NGO	non-governmental organization
NHC	Namibian Heritage Council
NE	northeast
NNE	north north-east
NPV	net present value
NSA	Namibia Statistic Agency
PERC.	percussion drilling
RAB	rotary air blast drilling
RC	reverse circulation drilling
RH	relative humidity
ROM	run of mine
TB	tuberculosis
ToR	terms of reference
tpa	tonnes per annum
WHO	World Health Organisation
WRD	waste rock dump
XRF	x-ray fluorescence
UNFCCC	United Nations Framework Convention on Climate Change

1 INTRODUCTION

1.1 COMPANY BACKGROUND

Environmental Compliance Consultancy (ECC) has been retained by Craton Mining and Exploration (Pty) Ltd (Proponent), to undertake an environmental and social impact assessment (ESIA) for the construction and operation of an open pit copper mine, heap leach and related electrowinning facilities to produce cathode copper (Project). Scoping and ESIA reports include an environmental and social management plan (ESMP). The ESIA process and related submittals and report compliant with Environmental Management Act, No 7 of 2007 and its regulations of 2012 are also aligned with international standards (IFC). An environmental clearance application will be submitted to the relevant competent authorities (in this case, the Ministry of Mines and Energy) and the Ministry of Environment, Forestry, and Tourism (MEFT) for a record of decision.

Craton Mining and Exploration (Pty) Ltd holds the mining licence 197 (ML 197) over farm Omitiomire, located 140 km northeast of Windhoek (by road) and approximately 39 km south of Hochfeld, in the Khomas Region of Namibia.

Exploration undertaken since 2007 has resulted in a mineral resource of approximately 105.5 million tonnes at 0.59% Copper (Cu). Most of the deposit is in the form of copper sulphides, specifically chalcocite, containing high proportions of copper and low proportions of iron. The copper sulphides have been oxidised near the surface to approximately 40 m, and at a depth next to major fractures and fault lines. The oxidised copper ores, mainly malachite, make up approximately 10% of the total mineralisation.

The location of the Project on Farm Omitiomire within ML 197, Khomas Region, Namibia is shown in Figure 1. The location of the proposed open pit, heap leach pad areas and waste rock dumps is shown in Figure 2.

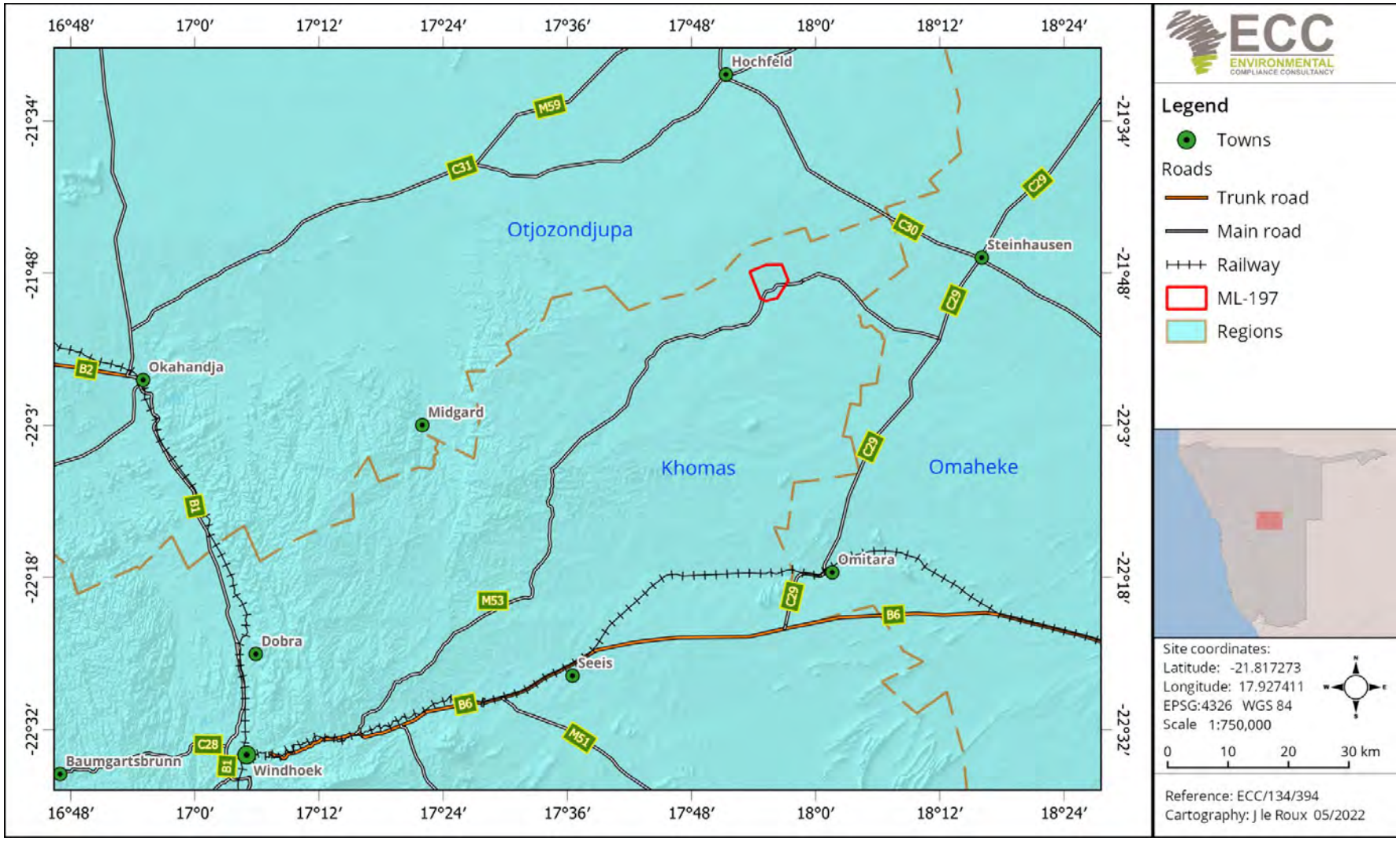


Figure 1 - Locality map of the proposed mine on ML 197, Khomas Region, Namibia

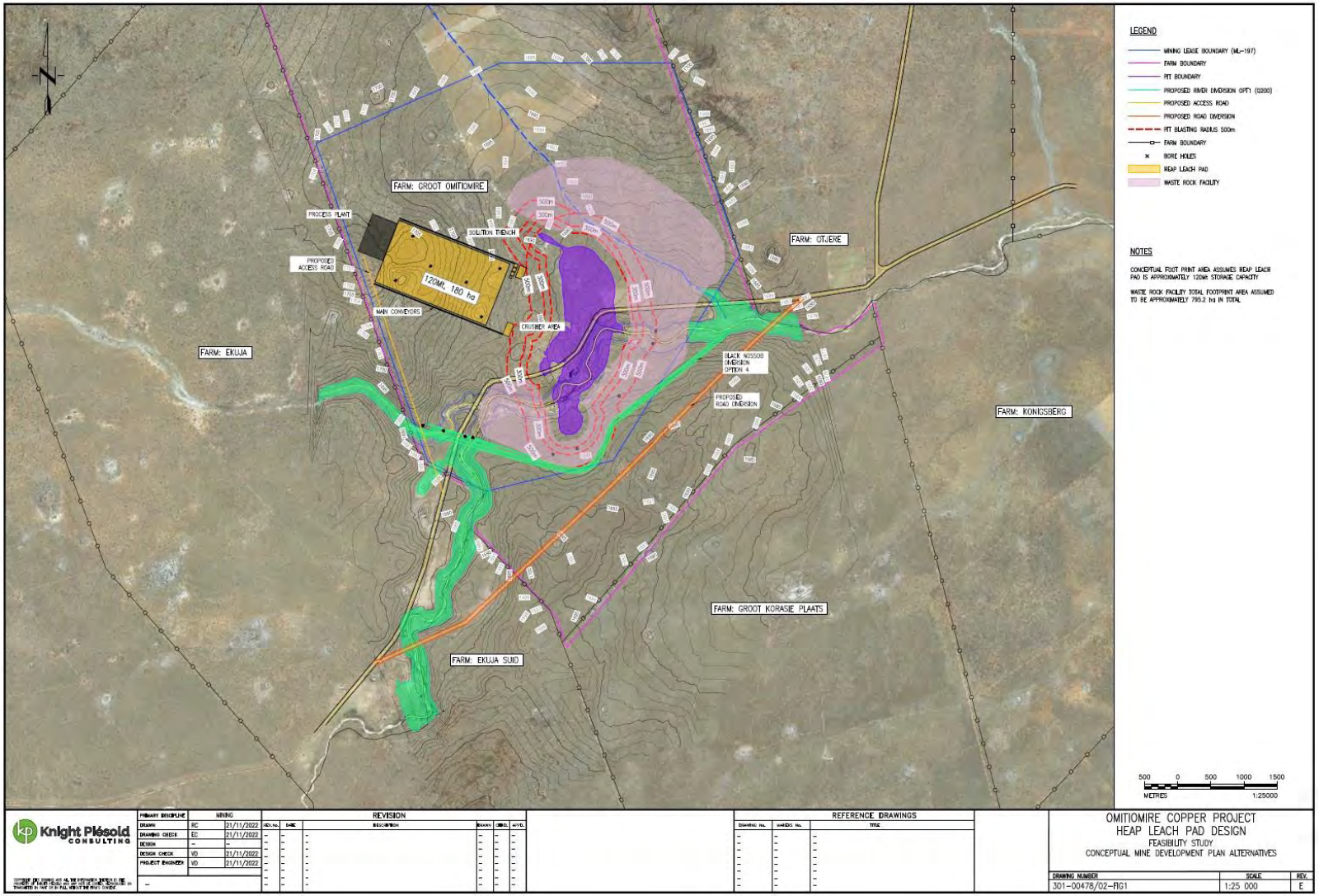


Figure 2 - The location of the proposed open pit, heap leach pad areas and waste rock dumps within ML 197

1.2 Purpose of the report

An environmental and social impact assessment (ESIA) is being conducted in fulfillment of the Environmental Management Act, 2007, and its regulations. The purpose of this report is to present the findings of the scoping study phase that forms part of the larger ESIA process. This scoping report summarises the prescribed ESIA process followed; provides information on the baseline biophysical and socioeconomic environments, project description, and details; outlines the terms of reference for the assessment phase; and presents a preliminary environmental and social management plan (ESMP), which is provided as Appendix A.

The scoping report and appendices will be submitted to the public for review. This stage provides an opportunity for interested and affected parties (I&APs) to provide input, comments, and suggestions on the proposed project, and in so doing, guide the impact assessment phase. The scoping report, inclusive of the public comments, will then be submitted to the Ministry of Mines and Energy (MME) as the competent authority for the project. Thereafter, it will be submitted to the Ministry of Environment, Forestry, and Tourism (MEFT) - Directorate of Environmental Affairs (DEA) for a record of decision.

1.3 The proponent of the proposed Project

Table 1 - Proponent's details

Company Representative	Contact Details
Mr. Ingo Hofmaier Technical contact person	P.O. Box 90128, Windhoek, Namibia ihofmaier@omicomining.com +44 (0)7747 050100

1.4 Environmental and social assessment practitioner

Environmental Compliance Consultancy (Pty) Ltd (ECC) has prepared this scoping report and the preliminary ESMP on behalf of the Proponent.

This report has been authored by employees of ECC, who have no material interest in the outcome of this report, nor do any of the ECC team have any interest that could be reasonably regarded as being capable of affecting their independence in the preparation of this report. ECC is independent of the Proponent and has no vested or financial interest in the Project, except for fair remuneration for professional fees rendered based upon agreed commercial rates. Payment of these fees is in no way contingent on the results of this report or the assessment, or a record of decision issued by the Government. No member or employee of ECC is or is intending to be, a director, officer, or any other direct employee of Craton Mining and Exploration (Pty) Ltd. No

member or employee of ECC has or has had, any shareholding in Craton Mining and Exploration (Pty) Ltd.

All compliance and regulatory requirements regarding this 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 REQUIREMENTS

The Environmental Management Act, 2007, and its regulations stipulate that an environmental clearance certificate is required before undertaking any of the listed activities that are identified in the Act and its regulations. Potential listed activities triggered by the project are provided in Table 2.

Table 2 - Listed activities potentially triggered by the Project.

Listed Activity	Relevance To the Project
ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES The construction of facilities for: (1a) The generation of electricity (1b) The transmission and supply of electricity	– The Omitiomire Copper Mining Project will need to generate and or transmit electricity for its operations; the Project is expected to connect to the national power grid supplied by NamPower; and – The Proponent may consider developing a renewable energy plant (i.e., solar) for the generation of supplementary power.
WASTE MANAGEMENT, TREATMENT, HANDLING AND DISPOSAL ACTIVITIES (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.	– Facilities for the disposal of mine and domestic waste will need to be designed and constructed; and – 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 activity.
MINING AND QUARRYING ACTIVITIES (3.1) The construction of facilities for any process or activities which requires a licence, right or other form of authorisation, and the renewal of a licence, right or other form of authorisation, in terms of the Minerals (Prospecting and Mining Act), 1992.	– This listed activity invokes 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

Listed Activity	Relevance To the Project
(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.	
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, 2001 (Act No. 12 of 2001) or any other law	– Vegetation clearing will be required for site construction and infrastructure establishment; and – During operations, vegetation clearing will be required as the Project develops. The necessary permits will be acquired as needed.
HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE (9.1) The manufacturing, storage, handling or processing of a hazardous substance is defined in the Hazardous Substances Ordinance, 1974. (9.2) Any process or activity which requires a permit, licence or other form of authorisation, or the modification of or changes to existing facilities for any process or activity which requires an amendment of an existing permit, licence or authorisation or which requires a new permit, licence or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste.	– The proposed mining operations and process method triggers this activity, as both fuel and hazardous substances are required for mining and processing activities; – Bulk fuel may be required for onsite generation of electricity and for refuelling the mining fleet; – Consumer installation certificates are required for bulk fuel storage and dispensing; – Hazardous reagents will be used within the copper extraction and processing plant; – The Project may make use of portable toilets, chemical toilets, as well as septic/conservancy tanks used during the pre-mining activities. Permanent sewage waste treatment systems and handling facilities will be constructed on-site for use during the operational phase of the Project; and – A laboratory may be constructed within the footprint of the ML.

Listed Activity	Relevance To the Project
(9.4) The storage and handling of 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.	
WATER RESOURCE DEVELOPMENT (8.1) The abstraction of ground or surface water for industrial or commercial purposes. (8.2) The abstraction of groundwater at a volume exceeding the threshold authorised in terms of the law relating to water resources. (8.4) Construction of canals and channels, including the diversion of the normal flow of water in a riverbed, and water transfer schemes between water catchments and impoundments. (8.5) Construction of dams, reservoirs, levees, and weirs. (8.6) Construction of industrial and domestic wastewater treatment plants and related pipeline systems. (8.8) Construction and other activities in watercourses within flood lines. (8.9) Construction and other activities within a catchment area.	– Ground and surface water may be abstracted during construction; – Dewatering the pit may be required to ensure safe mining operations; – Water supply options from underground sources are under investigation for the Project; and – Diversion of the Black Nossob River away from the mine infrastructure and the open pit area.
INFRASTRUCTURE 10.1 The construction of:	– Powerlines and telemetry for water and pumping will be required; and

Listed Activity	Relevance To the Project
(j) masts of any material or type, and of any height, including those used for telecommunication broadcasting and radio transmission. (10.2) The route determination of roads and design of associated physical infrastructure where – (a) it is a public road.	– The M53 district road will need to be diverted around the southern edge of the proposed open pit.

2 APPROACH TO THE ASSESSMENT

2.1 PURPOSE AND SCOPE OF THE ASSESSMENT

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

2.2 THE ASSESSMENT PROCESS

The ESIA methodology applied to this assessment has been developed using the International Finance Corporation (IFC) standards and models, in particular, *Performance Standard 1: 'Assessment and management of environmental and social risks and impacts* (International Finance Corporation, 2012 and 2017); Namibian legislation and *Draft Procedures and Guidance for EIA and EMP* (the Republic of Namibia, 2008); international and national best practice guidelines; and ECC's combined relevant ESIA experience.

This assessment is a formal process. The potential impacts of the Project on the biophysical, social, and economic environments are identified, assessed, and publicly reported for consideration by authorities for their record of decision for the proposed Project.

Final mitigation measures and recommendations are based on the cumulative experience of the consulting team and the Proponent, taking into consideration the potential environmental and social impacts. The process followed, through the assessment, is illustrated in Figure 1, and is detailed further in the following sections.

It is important to note the assessment has been carried out in accordance with the plans received from the proponent. After completing the assessment, some aspects of the proponent's plans may need to change in order to comply with the mitigations.

1. Project screening

Complete

The first stages in the ESIA process are to undertake a screening exercise to determine whether the Project triggers listed activities under the Environmental Management Act, 2007, and its regulations.

The screening phase of the Project is a preliminary analysis, in order to determine ways in which the Project might interact with the biophysical, social, and economic environments.

Stakeholder engagement:
- Registration of the project
- Preparation of the BID
- Strategic public consultation

2. Establishing the assessment scope

Complete

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

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

SOCIOECONOMIC ENVIRONMENT
- Socio-economic
  - Noise effects on sensitive receptors
  - Cultural heritage and archaeology
  - Blasting effects on sensitive receptors
  - Traffic effects

BIOPHYSICAL ENVIRONMENT
- Biodiversity;
  - Fauna
  - Flora
  - Hydrology and geohydrology
  - Ambient air quality

3. Baseline studies

In Progress

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 to allow suitable mitigation and monitoring to be identified.

The project area has been studied utilising various publicly available literature and previous studies undertaken in the project area itself. This literature was available to be referenced. The Project site-specific area has been studied as part of the ESIA process, and the following has been conducted as part of this assessment:
- Desktop studies
- Consultation with stakeholders
- Specialist studies

The environmental and social baselines are provided in the scoping study.

4. Scoping report and preliminary EMP

Complete

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

This scoping report focuses on describing the ESIA process, project description, baseline description and Terms of Reference for the assessment phase.

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

5. Impact identification and evaluation

In Progress

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

The Project will be assessed, along with alternatives that were considered during the design process in accordance with the Environmental Management Act, 2007. Section 6 in this report sets out the assessment methodology to be used to assess the Project against the environmental and social baselines that would be affected.

6. Final scoping plus impact assessment and EMP

Future stage

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

The final ESIA report, appendices, and the addendum report, will be available to all stakeholders, and all I&APs will be informed of its availability for statutory review period of 7 days.

The ESIA report, appendices and addendum will be formally submitted to the competent authority (MME) and the MEFT: DEA as part of the application for an environmental clearance certificate.

7. Authority assessment and decision

Future Stage

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

8. Monitoring and auditing

Future Phase

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

2.3 STUDY AREA

This ESIA study area has been defined according to the geographic scope of the receiving environment in and around ML 197 and potential impacts of the proposed Project. The receiving environment is a summary term for the biophysical and socioeconomic environment that is described in the baseline chapter. The study area is presented in Figure 3.

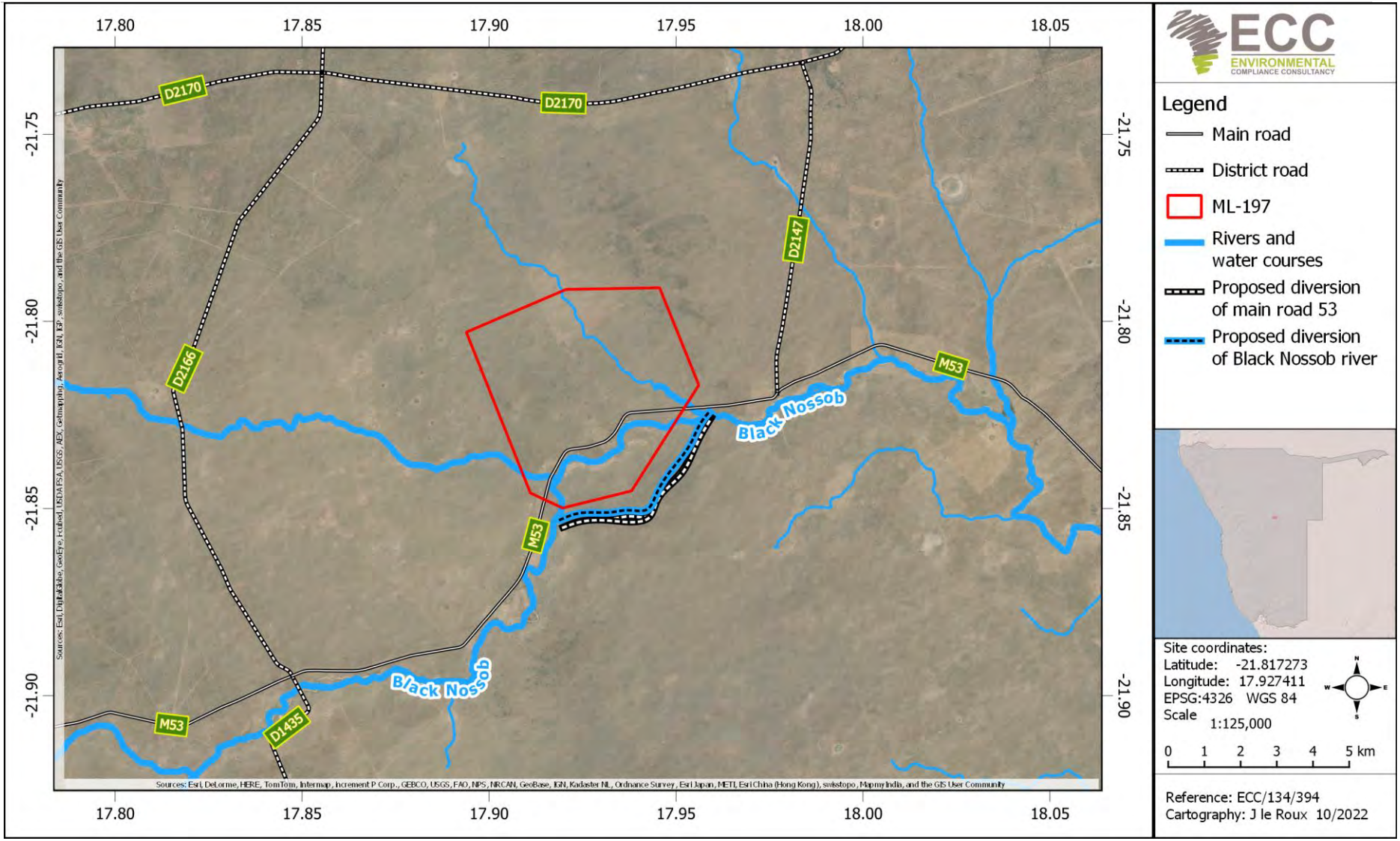


Figure 3 - ESIA study area

2.4 PUBLIC CONSULTATION

Public participation and consultation are a requirement stipulated in Section 21 of the Environmental Management Act, 2007, and its regulations, for a project that requires an environmental clearance certificate. Consultation is a compulsory and critical component of the ESIA process for achieving transparent and inclusive decision-making and can provide many benefits. Consultation continues throughout the ESIA process.

The objectives of the public participation and consultation process are to:

- Provide information on the project, and introduce the overall project concept and plan in the form of a background information document (BID);
- Identify the relevant government, regional, and local regulating authorities;
- Engage with community, NGO, and tourism-related issues, record questions and concerns, and integrate the issues and aspects in the process;
- Explain the process of the ESIA and the timeframes involved; and
- Establish a platform for ongoing consultation.

Public consultation for the Project commenced on the 1st of February 2023. Adverts were published in the newspaper announcing the dates of the public meetings and encouraging members of the public to sign up as an I&AP for the Project.

The adverts for these public meetings were published in newspapers and the notification of the assessment in terms Regulation 21 of the Act was placed in the following newspapers on the 1 February 2023 and 8 February 2023:

- The Republikein;
- The Namibian Sun; and
- Allgemeine Zeitung.

Public meetings were then subsequently held in Windhoek at the Namibian Scientific Society on the 8th of February 2023 and on Farm Groot Korasie at the Otjere Hunting Lodge on the 10th of February 2023.

The records of the public consultation process in the form of a summary report are provided in Appendix B and provides the current list of I&APs, evidence of consultation, including minutes of public meetings, advertisements in national newspapers, and a summary of the comments or questions raised by the public. A summary of the key concerns raised during the consultation process is provided in section 2.5.

2.4.1 IDENTIFICATION OF KEY STAKEHOLDERS AND INTERESTED OR AFFECTED PARTIES

A stakeholder mapping exercise was undertaken to identify individuals or groups of stakeholders and the method in which they will be engaged during the ESIA process. Stakeholders were approached through direct communication (letters and phone calls), the national press, site notices, or directly by email. The list of stakeholders and a summary of their input is included in Appendix B. Figure 4 shows the direct stakeholders of interest.

A summarised list of stakeholders that were engaged during the public consultation process is given below:

- The general public with an interest in the project;
- Regional and local authorities;
- Agricultural associations;
- Tourism and hunting associations;
- The National Heritage Council;
- Roads Authority;
- Relevant line Ministries (MEFT, MAWLR and MME); and
- Neighbouring farming community.

The draft scoping report was submitted to the competent authority, and all interested and affected parties for their review on the 30th of May 2023. The public review period was open for a period of 14 days from 30th of May 2023 to 13th of June 2023. All comments received were recorded, analysed, and incorporated into the summary report as an addendum to the scoping report as presented in Appendix C – Addendum Report

The final scoping report will be submitted to the competent authority and MEFT for their review and record of decision.

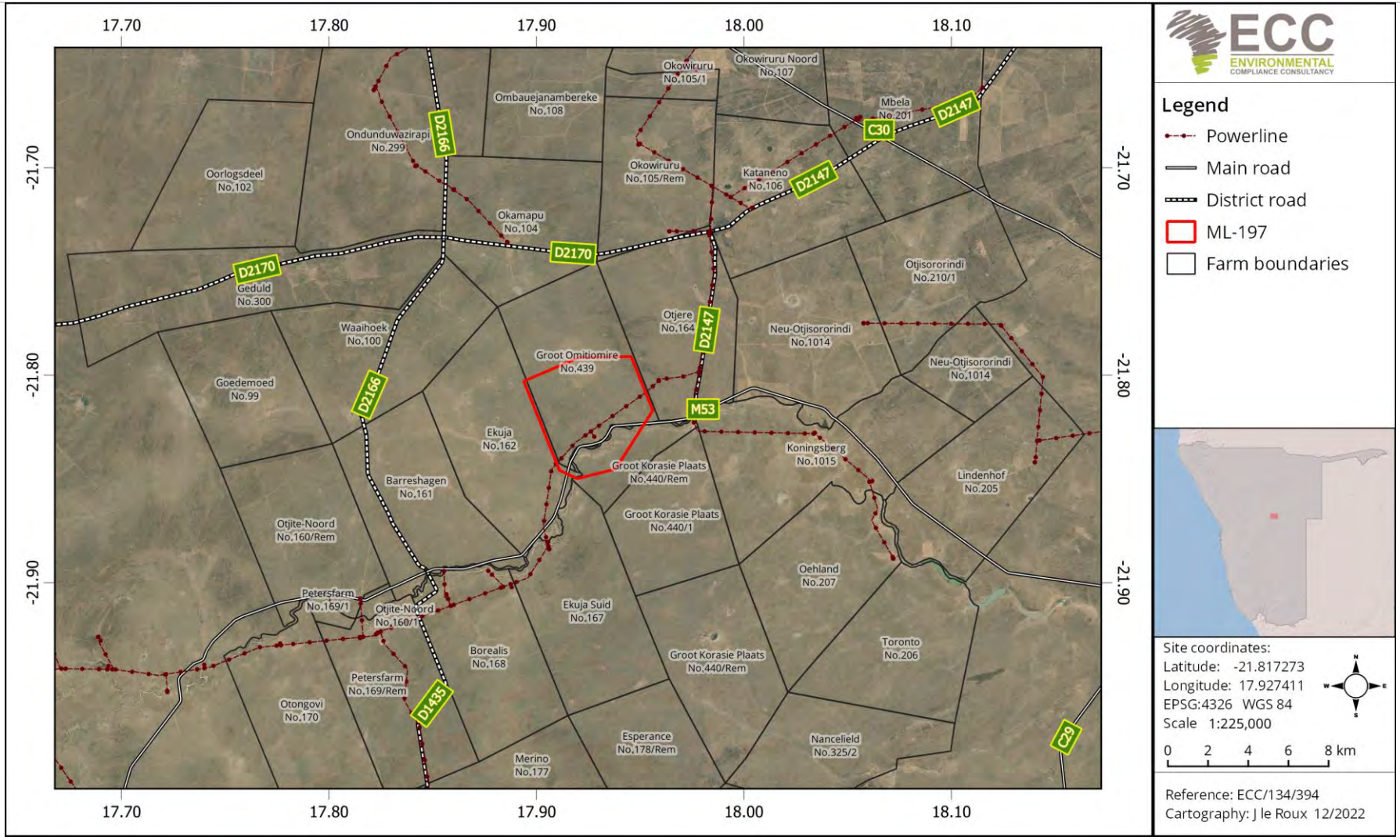


Figure 4 - Neighbouring farms surrounding the Mining Licence area.

2.5 SUMMARY OF ISSUES RAISED

Matters raised by registered I&APs in relevant stakeholder consultations and the public meeting in Windhoek and at Otjere Lodge include the following, which are typical for the nature, location and scale of this project namely:

- The Black Nossob River diversion;
- Increase in poaching, stock theft and crime;
- Water use and possible contamination from use of chemicals;
- Workers camp;
- Road and transport corridors;
- Noise, visual and light impact;
- Community benefits from the Project; and
- Mine closure.

To ensure that I&APs can comment and provide feedback on this assessment, the completed scoping report will be circulated to all neighbouring landholders, potentially I&APs, and stakeholders of the project. Should stakeholders have comments or questions, or areas that concern them that they feel require further assessment, ECC will address these in the assessment phase or through an addendum report to the final scoping report document.

3 REVIEW OF THE LEGAL ENVIRONMENT

As stated in Section 1, an environmental clearance certificate is required for any activity listed in the Government Notice No. 29 of 2012 of the EMA. Mine construction and operation are listed activities.

The Project area is located outside of any national parks, heritage-listed areas, or areas of significance. The Project area is not located within a groundwater-controlled area, as regulated under the Water Management Act of 1956.

This chapter outlines the regulatory framework applicable to the proposed Project. Therefore, the proposed Project has conducted a thorough review of relevant legislation. Table 3 identifies relevant legal requirements specific to the Project. Table 4 provides the national policies and plans.
Table ***5*** contains specific permits relevant to the Project. Table 6 refers to international policies and plans relevant to the Project.

3.1 NATIONAL REGULATORY FRAMEWORK

Table 3 - Details of the regulatory framework as it applies to the Project.

National Regulatory Regime	Summary	Applicability to the project
Constitution of the Republic of Namibia (1990)	The constitution 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 the utilisation of living, natural resources on a sustainable basis for the benefit of all Namibians, both present, and future*."	The Proponent is committed to the sustainable use of the environment and has aligned its corporate mission, vision, and objectives with the Constitution of the Republic of Namibia (1990).
Minerals (Prospecting and Mining) Act No. 33 of 1992	The Act provides for the granting of various licences related to mining and exploration. Section 50 (i) requires: "An environmental impact assessment indicating the extent of any pollution of the environment before any prospecting operations or mining operations are being carried out, and an estimate of any pollution, if any, likely to be caused by such prospecting operations or mining operations."	This scoping report documents the findings of the scoping phase of the environmental assessment undertaken for the proposed Project; and The process will be undertaken in line with the Act's requirements and regulations.

National Regulatory Regime	Summary	Applicability to the project
	The Act sets out the requirements associated with licence terms and conditions, such that the holder of a mineral licence shall comply with. The Act also contains relevant provisions for pollution control related to mining activities and land access agreements and provides provisions that mineral licence holders are liable for any damage to land, water, plant, or animal life, caused by spilling or pollution, and must take all such steps as may be necessary to remedy such spilling, pollution, loss, or damage, at its own costs.	
Environmental Management Act, 2007 (Act No. 7 of 2007) and its regulations (2012), including the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2011)	The Act aims to promote sustainable management of the environment and the use of natural resources. The Act requires certain activities to obtain an environmental clearance certificate prior to Project development. The Act states that an EIA should be undertaken and submitted as part of the environmental clearance certificate application process. The MEFT is responsible for protecting and managing Namibia's natural environment. The Department of Environmental Affairs, under the MEFT, is responsible for the administration of the EIA process.	This scoping report documents the findings of the scoping phase of the environmental assessment undertaken for the proposed Project; and The process will be undertaken in line with the Act's requirements and regulations.

National Regulatory Regime	Summary	Applicability to the project
Soil Conservation Act, No. 76 of 1969	This Act makes provision for the prevention and control of soil erosion, and for the protection, improvement, and conservation of soil and vegetation.	Land clearing is an unavoidable necessity for the proposed Project, as large areas will be cleared for mining infrastructure; and Measures will be included in the ESMP to conserve soil and vegetation that will be used as part of the rehabilitation phase of the Project.
Hazardous Substances Ordinance, No. 14 of 1974	This Ordinance provides for the control of toxic substances and can be applied in conjunction with the Atmospheric Pollution Prevention Ordinance, No. 11 of 1976. This applies to the manufacture, sale, use, disposal, and dumping of hazardous substances, as well as their import and export.	The planned Project will involve the handling and storage of hazardous substances such as fuels, reagents, and industrial chemicals; The Proponent shall ensure effective handling, transfer, storage, and disposal protocols are developed, implemented, and audited throughout the Project; and The Proponent is obliged to ensure that all permits under this Ordinance are obtained prior to Project commencement.
Water Act, 1956	The 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 respects, of the use of seawater for certain purposes; and for the control of certain activities on or in water in certain areas.	The Act stipulates obligations to prevent the pollution of water. The ESMP sets out measures to avoid polluting the environment; and

National Regulatory Regime	Summary	Applicability to the project
	The Ministry of Agriculture, Water and Land Reform (MAWLR) Department of Water Affairs is responsible for the administration of the Water Act.	The Project requires diverting a section of the Black Nossob River south of the proposed open pit area, the activities of which will comply with this Act.
Water Resources Management Act, 2013 (No.11 of 2013)	This Act provides a framework for managing water resources based on the principles of integrated water resource management. It provides for the management, development, protection, conservation, and use of water resources. This Act has not been approved by parliament; however, it is best practice to comply with this Act.	The Act sets out obligations to avoid surface and groundwater pollution. These have been incorporated into the ESMP to minimise pollution from project-related activities.
National Heritage Act, No. 27 of 2004	The Act provides provisions for the protection and conservation of places and objects with heritage significance. Section 55 compels mining companies to report any archaeological findings to the National Heritage Council. Subsection 9 allows the NHC to issue a consent, subject to any conditions that the Council deems necessary	There is the potential for heritage-related objects to be found in the mining licence area. Therefore, the relevant stipulations in the Act will be taken into consideration and incorporated into the ESMP; and In cases where heritage sites are discovered, the 'chance find procedure' will be used.
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 Project shall adhere to all labour provisions and guidelines, as enshrined in the Labour Act. The Project shall also develop and implement a comprehensive occupational health and safety plan to

National Regulatory Regime	Summary	Applicability to the project
		ensure adequate protection for its personnel throughout the Project lifecycle.
Petroleum Products and Energy Amendment Act, No.3 of 2000	Provides provision for the Minister to regulate the cleaning up of petroleum product spills, leaks and related incidents. The Proponent is required to carry all costs associated with such incidents.	Mining operations have the potential to cause petroleum product spills or related incidents. The Proponent shall ensure that all necessary hazard management, mitigation, and recovery procedures as well as relevant environmental insurance provisions are in place and maintained throughout operations.
Road Traffic and Transport Act, No. 22 of 1999	This Act makes provision for the control of traffic on public roads, the licensing of drivers, the registration and licensing of vehicles, and the control and regulation of road transport users across Namibia.	The Project will involve transportation activities in support of mining activities and the rerouting of a public road around the mining area; and The employees and support businesses shall adhere to national road regulations on public roads.
The Atmospheric Pollution Prevention Ordinance, No. 11 of 1976	The ordinance pertains to the prevention of air pollution, with a particular focus on public health, and contains detailed provisions on air pollution matters, including the control of noxious or offensive gases, atmospheric pollution by smoke, dust control, motor vehicle emissions, and other general provisions.	The ESMP contains measures to prevent and control emissions (dust) from project activities.

3.2 NATIONAL POLICIES AND PLANS

Table 4 - National policies and plans applicable to the Project.

Policy or plan	Description	Relevance to the project
Vision 2030	Vision 2030 sets out the nation's development targets and strategies to achieve its national objectives. Vision 2030 states that the overall goal is to improve the quality of life of the Namibian people aligned with the developed world.	The proposed Project shall aim to meet the objectives of Vision 2030 and shall contribute to the overall development of the country through continued employment opportunities and ongoing contributions to the gross domestic product (GDP).
Fifth National Development Plan (NDP 5)	The NDP5 is the fifth in a series of seven five-year national development plans that outline the objectives and aspirations of Namibia's long-term vision. The NDP5 pillars are economic progression, social transformation, environmental sustainability, and good governance.	The planned Project supports meeting the objectives of the NDP 5 by creating opportunities for continued employment.
The Harambee Prosperity Plan ii (2021 – 2025)	Second Pillar: Economic advancement – ensuring increasing productivity of priority key sectors (including mining) and the development of additional engines of growth, such as new employment opportunities.	The Project will contribute to the continued advancement of the mining industry and create an additional employment generation engine.
Namibia's Green Plan, 1992	Namibian has developed a 12-point plan for integrated sustainable environmental management to ensure a safe and healthy environment and to maintain a viable economy. Clause 2 (f) makes specific mention of guidelines related to Mining and Sustainable Development.	Guidelines as best practice adhering to during operational activities.

Policy or plan	Description	Relevance to the project
Pollution Control and Waste Management Bill (draft), 1999	This draft Act aims to promote sustainable development by regulating the discharge of pollutants into the air, land and sea. Additionally, to ensure Namibia has an integrated waste management approach and complies with international legislation.	The Proponent is to take note of the draft bill in that requirements are adhered to about the containment of pollutants from ore processing activities. A waste management system is to be developed in line with the ESMP for operational activities.
Minerals Policy	The Minerals Policy was adopted in 2002 and sets guiding principles and direction for the development of the Namibian mining sector while communicating the values of the Namibian people. The policy strives to create an enabling environment for local and foreign investments in the mining sector and seeks to maximise the benefits for the Namibian people from the mining sector while encouraging local participation. The objectives of the Minerals Policy are in line with the objectives of the Fifth National Development Plan that include the reduction of poverty, employment creation, and economic empowerment in Namibia.	The Project conforms to the Policy, which has been considered through the ESIA process and the production of this report; The Proponent intends to continue to support local spending and procurement; and The Project will comply with the general guidelines of the Policy through the adoption of various legal mechanisms to manage all aspects of the environment effectively and sustainably from the start. The ESIA is one such mechanism to ensure environmental integrity throughout the planned Project's lifecycle.
Intergovernmental Forum	The mining policy framework sets out the best practices required for good environmental, social and economic governance of the mining sector and the generation and equitable sharing of benefits in a manner that will contribute to sustainable development.	The project will follow the best practices set out in this framework to ensure good environmental, social and economic governance to contribute to sustainable development.

Table 5 – Specific permits and licence requirements for the Project

Permit or licence	Act or Regulation	Related activities requiring a permit	Relevant Authority
Environmental clearance certificate	Environmental Management Act, No 7 of 2007	Required for all listed activities shown in Table 2	Ministry of Environment, Forestry and Tourism (MEFT)
Mining Licence	Section 90 (2) (A) of the Minerals Act, No.33 of 1992	Written permission from the mining commissioner.	Ministry of Mines and Energy (MME)
Permit for construction of river diversion	A permit is issued under the Water Act, No. 54 Of 1956 (enforced) and The Water Resources Management Act, No. 11 of 2013 (not enacted).	Construction of canals and channels, including the diversion of the normal flow of water in a riverbed, and water transfer schemes between water catchments and impoundments.	Ministry of Agriculture, Water and Land Reform (MAWLR)
Wastewater discharge permit	A permit is issued under the Water Act, No. 54 Of 1956 (enforced) but form types that fall under the Water Act, No. 24 of 2004 are used.	Required for discharge of sewage and/or excess industrial or mine wastewater.	Ministry of Agriculture, Water and Land Reform (MAWLR)
Permit for the clearing of land	The Forest Act, 2001 (Act No. 12 of 2001)	This Act governs the removal of vegetation within 100 m of a water course, or removal of more than 15 ha of woody vegetation, or the removal of any protected plant species.	Ministry of Agriculture, Water and Land Reform (MAWLR)
Consumer installation certificate for bulk fuel storage	Petroleum Products Regulations	A consumer installation certificate is required for bulk fuel storage and dispensing.	Ministry of Mines and Energy (MME)

Permit or licence	Act or Regulation	Related activities requiring a permit	Relevant Authority
Permit for the storage and use of explosives, and the burning of packaging	Minerals (Prospecting and Mining) Act, No. 33 of 1992; Mine Safety Regulations	Explosives and blasting	Ministry of Mines and Energy (MME)

3.3 INTERNATIONAL CONVENTIONS

Table 6 - International policies and plans applicable to the Project.

Policy or plan	Description	Relevance to the project
Convention of Biological Diversity Rio de Janeiro, 1992	Namibia is a signatory of this convention and is obliged under international law to adopt the objectives and obligations of this convention through her national legislation about biodiversity to maintain ecosystems, ecological processes and biodiversity for the benefit of present and future generations (Article 95(l)). Currently, Namibia's second national biodiversity strategy and action plan (2013-2022) has been developed to address shortcomings with specific goals and targets, including reference to the mining sector.	The Proponent adheres to the required Namibian legislation to comply with CBD requirements.
United Nations Framework Convention on Climate Change (UNFCCC), 1992	The objective of the convention is to reduce and stabilize greenhouse gases at an atmosphere level to reduce impacts on climate systems, allow ecosystems time to adapt to these changes and reduce food shortages so that economies can develop in sustainable manners.	The Proponent adheres to the required Namibian legislation to comply with the requirements to reduce greenhouse gases during operational activities.
The Stockholm Declaration on the Human Environment, Stockholm 1972	Namibia adopted the declaration in 1996 with the following Principles 21 and 22 most relevant to the proposed Project. Namibia has the right to explore its resources but to ensure that there are effective policies and controls in place to regulate these activities that do not cause detrimental harm to the environment. Whereby environmental damage has occurred in areas of her jurisdiction,	The Proponent adheres to the required Namibian legislation to comply with these requirements.

Policy or plan	Description	Relevance to the project
	compensation must be provided for victims of pollution or environmental degradation.	

4 PROJECT DESCRIPTION

4.1 NEED FOR THE PROJECT

New mining activities typically contribute to the national and local economies and have a positive impact on the country's economy. Should the Project prove economically viable, the Namibian economy can expect benefits from revenues during the construction phase, royalties and taxes during the life of mine (LoM), and a positive contribution towards employment and skills training.

The Proponent acquired mining licence (ML 197) in 2016. The licence is valid until 6 March 2036. Prospecting and drilling on the Project have delineated a large, mainly copper sulphide-bearing deposit that contains copper (Cu), mainly in the form of copper sulphides with some oxides, which contain high proportions of copper and low proportions of iron. This deposit is about 4 km along its north-south axis and about 0.8 km along the east-west axis. The copper sulphides have been oxidised near surface, and next to faults and major fractures at depth. Approximately 10% of the total Omitiomire deposit's copper, including the copper oxides at depth, is in the form of the oxidised copper ores.

4.2 EMPLOYMENT

Based on current mine plans, approximately 700 people will be employed during construction for 18 months, and approximately 600 to 800 people for the operational phase, providing jobs and livelihoods for them, and their families, for an expected minimum of 15 years.

A detailed labour plan covering all components of the operation will be developed as the project evolves. The labour complement for the operation comprises the following:

- Management;
- Mining technical services;
- Mine production (including drill and blast, load and haul, support services, etc);
- Processing (including crushing and agglomeration, stacking, SX-EW, etc); and
- Support/ancillary services (camp, security, etc).

The labour requirement for mining operations over the LoM ranges from 600 to 800 people at maximum production.

4.3 BACKGROUND OF THE PROJECT AND EXPLORATION HISTORY AND PROCESS

The Proponent acquired the exclusive prospecting licence (EPL 3589) in 2007. Subsequently, EPL 3589 has been converted to EPL 8550. ML 197 was granted in 2016. Table 7 shows the results of the drill campaigns undertaken on the Omitiomire copper deposit.

Table 7 - Drill campaign from 1976 to 2023

Year	Drill Campaign / Description	DD (m)	RC (m)	RAB (m)	PERC (m)	TOTAL (m)
1976	Pre-Craton				889	889
1992	Pre-Craton	1 336			755	2 091
1993	Pre-Craton	224			986	1 210
1998	Pre-Craton		991			991
2007	Craton: Pre-Financial Crisis	737	9485			10 222
2008	Craton: Pre-Financial Crisis	2 063	21 258			23 321
2009	Craton	1 484	6 868	832		9 184
2010	Craton: 2010 Oxide Infill		2 094			2 094
2010	Craton: 2010 Prospectus		4 294			4 294
2011	Craton: Resource Extension	5 753	6 114		1 676	13 543
2012	Craton: Resource Extension	4 478	4 729			9 207
2012	Craton: Metallurgical	1 117	1 058			2 175
2013	Craton: Resource Oxide		4 449			4 339
2014	Craton: Resource and Extension		12 102			12 102
2023	Omico: Resource and Geotechnical	1 410	7 192			8 602
	GRAND TOTAL	**18 602**	**80 634**	**832**	**4 306**	**104 374**

4.4 DESIGN APPROACH

The design approach for the open pit will consider all related issues systematically during the whole life of the proposed mining operations from the pre-feasibility stage through to closure and rehabilitation. The goal for the mine planning and design team is to develop an integrated mine system design whereby copper minerals are extracted and processed to 99.99% pure copper cathodes at a minimum unit cost within the accepted environmental, social, and legal constraints. The preliminary open pit design is illustrated in section 4.10.

4.5 GEOTECHNICAL CONSIDERATIONS

Geotechnical considerations are essential to the development of an efficient and safe mine. Adequate consideration will be given to the mine area geological structures and the potential influence on the pit wall stability. An analysis of pit water inflow, surface drainage patterns, groundwater regime, mine dewatering procedures and their influence on overall pit wall stability will inform the geotechnical analysis for the mine plan. Sound geotechnical information will inform the most appropriate pit design, planning and excavation geometry, excavation methods and monitoring strategies. The Proponent has completeda geotechnical drilling campaign, and this will be incorporated into the assessment phase of the ESIA.

4.6 OREBODY

The Omitiomire Mineral Resource has been estimated using the Canadian Institute of Mining, Metallurgy and Petroleum (CIM) Best Practice Guidelines and is reported in accordance with the 2014 CIM Definition Standards, using a cut-off of 0.25% Cu. See Table 8.

Table 8 - Mineral Resource estimate as of May 31 of 2022 with the Measured and Indicated Resources constituting 91% of the deposit.

Class	Tonnes (Mt)	Grade (Cu%)	Cont. Metal (Cu Kt)
Measured	15.4	0.61	94.4
Indicated	80.4	0.58	468.9
Total M and I	95.8	0.59	563.3
Inferred	9.7	0.57	55.1

1. *All tabulated data have been rounded and as a result minor computational error may occur*
2. *Mineral Resource, which are not Mineral Reserves have no demonstrated economic viability*
3. *The Mineral Resource is reported at 100% of the Mineral Resource for the project*
4. *The Mineral Resource is reported for mineralisation contained within a Whittle optimized pit shell above a cut-off grade of 0.25% Cu, which is based on a copper price of USD4.0/lb, mining costs of USD 2.25/t ore and USD2.05/t waste at pit rim (escalated USD0.03 with each 10m bench), treatment costs to cathode of USD13 /t ROM ore (including G&A), 3% royalty, 1.25% sales cost, pit slope 37° oxide and 50° fresh, mining dilution 5%, mining recovery 95%, copper recovery 85%.*

Further resource drilling (RC drilling) was undertaken on the Omitiomire deposit in late 2022, under an approved exploration environmental clearance certificate number APP3535 for ML 197, to ascertain the scale of mineralisation beyond the current resource estimate. The resource and reserve will be updated in the future bankable feasibility study (BFS).

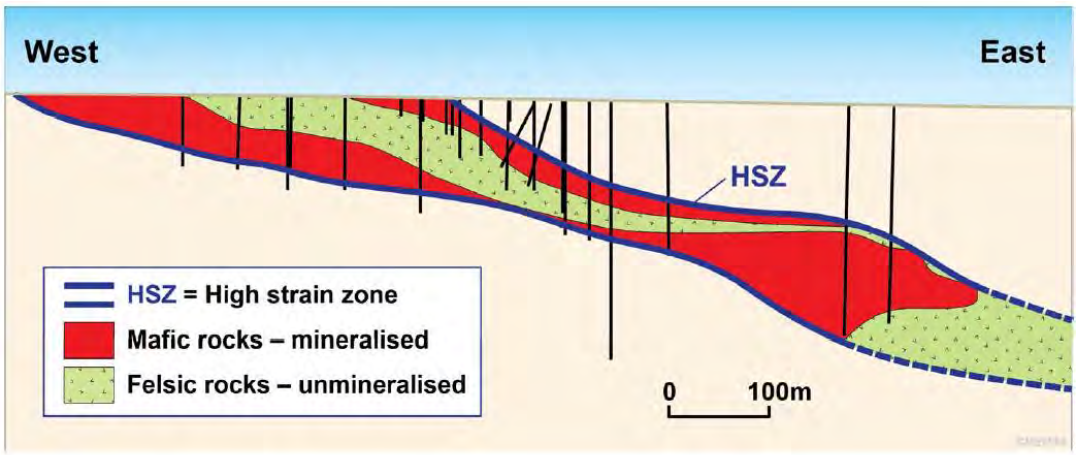
RC chips were sampled per meter, weighed, and split with rifflers, producing one sample for analysis ("A-Sample"), and another for permanent storage and geological chip logging ("B-Sample"). The A-Sample was then analysed by x-ray Fluorescence (XRF) on site and allintervals

containing greater than 0.1% copper were dispatched for multi-element analysis by [1]Inductively Coupled Plasma (ICP) Spectrometry. Drill data, recovery, geology, collar positions, down-hole surveys, and assays are stored in an access database.

4.7 GEOLOGY AND MINERALIZATION

The dominant geological feature of the Omitiomire project area is the Ekuja Dome, a basement inlier consisting of felsic and mafic gneisses. The Ekuja Dome contains the Omitiomire copper deposit and other copper prospects.

Historical drilling has defined a broadly tabular copper deposit, striking north-south and dipping at a shallow angle (around 20 to 30º) to the east. The deposit forms a sub–outcrop, beneath the shallow sand cover, over several hundred meters. At depth, drilling has shown a strike length of almost 4,000 m. The deposit is about 10 m thick near the surface but thickens to the east, where some drill holes have intersected over 100 m of copper mineralisation. The deposit consists of stacked parallel tabular bodies ("lenses") that partly merge shown in Figure 5.



The Omitiomire deposit is within a high strain zone up to 100m thick

Copper is hosted by altered mafic rocks in this high strain zone

[1] ICP (Inductively Coupled Plasma) Spectroscopy is an analytical technique used to measure and identify elements within a sample matrix based on the ionization of the elements withing the sample. Source: https://www.ohsu.edu/elemental-analysis-core/icp-ms-technique

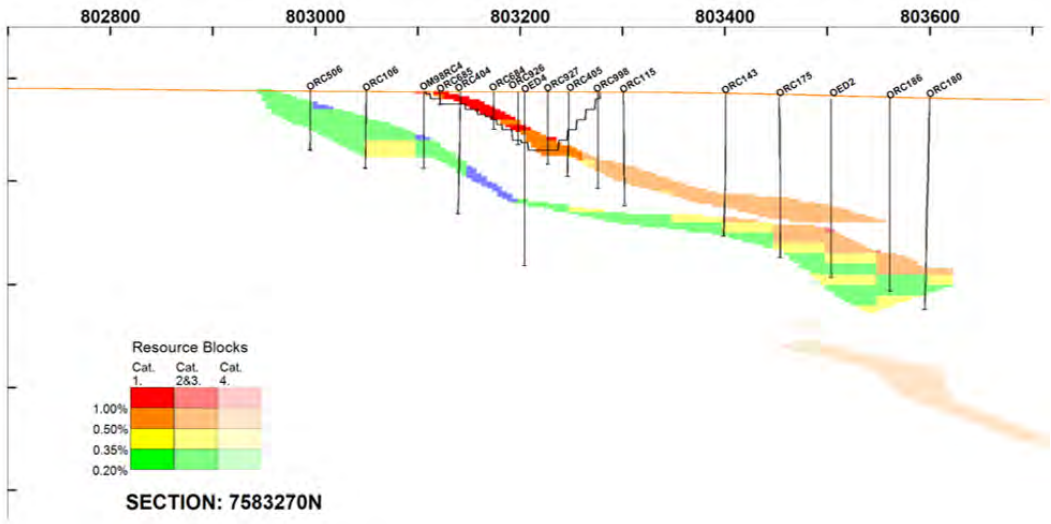


Figure 5 - Cross section of the copper resource

Copper occurs mainly in disseminated chalcocite (Cu2S) with minor bornite (Cu5FeS4), hosted by dark amphibole-biotite-rich (mafic) rock types. The highest copper grades are associated with bands of strongly deformed schist containing chrome-epidote and biotite shown in Figure 7. Barren white to light grey quartz-feldspar rich (felsic) gneiss is common in the hanging wall and is also inter-banded with mafic layers in the copper-bearing zone shown in Figure 8. Banding is on a scale of centimetres to meters in thickness.

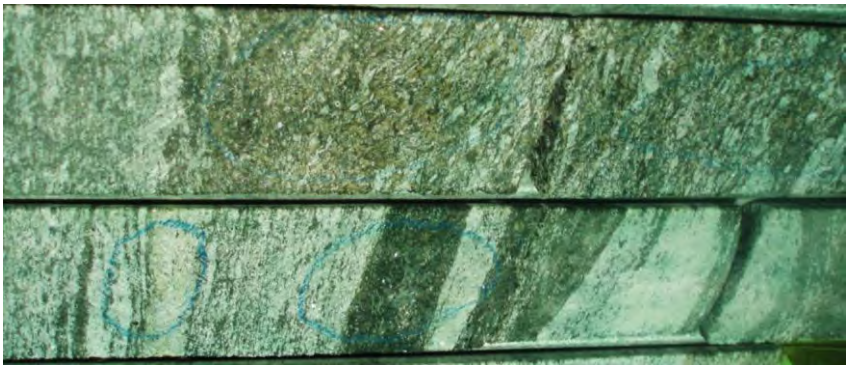


Figure 6 - Sawn NQ Drill Core showing the banded nature of the Omitiomire Ore

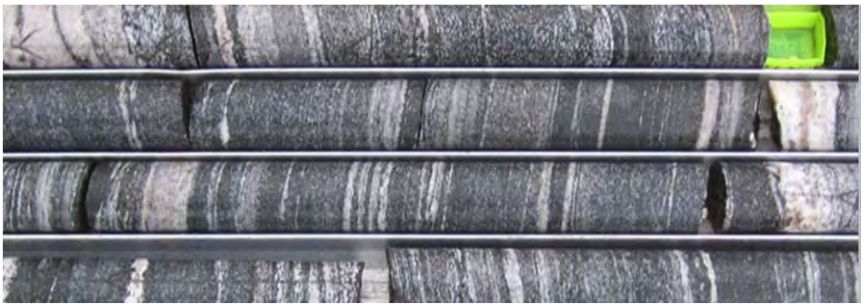


Figure 7 - Ore zone, mafic schist (chalcocite in biotite-hornblende-plagioclase schist)

Figure 8 - Waste: Felsic Gneiss

The copper mineralisation at Omitiomire is unusual in that chalcocite dominates, commonly with associated magnetite and only very local bornite. Chalcocite is largely disseminated in the mafic volcanic rocks. Zones of higher grade contain coarse blebs which postdate and overprint foliation in biotite-amphibole schist. The fact that chalcocite overprints foliation implies remobilisation or emplacement of copper during the late Damaran orogeny.

Near the surface and down to approximately 40 m depth, the mineralised zone has been partially oxidised to malachite, chrysocolla, and native copper. Drilling has shown approximately 10% of the copper to occur as “oxide ore”. Copper oxides dominate in the upper parts of the deposit, but also in “weathered” zones associated with faults and fractures down to depths of over 200 m.

4.8 Site Layout

An optimal site layout is based on designing the site around critical landform features such as topography and sensitive areas while considering the efficiencies required for the mining operation. The preliminary proposed site layout features are provided in Figure 9.

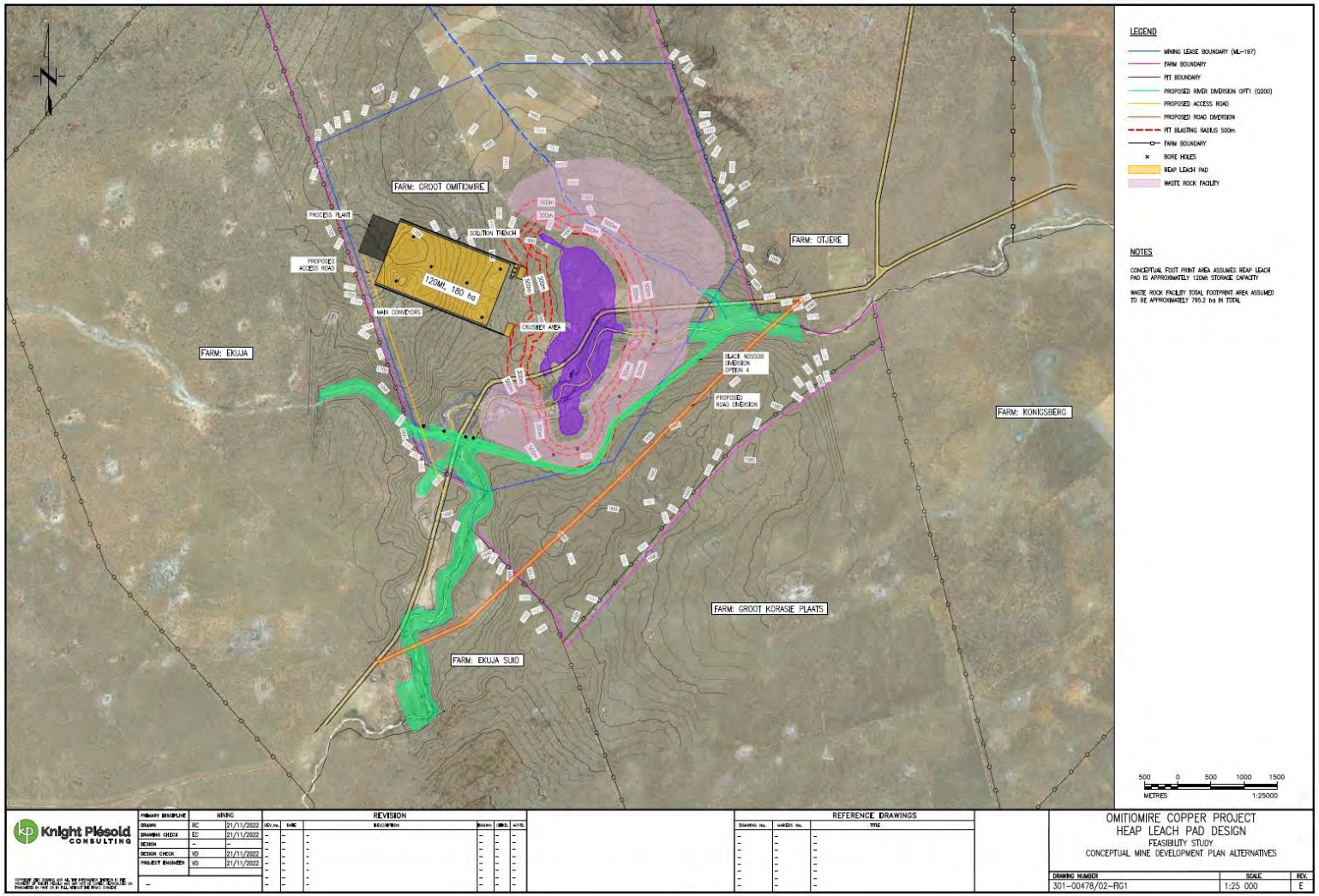


Figure 9 - Preliminary infrastructure layout for the Omitiomire Mine site

The mine and related infrastructure will comprise the following:

- Workshops;
- Open-pit mining;
- Heap leach pads;
- Waste rock dumps (WRD),
- Leached ore deposition facility (ripios);
- Process plant including Solvent extraction and Electrowinning (SXEW) facility producing pure copper cathode;
- Water management infrastructure;
- Support services and facilities (offices, communications structures, etc.);
- Accommodation, with a canteen and recreation facilities; and
- Fencing around the entire site, with security fencing around the mine and accommodation facilities.

The proposed area surrounding the open pit area has a relatively flat topography and towards the south is intersected by the Black Nossob River. Therefore, the placement of infrastructure will be positioned for optimal efficiency with the leach pads located in the north of the mining licence, away from the river catchment area.

The copper processing methodology does not require a typical dam-type tailings storage facility. However, a few elevated engineered structures will affect the natural horizons of the project area, for example, waste rock dumps, building infrastructure, and heap leach pads.

The proposed heap leach plant site location is situated to the west and north of the open pit, an area of red Kalahari sand. This open space for the proposed plant site is situated on an elevation of between 1710 masl to 1695 masl, a relatively flat gradient.

4.9 Mining infrastructure and services

4.9.1 Mining method and equipment

The following high-level mining methodology is proposed by the Proponent:

- Conventional drill & blast;
- Load and haul activities utilising a diesel-powered fleet; and
- Dumping of ore directly into crusher or on to stockpiles.

The ore and waste zones will be drilled and blasted at 10 m benches, with ore material being loaded selectively. Ore and waste will be loaded with hydraulic excavators and hauled by diesel-powered haul trucks to the primary crusher and low-grade stockpiles. The ore will be crushed, agglomerated and stacked and leached on heap leach pads, and copper recovered in solvent extraction and electrowinning circuits. The operation with produce LME Grade A copper cathode

(99.99% pure copper). In the longer-term, consideration will be given to utilising electric shovels, if possible.

At this early stage, it is assumed that the whole mining operation will be undertaken by the Proponent. All other mine technical services that include management, planning, and grade control will also be the responsibility of the Proponent.

The Project is planned as a single-pit mining operation with four pushbacks designed into the main pit design, to be mined in consecutive phases throughout the life of mine (LoM). Initial equipment size trade-offs have been performed and currently it is assumed that 100-tonne and 150-tonne class haul trucks and suitably sized loading equipment will be used. The medium-sized equipment gives increased flexibility and allows selective loading. The primary equipment will be supported by an array of secondary and support equipment.

The initial management team will include an experienced team, to ensure that operation start-up is safe and efficient and that ramp-up targets are met. The bulk of the equipment operators will be skilled. All unskilled labour absorbed into the workforce will require training from a basic level. The start-up strategy for mining operations takes account of this requirement.

The mine will operate 365 days per annum on a 24-hour basis with two shifts rotating on a 12-hour duration.

4.9.2 Blasting operations

Rock fragmentation will be undertaken by drill and blast. The weathered zones require blasting with lower powder factors as the Omitiomire weathering profile is irregular and varies according to fracture intensity and rock type. Weathering has resulted in clay minerals, mainly from the breakdown of feldspars, biotite, and amphibole. Blasting can substantially modify and control material flow within the mining operation, including the feed size to the primary crusher. Blast performance must be assessed in terms of the following outcomes:

- Fragmentation, relating to the feed size supplied to the primary crusher, as well as oversize material and the requirement for rehandling of material, and secondary breakage,
- Shovel productivity, including wear and maintenance costs,
- Use of track dozers to condition the bench floor and rip high bottoms,
- Grade control,
- Primary crusher power consumption, throughput, maintenance costs, and
- Disruption to material flow during digging and crushing that affects truck efficiency.

Effective blasting is an important factor influencing a mine's production costs. Related to this is the overall pushback design of the open pit to access the ore body.

4.10 PIT DESIGN PROPOSED FOR OMITIOMIRE: PUSHBACKS

The pit design was developed from the pit optimisation study to produce a practical pit with ramps, bench, and berm configurations. The Project is planned as a single-pit mining operation with four pushbacks in the main Omitiomire pit design, to be mined in different phases throughout the life of mine (LoM). A good set of pushbacks will assist the Proponent to manage the financial risk that is associated with external global factors and ensure the mining operation remains feasible. Craton proposes a pushback design as illustrated in Figure 10, Figure 11 and Figure 12 below. The ramp positioning within the overall pit design is a parallel and integral component of mine design because it influences the stripping ratio of the overall design, the performance of the equipment, as well as the operating costs. Benches are expected to be 10 m high, with ore mining taking place on 5 m flitches.

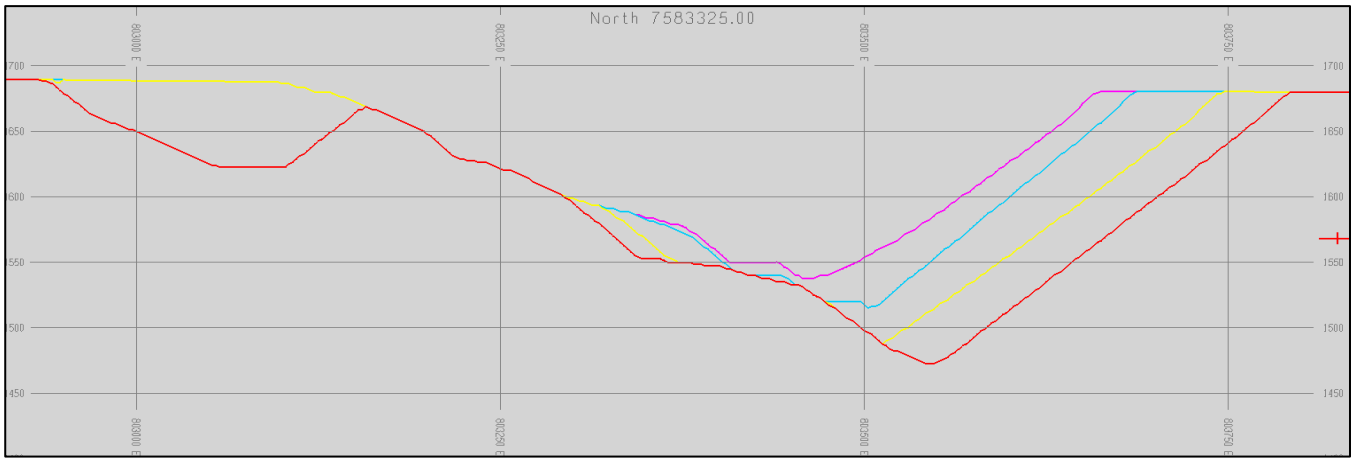


Figure 10 - Pushback scenario from a northern cross-section of the open pit.

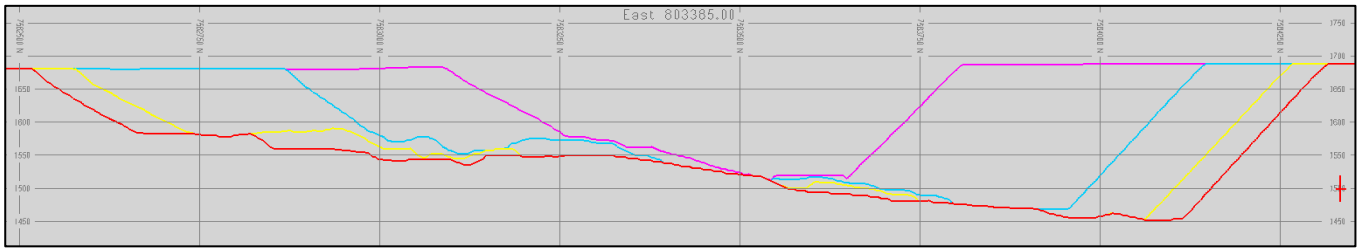


Figure 11 - Pushback scenario from an eastern cross section of the open pit.

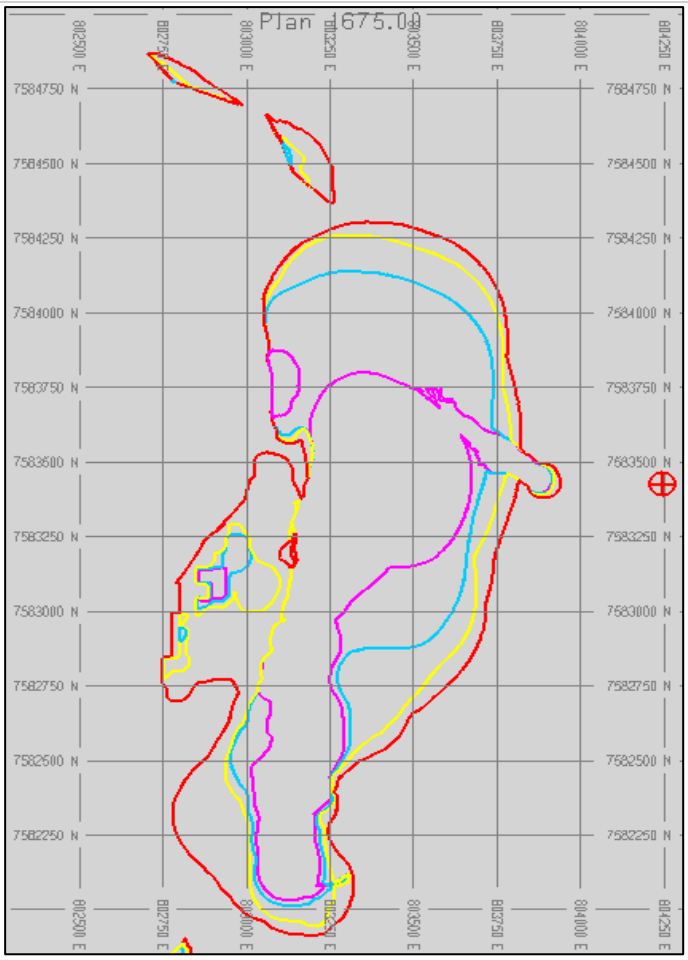


Figure 12 - Top-view of the overall pushback design proposed for the Omitiomire Project

4.10.1 Load and haul operations

Sufficient room for manoeuvring is required to promote safety and maintain continuity in the haulage cycle. The haul road design parameters will be established taking into consideration the type and size of hauling equipment that will be used during operations using global standards of good practice. Haul roads may be constructed using crushed waste from the mining operation and water will be used for dust suppression. A product such as Dust-a-Side will be considered to seal the main haul roads and reduce water use. An optimal haul road gradient will be selected based on the best practice for the type of trucks that will be utilised.

The design, construction and maintenance of haul roads have a considerable impact on haulage cost. It is therefore important that appropriate, detailed sets of designs for haul road construction are compiled for the site. Haulage is the largest mining cost.

The benefits of a good haul road design are the efficiency of haulage through the reduction in cycle time, reduced fuel burn, and reduced truck component wear. It is therefore desirable to generate a minimum site-wide construction standard for haul roads. The minimum bench operating width for the pit is limited by the size of the equipment.

4.10.2 ANCILLARY EQUIPMENT

Ancillary equipment that is required for functions that fall outside of the primary production equipment's scope, is also necessary for mining operations. Primary production costs are directly impacted by several aspects related to ancillary equipment. Support equipment is the lifeline of reliable and cost-effective mine production, and is required for the following functions or activities:

- Keeping the loading, tipping and haul road areas clean, thus prolonging tyre life and ensuring the operation is safe;
- Contributing to the mitigation and reduction of mobile equipment noise (via good road maintenance);
- Maintaining haul road conditions, thus prolonging tyre life and making the operation safe;
- Suppressing dust emissions from health, safety, environmental, and financial perspectives;
- Supporting the full equipment maintenance and diesel requirements for remote, track-propelled equipment, and breakdowns;
- Bench preparation and levelling;
- Fuelling of track-mounted equipment, and dump trucks; and
- Rehabilitation.

The tertiary support equipment fleet consists of units that assist in tasks that are required, in order to make primary and secondary fleets' work easier and safer. Other functions they complete are not production-related and have no direct impact on production. The tertiary equipment fleet may consist of:

- Small trucks used for maintenance activities;
- Light vehicles used to transport management, technical services, and maintenance personnel around the mine;
- Buses used to transport operators from the change houses to the equipment in the field, and back;
- Lighting plant to increase visibility around the excavators during night-time; and
- Pumping equipment for pit dewatering.

4.10.3 OTHER MINING ACTIVITIES OR INFRASTRUCTURE

Haul road dust suppression should be considered for the Project and handled through a comprehensive dust management system. A bitumen-based product may be applied during haul road construction and maintained on a customised maintenance programme.

In-pit water management will mainly consist of run-off control around the pit perimeter and temporary sumps at the lowest elevation in the pit. Pit dewatering pumps will pump excess water to a suitable holding dam ready for use as dust suppression, or release to an ephemeral water course if of compliant quality and in line with permit conditions. .

4.10.4 METALLURGY AND PROCESSING

The following operational methodology is proposed by the Proponent:

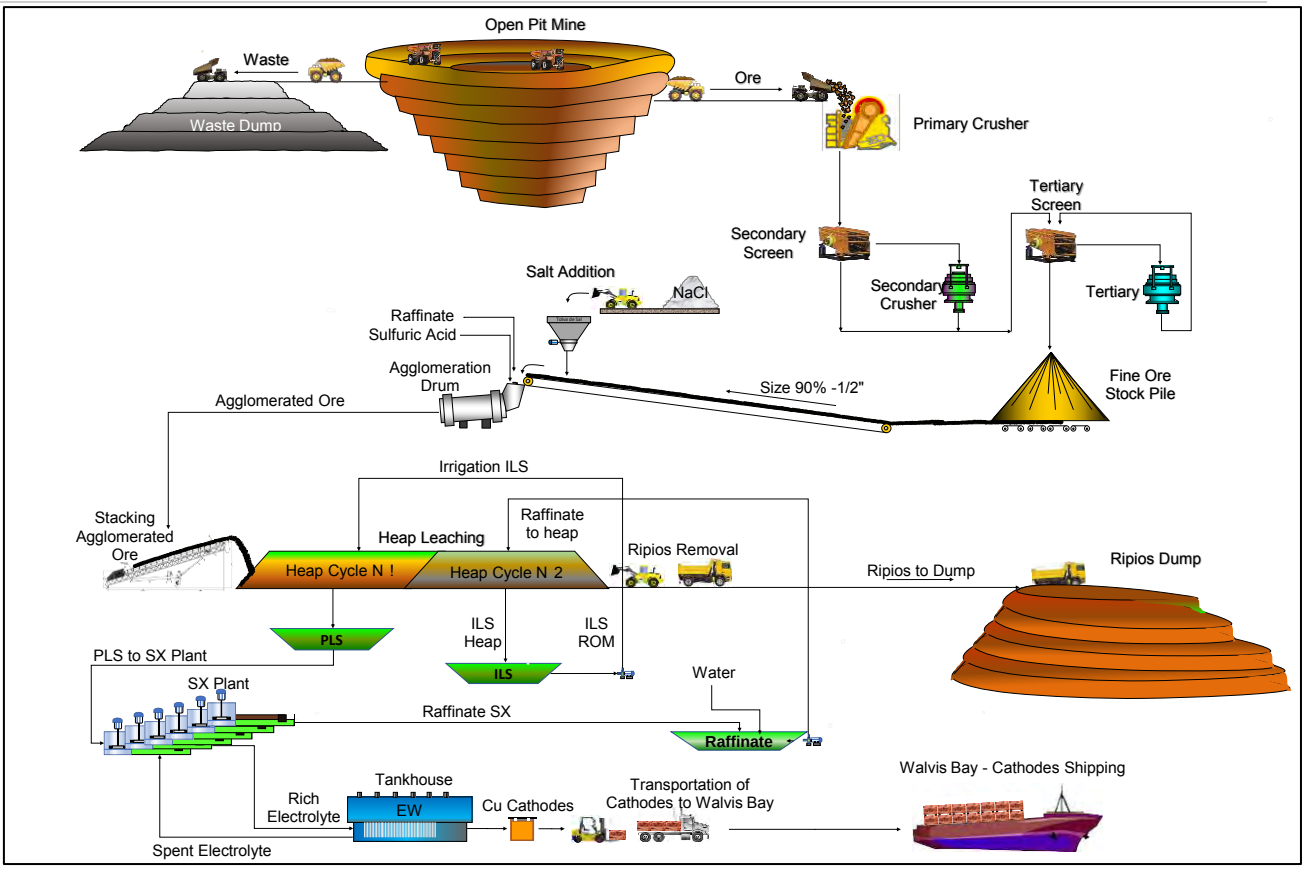


Figure 13 - Ore processing procedure

1. Primary and secondary crushing:
   - The ore is crushed to an optimum size to allow copper ions to easily leach from the ore. Too small-sized fines tend to move through the system until they start blocking the macro pores, which are the gaps between the rocks, inhibiting flow and restricting leaching. There's an optimum rock size that balances kinetic flow through the heap and leach rates, which is derived from test work and experience during operations.
2. Agglomeration (NaCl & H_2SO_4):
   - Mixes the crushed ore with sulphuric acid and salt brine to form agglomerate.
3. Stacking:
   - Stacking the ore in lifts – the height of each lift depends on the ore type.
4. Leach:
- The process of dosing the heaps with acid from the surface. The two main factors influencing the generation of copper sulphate leachate are (a) regenerating the ferric iron in the heap considering temperature, hydrology, and kinetic rates, and (b) acid balance should be maintained.
5. Solvent extraction:
- This is the process of collecting the copper-rich solution at the bottom of the heap pad and converting it to electrolyte.

6. Electro-winning to produce copper cathode:

- This process uses electricity to recover dissolved copper from solution as copper plates (cathodes) of 99.99% copper.

Table 9 - Lists the overall mine plan parameters for the indicative 15-year LoM.

Item	Units	Value
Average Annual Mining Rate (Ore)	Mt	5.8
Average Annual Mining Rate (Waste	Mt	31.8
Average Annual Mining Rate (Total)	Mt	37.6
Strip Ratio (ore : waste)		5.4
Life of Mine (M and I resource only)	years	15.0
Life of Mine (including inferred)	years	18.6
Annual Cathode Production	tpa	30 000

4.10.5 Onsite support infrastructure and services

4.10.5.1 Mining office block

Prefabricated offices will be used.

4.10.5.2 Warehouse

Several warehouses will be required to hold stock of spares.

4.10.5.3 Heavy mobile equipment workshop

A large workshop is required for maintenance of the heavy mining equipment.

4.10.5.4 Fuel facility

On site fuel storage is required for the mining fleet with at least 3 days capacity.

4.10.5.5 Explosive magazine

An isolated facility for storage of detonators.

4.10.5.6 Communication

Radio communication, via a central control room, will be used across the site.

4.11 Utilities

This section describes the required utilities needed by the mining and processing operations.

4.11.1 Power supply

Power to the processing operations will be supplied via a NamPower grid connection, supplemented by solar power on site. The operation will have diesel power generation as backup for the electro-winning plant. A total power supply capacity of at least 20 MW will be required to sustain all operations. NamPower grid connection will require a new line from the Auas substation to site.

4.11.2 Water supply

Water supply may potentially be supplied from the Otavi mountain lands via the NamWater canal system and pumped to site at approximately 350 m^3/hr. Other off-site water sources are being assessed to ascertain supply capabilities. Once completed a water balance will be developed for the Project from which the demand will be analysed against.

4.12 Mineral and non-mineral waste

4.12.1 Waste rock

Waste rock dumps will be designed as close to the pit exits as possible, to optimise productivity and minimise waste mining costs. Rehabilitation requirements are considered in dump location and design, and all dumping areas will undergo an ore sterilisation campaign prior to waste dumping. Waste rock dump benches are usually 10 m high, with an 18-degree final slope with the overall waste rock dump up to 60 m high. The waste rock dumping strategy is to reduce the hauling distance and similarly enable progressive rehabilitation of the waste dumps wherever possible. In-pit dumping will also be deployed, where possible.

4.12.2 General waste

Waste will be separated at the source, stored in a manner that there can be no discharge of contaminates to the environment, and either recycled or reused where possible. On-site facilities will be provided at a dedicated waste storage facility for sorting and temporary storage prior to removal and disposal to appropriate recycling or disposal facilities off-site (Windhoek for both general waste and for hazardous waste), or at a possible future approved on-site facility.

Industrial waste will be sorted on-site and disposed of at appropriate facilities. Hazardous waste includes, but is not limited to, the following: fuels, chemicals, lubricating oils, hydraulic and brake fluid, paints, solvents, acids, detergents, resins, brine, solids from sewage, and sludge. A waste specification will be developed and included in the assessment phase and incorporated into the ESMP.

4.12.3 Effluent and wastewater

Sewage will be collected and will use gravity reticulation via buried sewer pipes to be transported to the treatment facility. Sewage will be treated in a purpose-built sewage treatment plant. The plant will have the capacity to treat the sewage generated on-site. The water output from the plant will be suitable for use in dust suppression, vehicle washing, irrigation, fire water, and process water after verifying the effluent water quality. The wastewater treatment plant will also produce a small quantity of sludge, which will be dried in a sludge-drying bed located at a point lower than the plant. Dried sludge can be used as fertiliser for the rehabilitation of mining landforms after verifying its quality is to standard.

4.13 ALTERNATIVES CONSIDERED

The primary alternatives to be assessed, in addition to the mining landform positions, will be the proposed diversion of the Black Nossob River and the district road, M53, both of which traverse the planned open pit.

Alternative mine designs, processing plant options, and the types of waste disposal methods are all considered during the pre-feasibility and feasibility study stages of the Project. The availability of water, potential for acid mine drainage, long-term slope stability, safety, and climate change, etc. will all be considered when assessing the economic, technical, and environmental and social suitability of an alternative. For every alternative option there is a trade-off or an impact on another aspect of the Project. The baseline environmental and social studies, summarised in the baseline chapter, provide further information to the decision-making process.

4.13.1 ROAD DIVERSION

The M53 currently passes through the mining licence area and across the future mine pit area. This same road continues and branches into another district road, the D2102 east of ML 197. The alternative that is proposed is the construction of a new section of the M53 around the southern boundary of the mine pit area that will re-join the exiting M53 route east of the mining licence area, thereby allowing a throughfare for district road users.

4.13.2 RIVER DIVERSION

Knight Piesold has been appointed to develop design options to divert the Black Nossob River south of the mine pit area for consideration. The environmental baseline chapter describes the options for diverting the Black Nossob River.

4.13.3 WATER SUPPLY

The alternatives for water supply are discussed in the utilities section above, and in more detail in the environmental baseline chapter of this report. Water supply optimisation strategies are currently in progress and will be included in the assessment phase.

4.14 REHABILITATION AND CLOSURE

The Proponent will establish a mine rehabilitation plan as part of the mine closure plan. An environmental consultant, in conjunction with the Proponent and the specialist consultants working on the mine design, and those undertaking the environmental impact assessment, will draft a conceptual mine closure plan as part of the ESMP requirements, and this will be updated into the assessment phase.

5 ENVIRONMENTAL AND SOCIAL BASELINE

This section provides an overview of the existing biophysical, social and economic environments through the analysis of the available baseline data of and on the receiving environments. Desktop studies were undertaken, followed by site verification as part of the scoping process to obtain information about the status of the receiving environment. This provides a baseline, so that where changes occur because of the proposed Project, the impact of these changes can be measured and assessed.

5.1 BASELINE DATA COLLECTION

Initial baseline studies commissioned and reported on by SLR Global Environmental Solutions in 2017 on the proposed Project formed part of the initial environmental assessment. Specialist studies are currently underway to inform and update this baseline.

As part of this scope, the baseline will be evaluated in detail. Follow-up specialist studies will commence in 2023 for the final reports. In parallel to the above studies which will undergo an update, additional studies will be conducted. Table 10 Shows the additional studies being conducted:

Table 10 - Specialist studies to be conducted to update the current baseline.

Specialist study	Specialist to be commissioned
Biodiversity Assessment	Peter Cunningham
Air Quality Assessment	Airshed
Noise Quality Assessment	Airshed
Geohydrology Assessment	Knight Piesold
Water Supply Assessment	Namib Hydrosearch
Heritage Assessment	Dr Alma Nankela
Blast and Ground Vibration Assessment	Blast Management
Climate Change Risk Assessment	RDJ Consulting Services
Traffic Impact Assessment	TBD
Geochemical Analysis of Potential Acid-Forming Minerals and Mine Drainage Assessment	ECC-RGS

5.2 LAND USE

ML 197 is situated northeast of Windhoek in the Khomas Region. The Khomas Region is the most urbanized area in Namibia however, commercial and guest farms and other tourism-related economic activities are common in the Khomas Region, mainly as a result of its strategic location close to Windhoek and the Hosea Kutako International Airport. ML 197 is located on one privately owned farm. That being:

- Groot Omitiomire No. 439

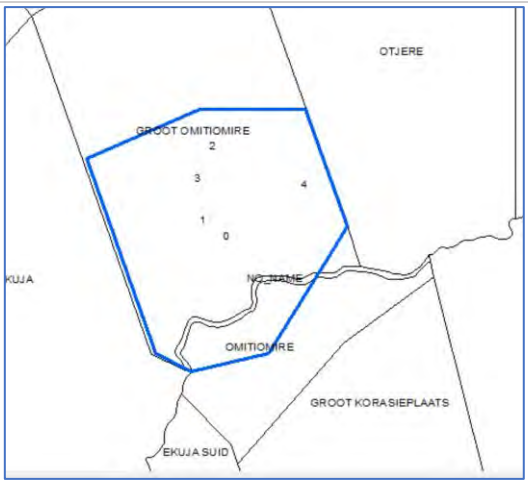


Figure 14 - ML 197 overlaps Farm Groot Omitiomire

Currently Omitiomire farm is not used commercially for hunting or farming. Nearby farms are used for commercial hunting and cattle farming. Farms Ekuja, Groot Korasieplaats and Otjere receive local and international guests for trophy hunting activities, thereby characterising the general project area as a known tourism destination. The area surrounding the Project does not include commercial-scale agriculture businesses, however, the Stainhausen area does practice commercial agriculture predominantly.

Four farmers' associations are active in the wider project area – Steinhausen, Hochfeld, Seeis, and the Omitara Farmers Associations that represent the respective landowners in the area (Ashby Associates cc, 2017). The Namibian Agricultural Union (NAU) in turn represents these smaller regional associations at the national level. Further socio-economic details will be collected via updated targeted surveys and presented in the assessment report.

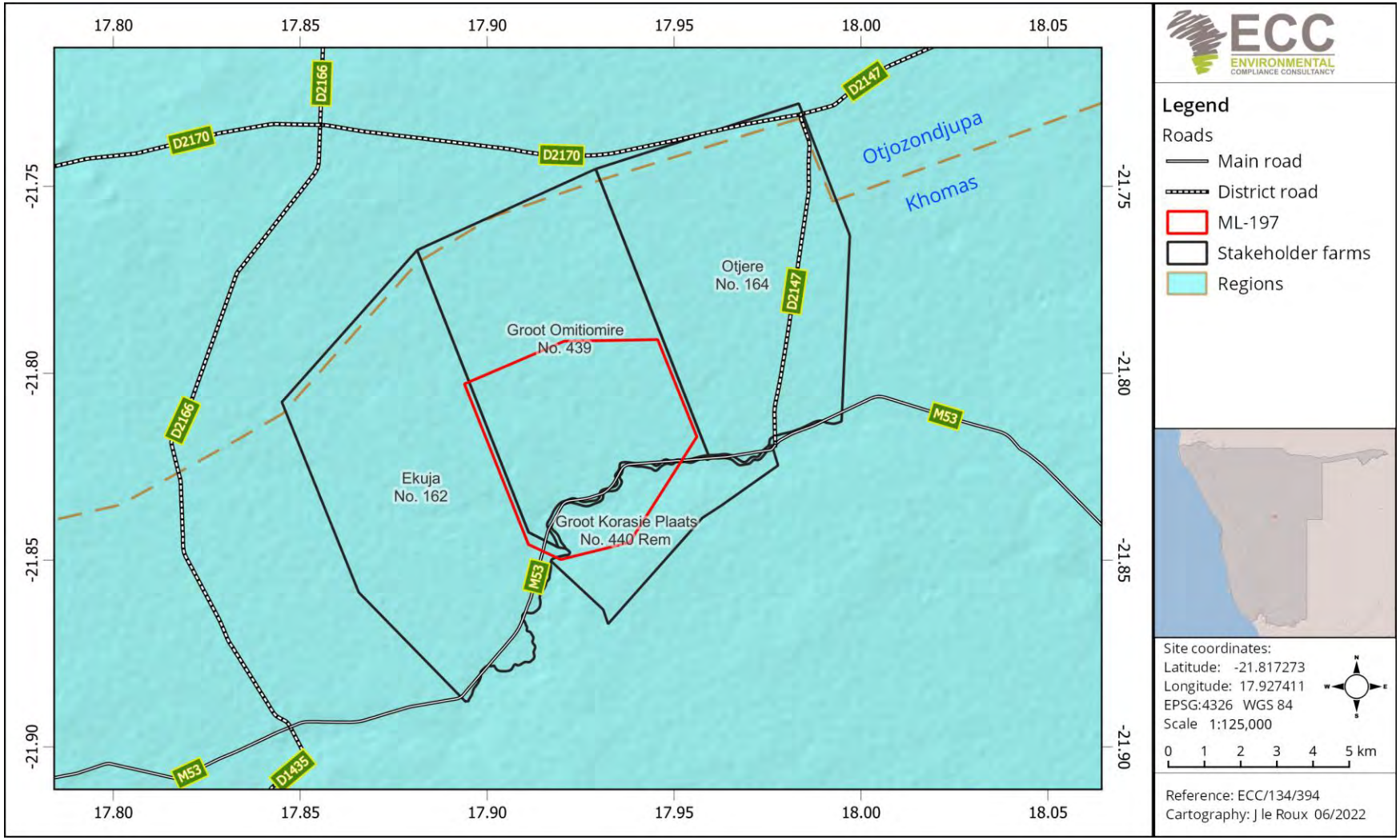


Figure 15 – Neighbouring farms to ML 197

5.3 Stakeholder interest in the Project

The Project is widely known with a history dating back to the early 1970's. Since then, a number of individuals, businesses, NGOs and governmental agencies have contributed to the development of an information base for the site. Therefore, the I&APs expected to engage on the Project will likely remain the same as in previous report (Ashby Associates cc,2017 in SLR Global Environmental Solutions, 2017).

The expected I&AP groups include the following:

- Farmers / neighbours in the Omitiomire area;
- Local and regional farmers associations;
- NGO's and specialists;
- National government: Ministries and parastatals (i.e., NamPower, NamWater, and Roads Authority);
- Khomas Regional Council;
- National Heritage Council;
- Mining and other industry professionals;
- Local hunting safari groups (i.e., The Namibia Professional Hunting Association);
- Press / media agencies;
- Academia; and
- Other interested I&APs.

5.4 Climate

The climatic conditions characterising the study area are mild summers and cold winters with mean temperatures between 19˚C and 21˚C, mean maximum temperatures ranging between 22˚C and 31˚C and mean minimum temperatures ranging between 2˚C to 18˚C (Figure 16). The hottest months of the year are between October and December and the coolest months are between June and August shown in Figure 17 (Bubenzer, 2002 & meteoblue, 2022).

The most humid months of the year have a humidity of approximately 70% relative humidity (RH), and the driest months have a humidity of approximately 10% RH. The average rainfall in this area during the year is between 400 to 450 mm and rainfall events are limited to the summer months, mainly between December and March. Potential evaporation is between 2800 and 3000 mm per year (Figure 16) (Bubenzer, 2002).

The site has wind speeds between 0 and 38 km/h, where the months of July to November are known to have the strongest winds. Wind can occur any time of the day and the most predominant wind directions for this area are north-northeast (NNE), northeast (NE), and east-northeast (ENE) (meteoblue, 2022) shown in Figure 18.

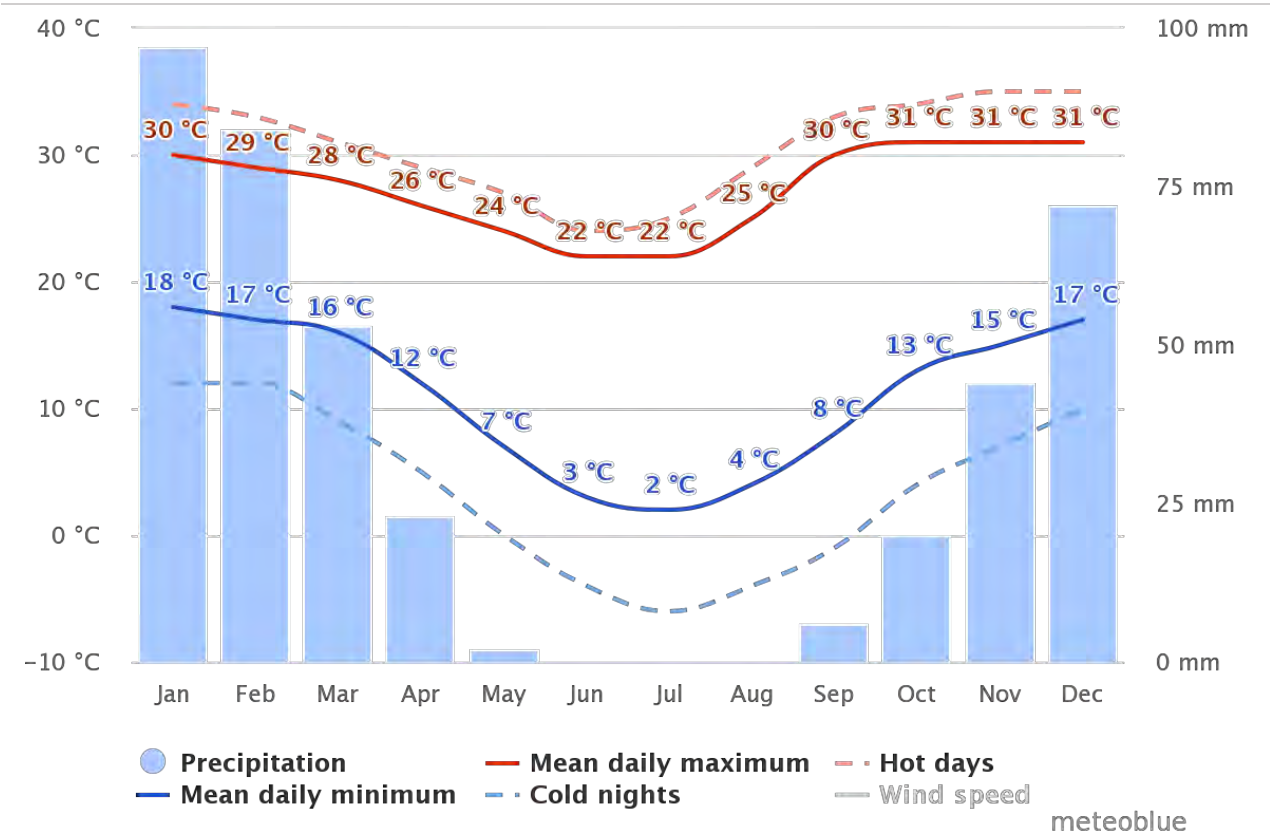


Figure 16 - Yearly expected weather conditions (meteoblue, 2022)

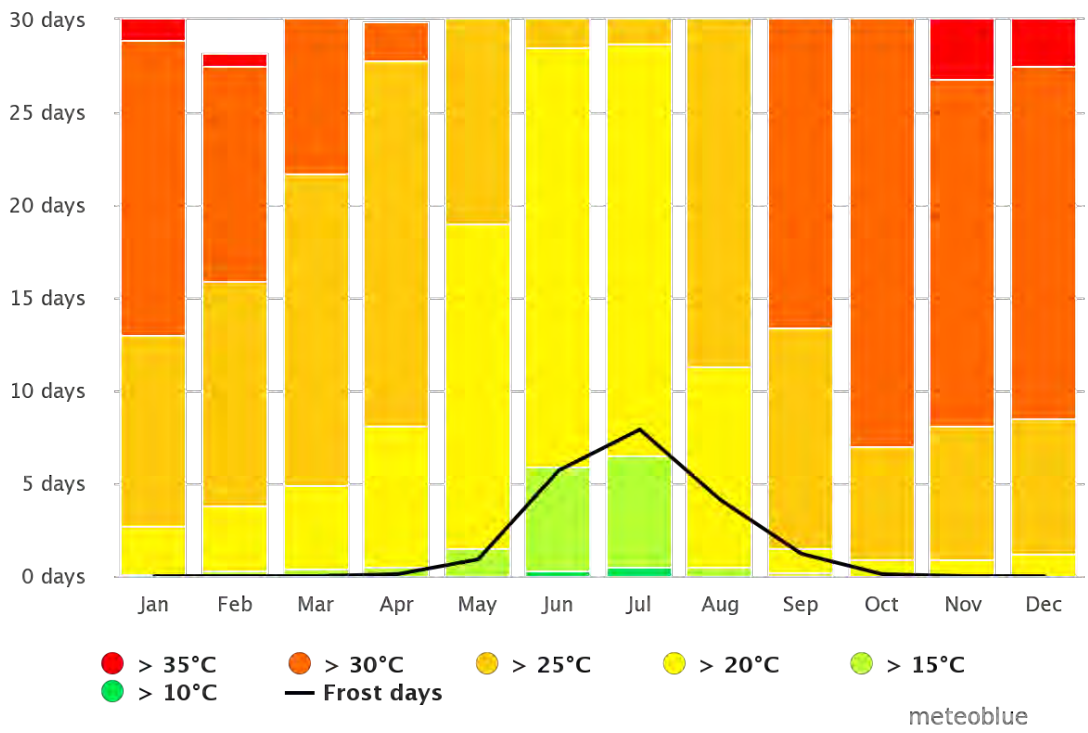


Figure 17 - Temperature and frost information for this area (meteoblue, 2022)

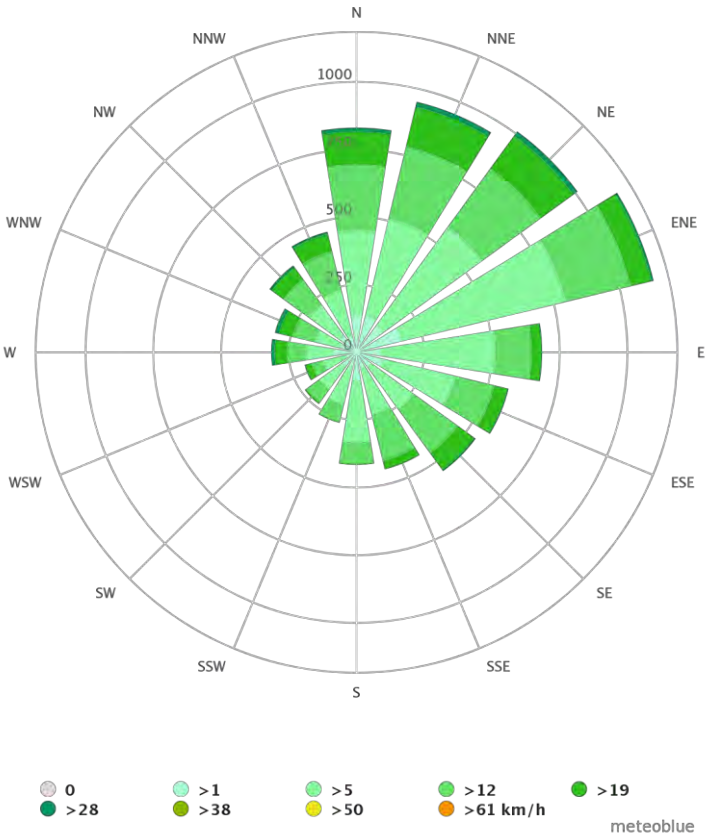


Figure 18 - Average wind directions for this area.

5.5 GEOLOGY

The geology over which the ML falls mainly consists of the Epupa, Huab and Abbabis Metamorphic Complexes and a small section of the area (southeast) falls within the Khomas Group (Damara Supergroup and Gariep Complex) (Figure 19).

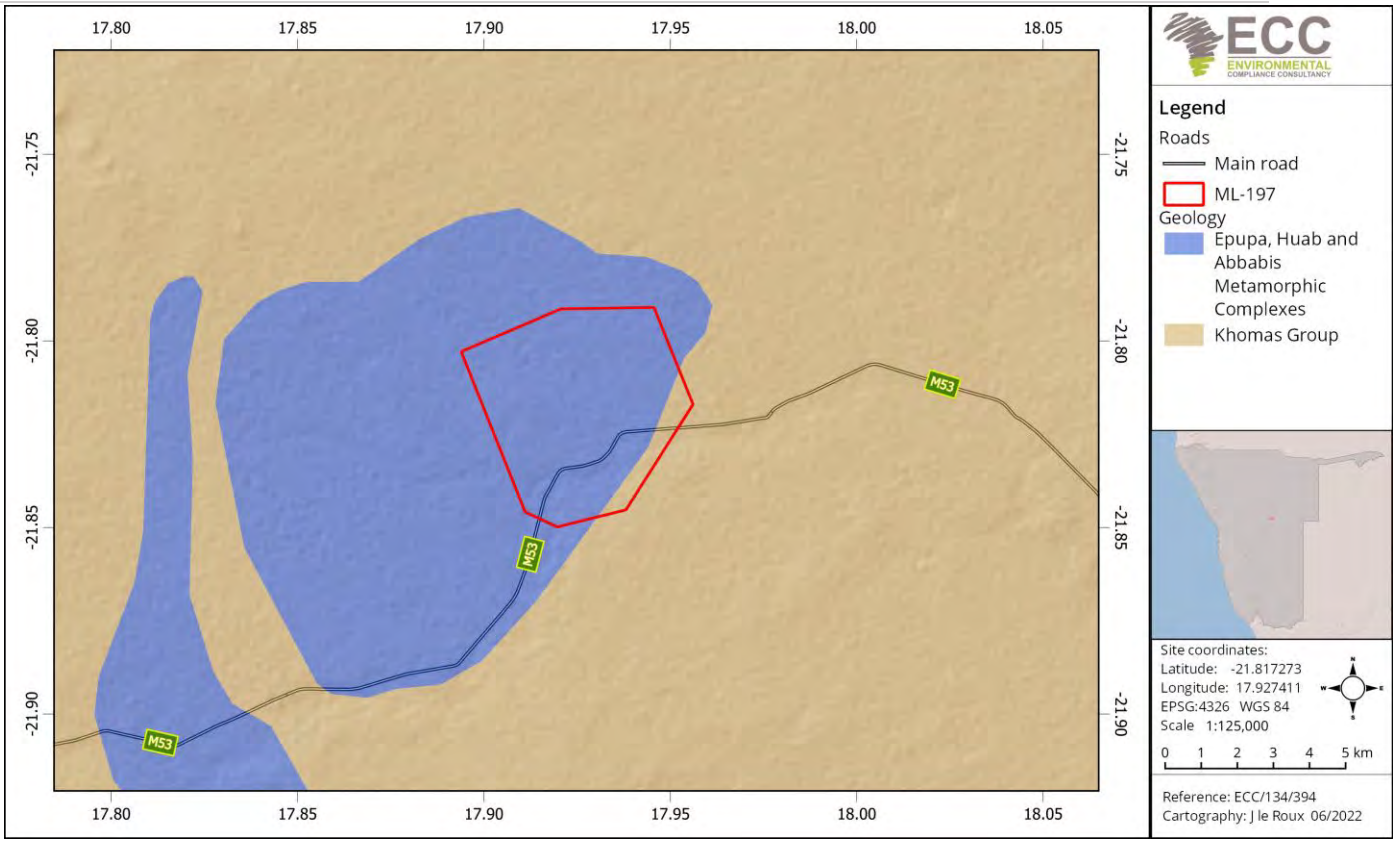


Figure 19 - Geological setting of ML 197

5.5.1 DEPOSIT GEOLOGY

The main rock types are metamorphic sedimentary rocks with granitic intrusions (Bubenzer, 2002). The Omitiomire copper deposit is hosted in leuco-gneiss with inter-bedded dark biotite schist and amphibolite. These rocks occur in an inlier known as the Ekuja Dome which covers an area of approximately 15 by 12 km. The copper mineralisation at Omitiomire is unusual in that primary chalcocite dominates, commonly with associated magnetite and only very local bornite, see Figure 20.

Figure 20 - Close up of mineralisation exposed in open pit showing isoclinal folding and partial oxidation of primary chalcocite (Source: Omico Mining Corp, 2022)

Chalcocite is largely disseminated in the mafic schist and amphibolite. Inter-banded felsic gneisses are barren. Drilling has shown about 10% of the copper occurs as oxides, predominantly in the upper parts of the deposit (Omico Mining Corp, 2022).

5.6 Topography

The topography of the area is relatively flat and smooth with little rock outcrops/hills (Figure 21). The dominant feature is the Black Nossob river running through the southern portion of the area. The elevation of the area gently falls from the northern part of the area from approximately 1 700 m above sea level to about 1680 m above sea level toward the river in the southern part of the area (Figure 22).

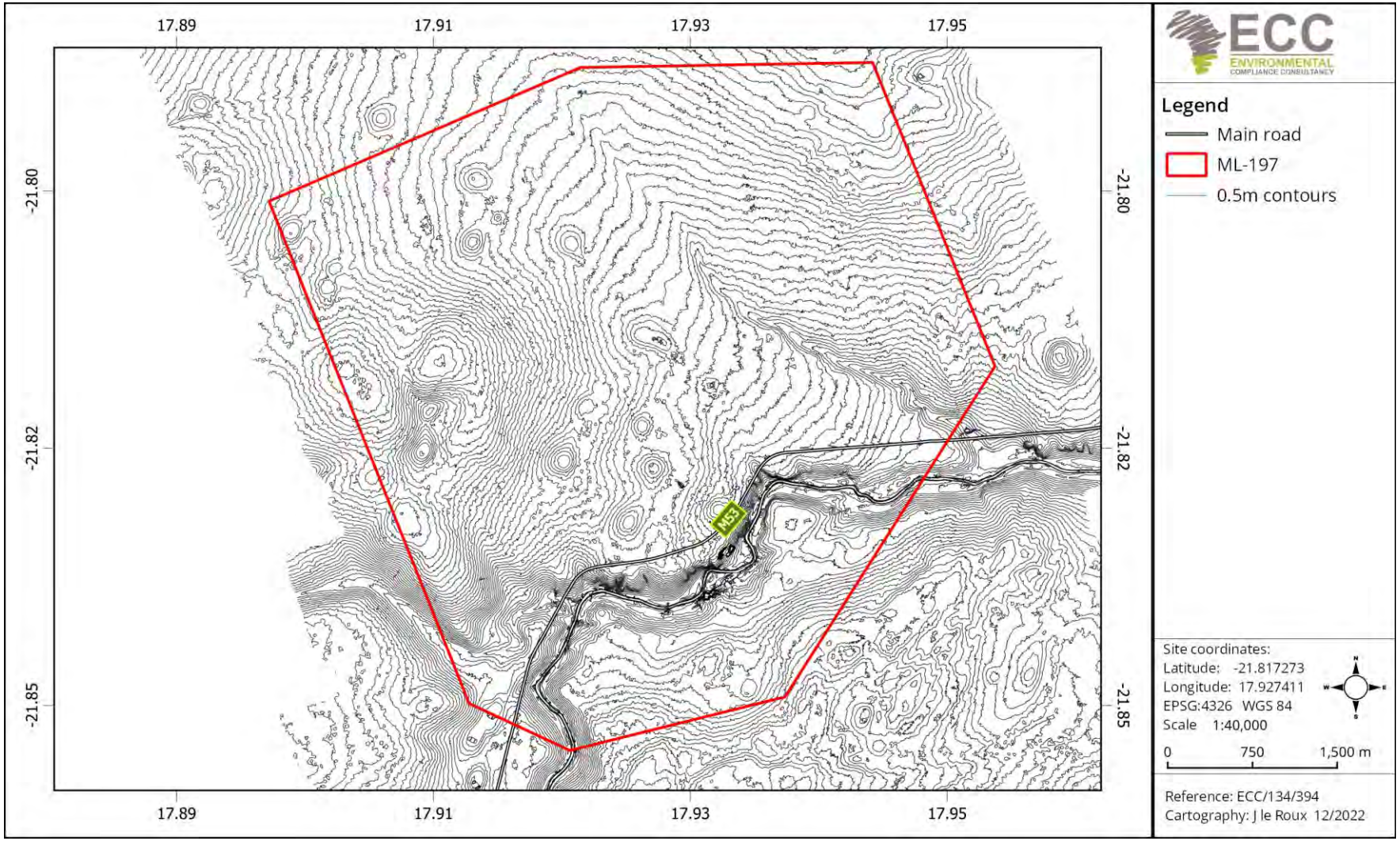


Figure 21 - Topographical map of ML 197

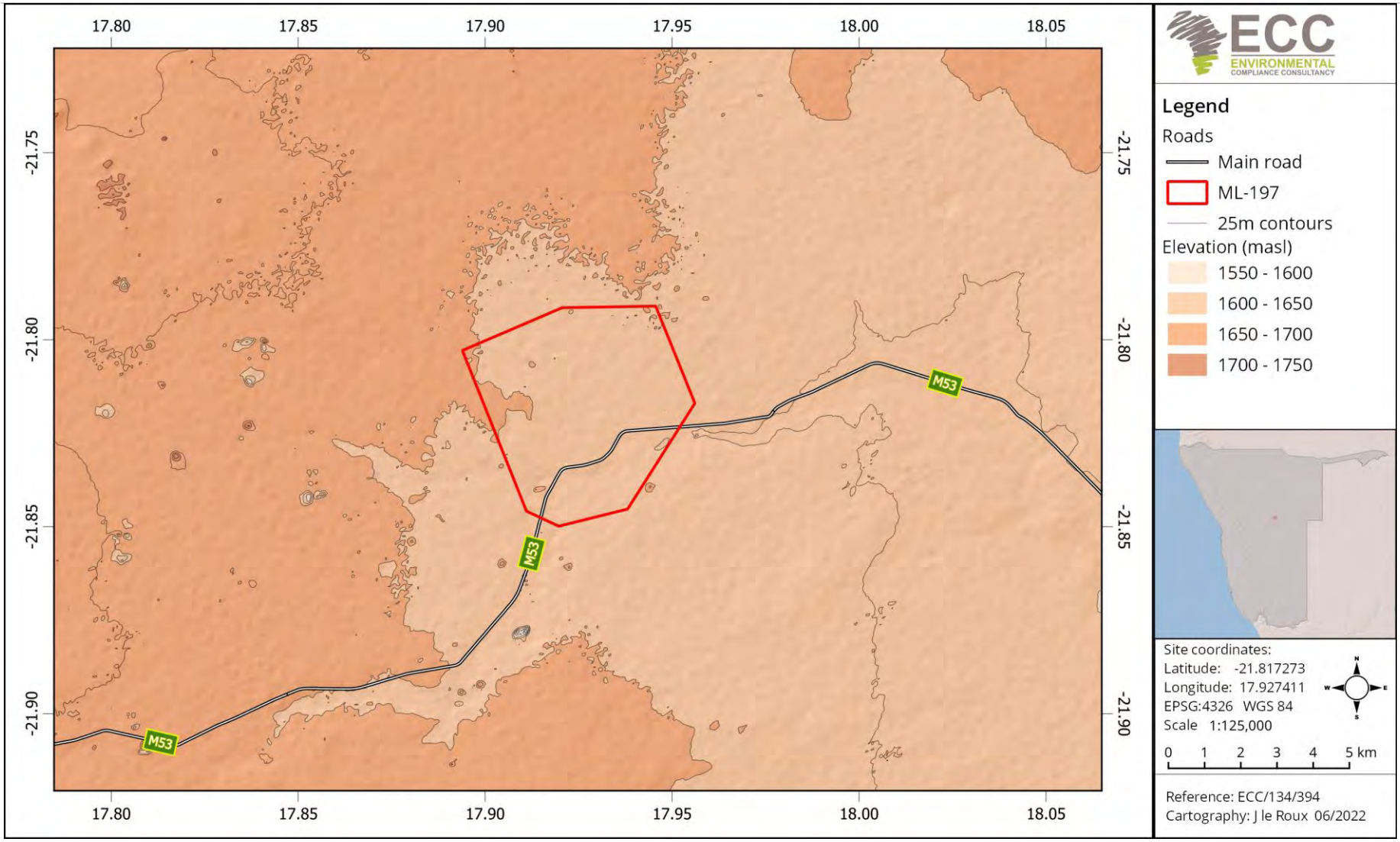


Figure 22 - Elevation of ML 197 and the surrounding area

5.7 SOILS

The ML area is covered by chromic Cambisols (Figure 23) (Bubenzer, 2002). The first part of the soil name denotes soil properties. Therefore, chromic refers to soils with a beginning of soil formation that may be brightly coloured, which is evident in the topsoil layer over the project area. The second name reflects the conditions and processes which have led to the formation of the soils. Cambisols are developed in medium and fine-textured materials derived from a wide range of rocks mostly in alluvial, colluvial, and aeolian deposits (Mendelsohn et al., 2002).

Cambisols are soils that usually have medium to high fertility but are also characterised by the absence of significant quantities of organic material, clay, iron, or aluminum. Considering geological time Cambisols were formed quite recently mainly from medium to fine-textured parent material weathering (Mendelsohn et al., 2002).

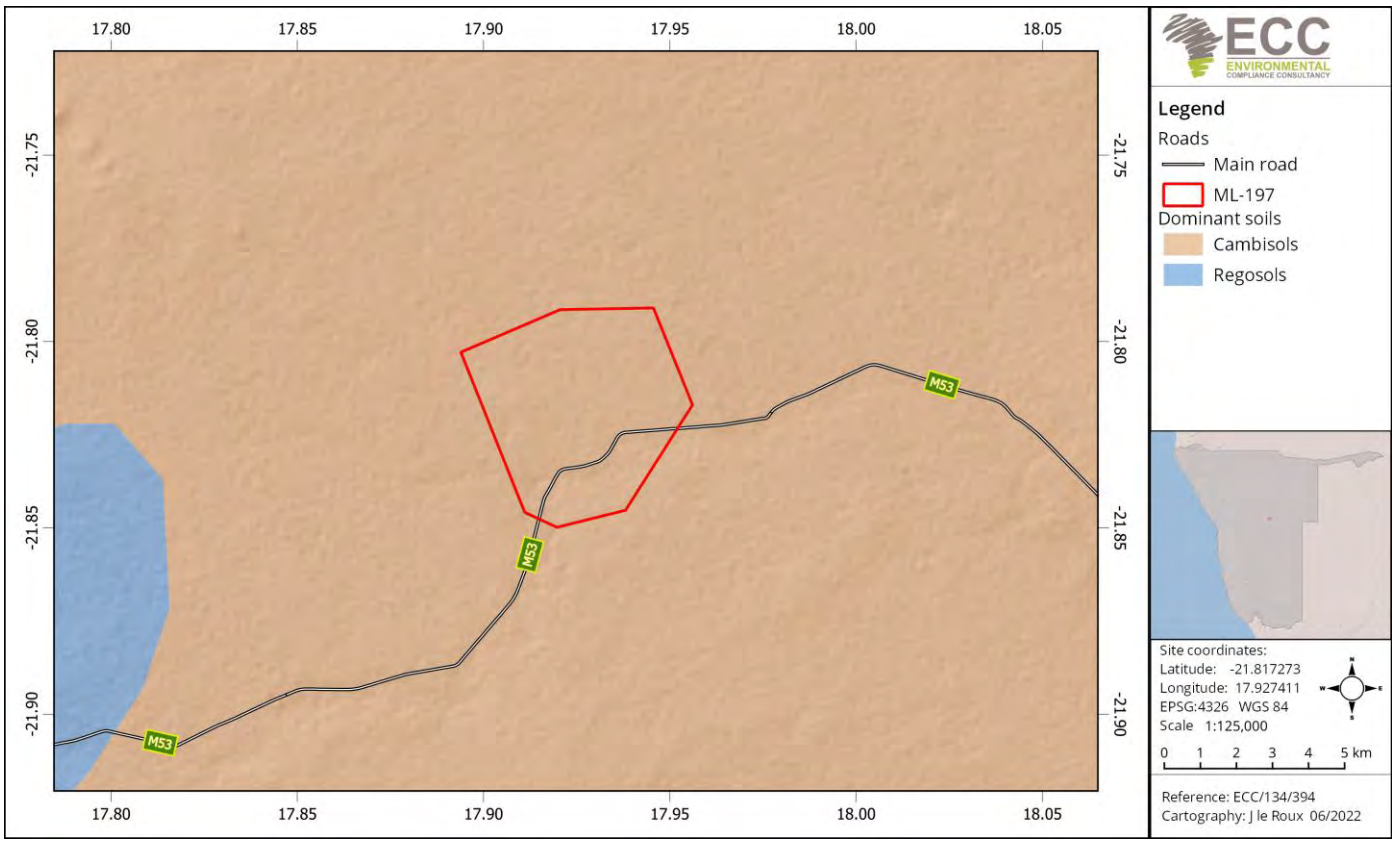


Figure 23 - Dominant soils found within and surrounding the ML boundary.

5.8 OVERBURDEN CHARACTERISTICS

The sand, soil, and gravel cover over the ML averages 1 – 2 m in thickness, but varies in terms of placement, from a few decimetres near the northern banks of the Black Nossob River to several meters, particularly on the southern side. The Red Kalahari sand of wind-blown origin comprises

most of the cover and occurs mainly away from the Black Nossob River. These sands are generally poorly graded; the average grain size of 0.3 mm contains significant fines and hence drains poorly.

Soils of alluvial origin cover the southern regions of the site near the Black Nossob River and can be described as fine to medium sands with minor to abundant gravel. The flood plain contains some clay to silt-sized fractions. The sand in the centre of the Black Nossob River is well-sorted, has an average grain size of 0.6 mm, and drains easily. Pans and tributary riverbeds contain the finest overburden material and a significant proportion of clay. Calcrete material occurs mainly near secondary drainages and pans and a gravel or boulder stone line frequently occurs at the base of the overburden.

5.9 HYDROGEOLOGY AND HYDROLOGY

According to the Namibian Monitoring Information System and Hydrological Map of Namibia (https://na-mis.com/), the site overlies rock types with generally very low groundwater potential. The groundwater vulnerability in this area is moderate and groundwater recharge within this area is low (< 0.5% of the total average rainfall). Groundwater in this area is generally of excellent quality (Group A).

The area overlaps the South-eastern Kalahari groundwater basin and within the Nossob catchment area. The Black Nossob river runs through the southern part of the ML (Figure 24).

Hydrogeological studies are underway to update the hydrogeological baseline of the project area subsequent to the initial studies conducted by SLR (2017) for the previous mini-mining project concept, in order to make appropriate provisions to remove and manage ground and surface water inflow into the pit as the mine expands. The assessment will consider amongst others geological conditions and the characteristics of groundwater flow throughout the site.

Baseline environmental monitoring of groundwater levels and ambient air quality is carried out monthly. Quarterly groundwater quality testing is also performed. Monitoring data will be used to build a baseline dataset of the current environmental conditions. It will also be used to analyse trends, identify early indications or markers of potential contamination, and be used to guide management to ensure potential impacts on the environment and community are mitigated.

Groundwater levels are monitored to observe variability of an aquifer over time. The changes in water level, when they occur, could be induced by recharge (the water level is rising) following good rain events under the Namibian climate. When the water level trend is going downward, this can be due to seasonal variation or depletion of the aquifer if there is over-abstraction.

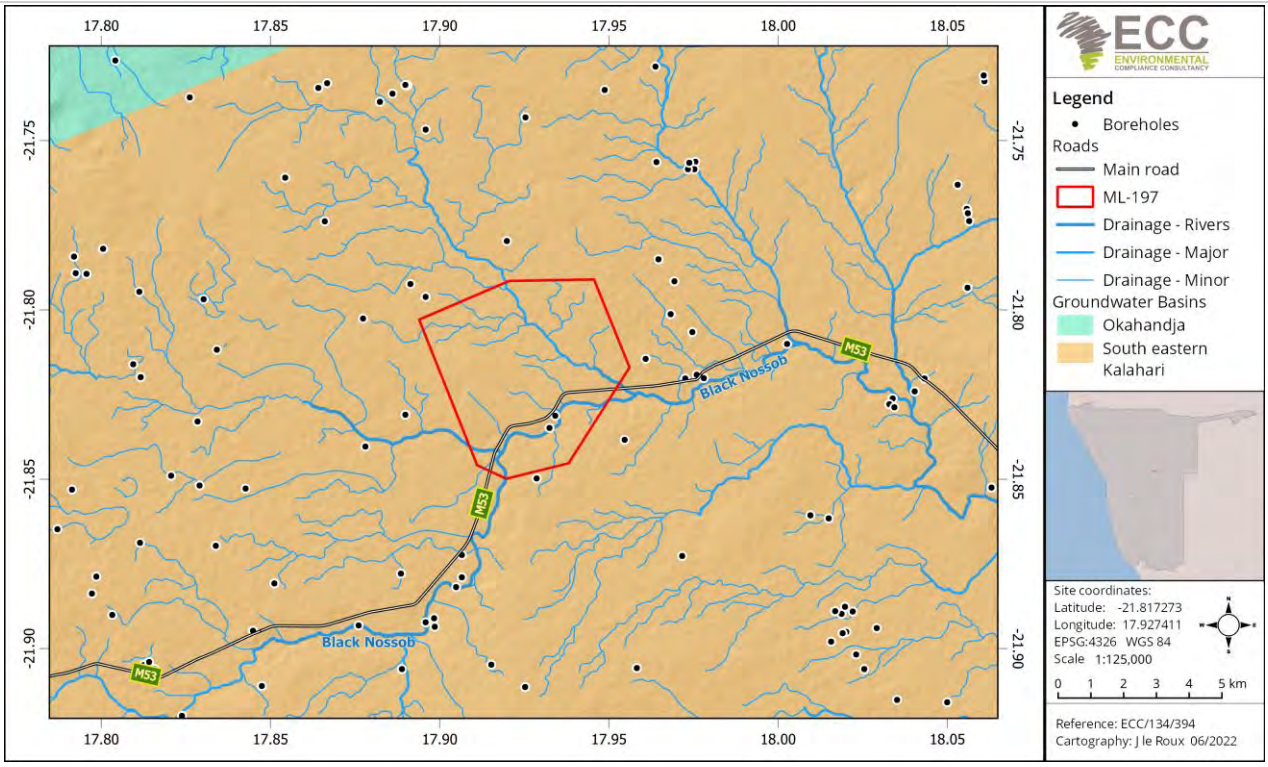


Figure 24 - Combined hydrogeology and hydrology map of ML 197

5.10 BIODIVERSITY BASELINE

5.10.1 FLORA

Vegetation in Namibia is strongly influenced by rainfall. The plant diversity and tallest trees are most lush in the north-eastern parts of the country and contrast sparser and shorter to the west and south of the country. This gradient is not simple as factors such as soil types, landscape, and human impacts may also influence vegetation.

The study area falls in the Kalahari Sandveld vegetation type of savanna biome (Mendelsohn et al., 2002). The plant diversity (100 to 300 species) for this area is low to moderate, with low endemism (2 to 5 species) and the dominant vegetation structure for the ML is a shrubland-Woodland mosaic (Figure 25). In this part of Namibia, the following tree and shrub species are either protected under national legislation, endemic, near endemic or listed in the CITES appendices (Burke, 2012 and Mannheimer & Curtis, 2009):

- *Aloe littoralis* (Nature Conservation Ordinance and CITES II);
- *Boscia albitrunca* (Forestry protected);
- *Albizia anthelmintica* (Forestry protected);
- *Vachellia erioloba* (Forestry protected);
- *Philenoptera nelsii* (Forestry protected);
- *Ziziphus mucronata* (Forestry protected); and
- *Acrotome fleckii* (near-endemic).

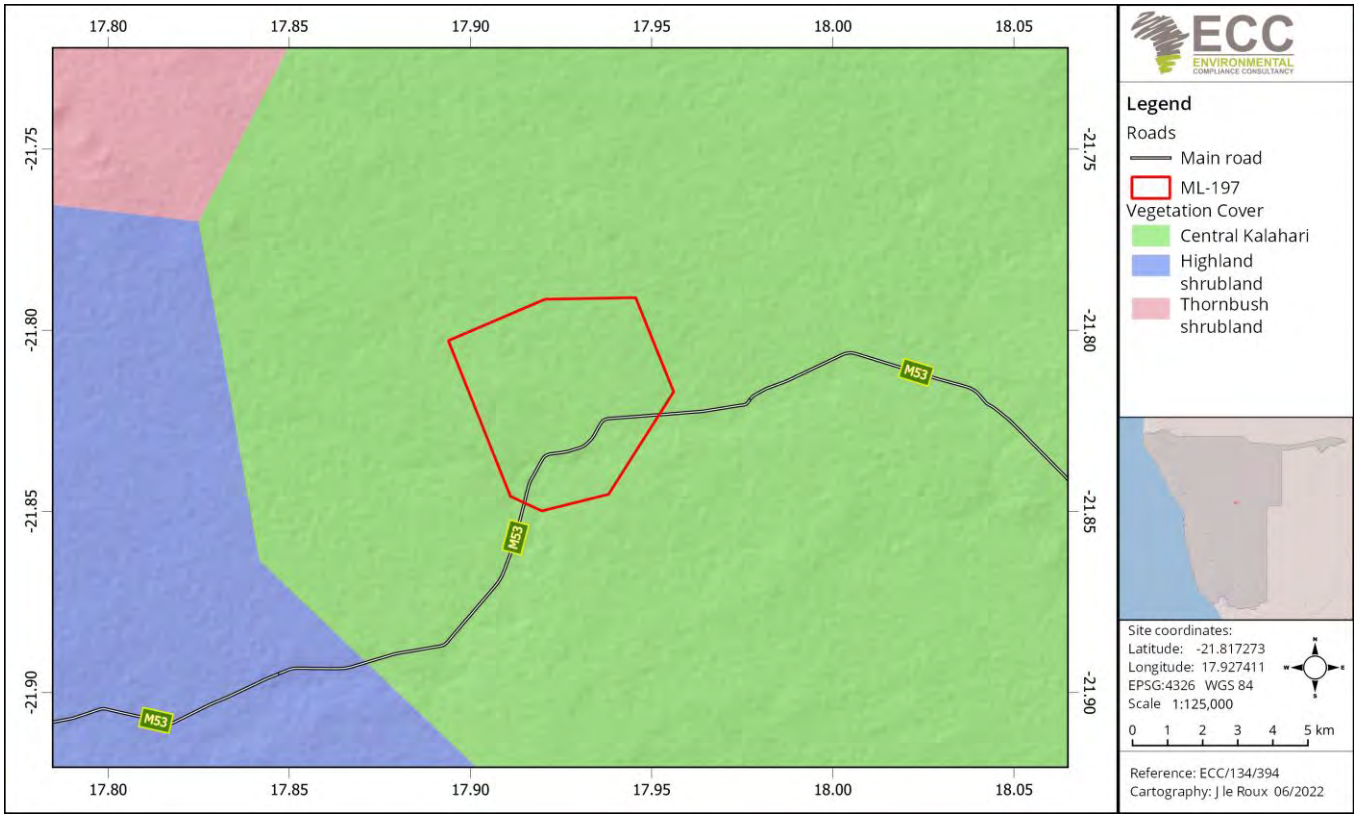


Figure 25 - Vegetation cover within and surrounding the ML boundary.

Results from the previous biodiversity specialist studies conducted on Farm Omitiomire still remain relevant and useful to understand the dominant habitats and their associated vegetation structure on the farm however, an additional biodiversity study was conducted in quarter 1 of 2023 to verify and update the previous study conducted. The 2017 consolidated biodiversity specialist study conducted by African Wilderness Restoration (AWR) indicated five major habitats on Farm Omitiomire (Figure 26). However, the updated open pit design for the Omitiomire Project will cut across portions of the open savanna habitat, the Omuramba habitat, some ephemeral pan habitats, and the floodplain habitat along the Black Nossob River due to the diversion of the Black Nossob River.

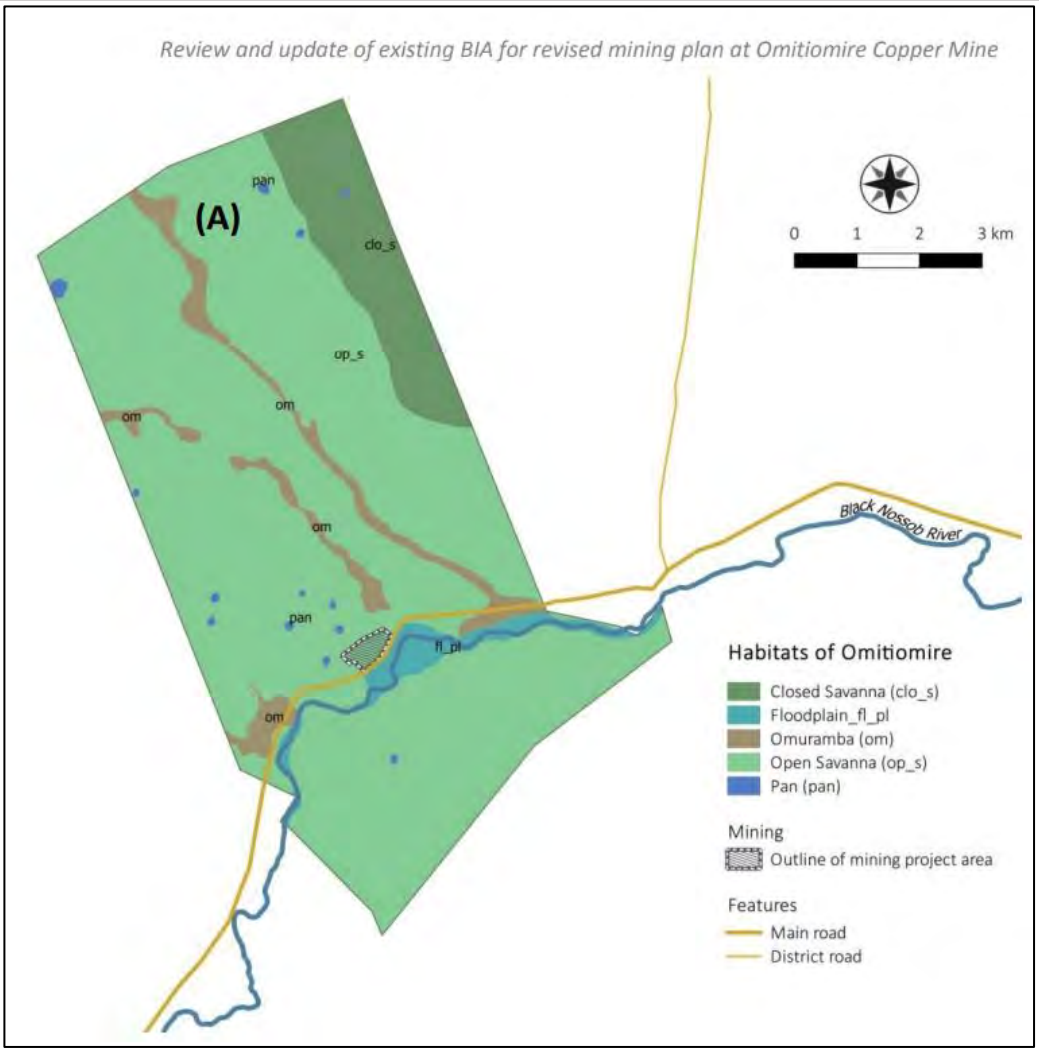


Figure 26 – Farm Omitiomire habitats developed by AWR (Sources: SLR, 2017)

The aspects as defined by AWR, et al (2017), with the most direct relevance to the larger footprint area that may be affected by the river diversion are:

- The riparian vegetation along the banks of the Black Nossob River dominated by Acacia karroo, Ziziphus mucronate and Acacia erioloba. The latter two species are protected in Namibia (AWR, 2017);
- The narrow strip of low rock outcrops parallel to the river represents a marginal rupicolous habitat in an otherwise rockless area and allows for the survival of taxa associated with it (AWR, 2017);
- The riverine vegetation fringe which creates the linear oasis effect. It is dependent upon groundwater flow in the Swart Nossob aquifer. Similarly, the rocks create sheltered habitat more suitable for some plant species (AWR, 2017); and the
- Pan habitat: Pans represent perched water tables, which make them relatively independent of regional geohydrological systems as long as the hardpan that creates the perching remains intact. The geomorphological processes that caused them cannot be

recreated in human time scales. Seriously breached hardpans will not heal themselves. Pans are therefore unrestorable (Irish, 2011).

5.10.2 FAUNA

The overall terrestrial diversity for the area is low compared to other parts of the country. The area within and surrounding the ML has a high bird diversity status of about 305 species (migrants and residents), with moderate bird endemism (between 4 and 5 species) and represents an area with moderate mammal diversity of between 61 to 75 (1 to 2 of these species are endemic). Four large carnivore species have been recorded in the project area (Bubenzer, 2002, IUCN, 2022, Mendelsohn et al., 2002, Chittenden et.al. 2018 & Stuart and Stuart, 2015).

Furthermore, the reptile diversity within this area is moderate to high with between 61 and 70 species, 5 to 8 endemic species; the number of observed lizard species for this area is between 24 to 27 of which 3 to 5 species are endemic and the different snakes recorded are between 30 to 34 species (1 to 2 endemic species). This area also has a frog diversity of between 8 and 11 species, and also a low to moderate scorpion diversity (10 to 11 species). (Bubenzer, 2002 & Mendelsohn et al., 2002). Irish (2011) lists 11 reptile species that are of some type of conservation concern, of which most could occur on the habitats within the ML. The most important amphibian species of conservation concern is the Giant Bullfrog (*Pyxicephalus adspersus*) that could potentially occur in the ephemeral pans of the study area. Invertebrate endemism rates in the Kalahari Sandveld region tend to be low and no species were flagged by Irish for special attention (AWR, 2017).

Most bird species in Namibia fall under Schedule 4: Protected Game within the Namibian Conservation Ordinance No. 4 of 1975, except for the following excluded species: Weavers, Sparrows, Mousebirds, Redheaded Quela, Bulbul, and the Pied crow as well as 19 huntable game bird species identified in Schedule 6 of the Nature Conservation Ordinance (Nature Conservation Ordinance No. 4 of 1975).

A large number of bird species are highly migratory and pass-through Namibia sporadically, thus some of the species might be very rare to identify during the year, nonetheless could potentially be spotted within the area periodically. Water on-site during the rainy season might attract various water birds (either resident or migratory). In this part of Namibia including the area, numerous bird species are either additionally protected under the regulations of the Exploitation of Marine Resources Act No. 241 of 2001, section 18, or listed within the CITES appendices. Some of these species might potentially be found or encountered near or within ML boundaries during a given year (depending on the season and migratory patterns).

The following bird species are near threatened, vulnerable, endangered, or critically endangered according to the red list of endangered species and might potentially on occasion be spotted within the ML area (Chittenden et.al. 2018 & IUCN 2022):

- White-backed Vulture (Critically endangered),

- Lappet-faced Vulture (Endangered);
- Bateleur (Endangered);
- Martial Eagle (Endangered);
- Secretarybird (Endangered);
- Steppe Eagle (Endangered);
- Cape Vulture (Vulnerable, but Critically Endangered in Namibia);
- Tawny Eagle (Vulnerable);
- Red-footed Falcon (Vulnerable);
- Curlew Sandpiper (Near-Threatened);
- Eurasian Curlew (Near-Threatened);
- Pallid Harrier (Near-Threatened); and
- Kori Bustard (Near-Threatened).

Various protected or threatened mammal species may occur on the project site of which one is classified as near threatened (Brown Hyena) and four are classified as vulnerable (Cheetah (*Acinonyx jubatus*), Leopard, Pangolin and the Black-footed cat) according to the IUCN red list of threatened species. According to the AWR (2017) study findings of mammal endemism in the area, no species of conservation concern will be affected by the project.

Furthermore, all tortoise species, rock monitors, and pythons (dwarf and rock pythons) that might potentially be encountered within the ML boundaries are protected under the Nature Conservation Ordinance No. 4 of 1975.

5.11 Socio-economic baseline

The Khomas Region occupies 4.5% of the surface land area of Namibia and accommodates the largest percentage (18%) of the national population total in 2016 (NSA, 2017). The population density in the Khomas Region is 4.2 times higher (12 persons per km2) than the national figure; the projected total population for the Khomas Region was 415,780 in 2016. In the Khomas Region 95% of all people live in an urban area in 2016, Oshiwambo is the most spoken language (41% of all households), the average household size is 3.5 people, and the literacy rate is 97% for people older than 15. Living in an urban environment implies better living conditions – in the Khomas Region 100% of all households have access to safe water, only 25% have no toilet facility, 64% have electricity for lighting and only 7% of the population depend on open fires to prepare food (NSA, 2017).

The urban population pyramid for Namibia shows a very clear dominance of the age group 20 to 35 years of age as well as for infants (0 to 4 years of age). As the majority of people in the Khomas Region are living in an urban area, the dominance of Windhoek is further apparent – the population of the Khomas Region is young, most of them within the child-bearing age range. The urban population pyramid for Namibia contrasts sharply with the one for the rural population.

The base of the pyramid reflects people younger than 25 years of age and forms most of the total population (NSA, 2017)

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

Windhoek is the national capital and the capital of the Khomas Region. As the country's capital Windhoek hosts many of the national head offices as well as the head offices of the Khomas regional council. Windhoek is governed by a local authority in the form of a city council.

The dominance of Windhoek as a place of residence in the Khomas Region is apparent – all other urban places in the Khomas Region are classified as settlements – the lowest order of governed populated places in Namibia. Places such as Baumgartsbrunn, Groot Aub, Seeis, and Dordabis are managed directly by the central authority. Table 11 below presents the existing settlements surrounding the project site for a 200km radius.

Table 11 - Settlements surrounding the Project site.

Settlement	Distance to Project	Population size	Services
Steinhausen	40 km	No settlement; private farmland	None
Hochfeld	50 km	Few, some people live on surrounding farmland	Hotel, shop and police station.
Seeis	70 km	Few	Limited Agro industry
Omitara (proclaimed village)	85 km	+/- 1200 (Source: Omaheke Regional Council Survey of 2006) This number may have increased since.	Clinic, primary school, post office, police, NamWater office and local shops.
Windhoek	140 km	461 000	Many
Okahandja	160 km	24 100	Full basic services
Gobabis	150 km	14 000	Full basic services

5.11.1 Governance

Since its independence in 1990, Namibia is led by a democratically elected and stable government. The country ranked 8th out of 54 African countries in the Ibrahim Index of African Governance in 2022 for the indicators including the quality of governance and the government's ability to support human development; sustainable economic opportunity; rule of law and human rights; and development of smart information and communication technology to access information for socio-economic growth (Mo Ibramin Foundation).

The Khomas Region is governed by the Khomas Regional Council as a statutory body promulgated under the Regional Act, Act No. 22 of 1992 and led by the governor, Honourable Laura Mcleod-Katjirua. As a result of sound governance and stable macroeconomic management, Namibia has experienced rapid socio-economic development. Namibia has achieved the level of 'medium human development' and in 2021 ranked 139 on the Human Development Index out of 191 countries and territories (Human Development Index UNDP).

5.11.2 Population and growth rate

Namibia is one of the least densely populated countries in the world (3 persons per km^2). Vast areas of Namibia are without people, in contrast to areas of dense concentrations, such as the central north and along the Kavango River. Windhoek, the capital, is not only the main urban area with the largest population, but the concentration of private and public head offices attracts Namibians from all parts of the country in search of a better life.

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

According to the 2011 census results the Khomas region's population size has increased from 250 262 in 2001 to 342 141 in 2011 which is over 16% of the total population compared to 12% 20 years ago. Hence the annual growth rate is at 3.1% (Khomas Regional Council, 2015). Namibia has not yet had an official follow up census count since 2011, but the 2016 intercensal data shows estimated population size for the Khomas Region as approximately 415 780 with a higher growth rate of 3.9% (Knoema, 2022) (Figure 27).

It is predicted that urbanisation will continue, with an increase from 43% of the population living in urban areas in 2011, to 67% in 2041. The populations of the Khomas and Erongo regions are projected to increase the most, with over a third of Namibia's population expected to live in these two regions (Namibia Statistics Agency, 2011).

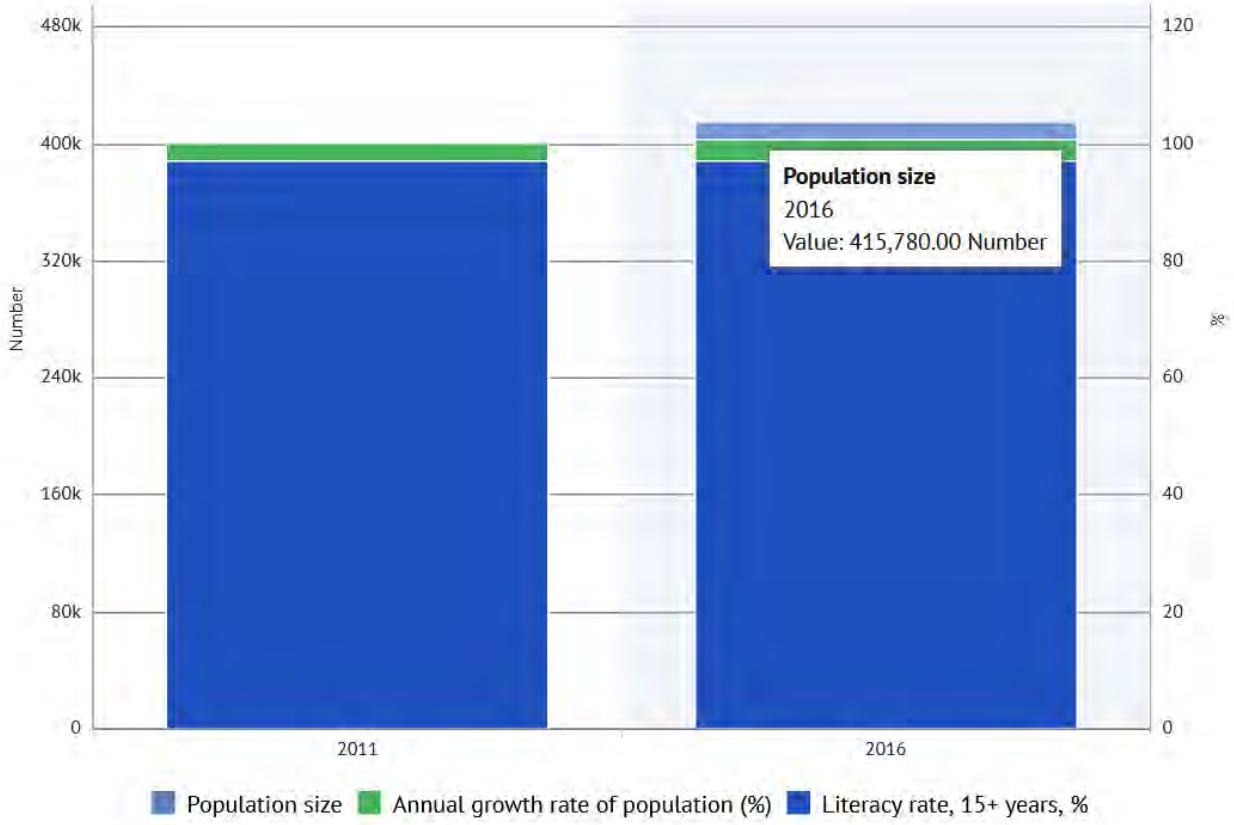


Figure 27 - Estimated population size of the Khomas Region, 2016 (Kneoma, 2022)

5.11.3 Employment

In 2018, 53.4% of all working Namibians were employed in the private sector and 21.5% by the state. State-owned enterprises employ 7.6% of Namibians and private individuals 16.6%. Wages and salaries represented the main income source of 47.4% of households in Namibia. Agriculture (combined with forestry and fishing) is the economic sector with the most employees – 23% of all employed persons in Namibia work in this sector. Agriculture is also the sector that employs the most informal workers in Namibia, calculated at 87.6%. Wages of employees in the agriculture sector are lower than in all other sectors except for workers in accommodation and food services and domestic work in private households (NSA, 2019).

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

Overall, the rate of unemployment is estimated at 33.4% for Namibia, using the broad definition of unemployment. More than 60% of the population is over 15 years of age and about one-third of the total population can be regarded as part of the labour force. The unemployment rate in

rural and urban areas is almost the same – 33.4% in urban areas and 33.5% in rural areas. The highest unemployment rates are found amongst persons with education levels lower than 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%. According to the Namibia Labour Force Survey report (2018), 52.6% of eligible people in the Khomas Region were employed. In contrast the unemployment rate was calculated at 31.5% for the region, slightly below the national figure (Namibia Statistics Agency, 2019).

According to the Socio-Economic Impact Assessment of COVID-19 in Namibia by the United Nations Namibia (2020), there has been an estimated increase in national unemployment from 33.4% to 34.5% and through a best-case scenario, it is also estimated that poverty will increase from 17.2% to 19.5% due to a drop in the domestic GDP (United Nations Namibia 2020).

5.11.4 Economic environment

In the Khomas Region, 74.5% of all households depend on salaries and wages as their main income source, only 0.2% of households depend on subsistence farming as their main source of income and 9.7% of all households get their main income from non-farming business activities (NSA, 2019). This makes the agriculture industry less prominent in the Khomas Region where the majority of people are urbanized and concentrated in the Windhoek node.

Guest farms and other tourism-related economic activities are also common in the Khomas Region and the specific project area, mainly as a result of its strategic location close to Windhoek and the Hosea Kutako International Airport, and favourable natural conditions for such activities According to the Hospitality Association of Namibia (HAN, 2019) the Khomas Region filled a total of 74,850 bed occupations for the 2021 calendar year in contrast to the 371,736 beds sold in 2019, only second to the northern regions with a total bed occupancy of 331,439 for the same year (HAN, 2019).

However, mining plays a pivotal role in the economy of Namibia. Since independence, it has consistently been the biggest contributor to Namibia's economy in terms of revenue and accounts for 25% of the country's income. Mining is one of the main contributors to GDP, and one of the largest economic sectors of Namibia, which contributed 9.1% to GDP in 2021 (Chamber of Mines, 2021). The Khomas Region has two non-productiing copper mines currently, these are, the Matchless Mine and the Otjihase Mine. The Lodestone Dordabis Iron Ore Mine is currently in production (Chamber of Mines, 2021).

Since 2016, Namibia has 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.

During the second quarter of 2020, the domestic economy contracted by 11.1%, which is the largest contraction since 2013 due to the impact of Covid-1996.5% of tourism businesses were affected by COVID-19 in 2020, the manufacturing and construction sectors contracted by 9.2% and 5.7% respectively and there was also a 2% to 3% decline in net exports (United Nations Namibia 2020).

However, Namibian GDP expanded by 1.9% year-on-year in the fourth quarter of 2022, slowing from a downwardly revised 3.9% rise in the previous three-month period. It marks the seventh consecutive quarter of growth since the Covid-19 pandemic (Central Bureau of Statistics, Namibia)..

5.11.5 HEALTH AND DISEASE

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 Organisation (WHO) recommended strategic priorities for the health system in Namibia, which entailed improved governance, an improved health information system, emergency preparedness, risk reduction and response, preventative healthcare, and the combating of HIV/AIDS and TB (WHO, 2016). The Khomas Region has 44 registered health facilities spread throughout its constituencies. The closest health service provider (clinic) from the project site is 85km away in Omitara in the Omaheke Region. This facility provides primary health care only.

As elsewhere in Namibia, HIV/AIDS remains a major reason for low life expectancy and is one of the leading causes of death in the 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 to 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 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). The Khomas Region recorded the highest number (911 out of a total of 5320 cases) of confirmed TB cases in 2021 while 398 of TB cases tested positive for HIV (MInistry of Health and Social Services, 2021).

As of the beginning of 2020, the coronavirus (COVID-19), caused illness in humans on a pandemic scale and has resulted in an increasing number of deaths worldwide. The viral outbreak has adversely affected various socioeconomic activities globally. The disease caused many countries to enter a state of emergency, which included various levels of lockdown restrictions that had dire

economic consequences. In addition, these measures have had a detrimental effect on tourism, and Namibia is, in both cases, no exception.

Furthermore, COVID-19 has also resulted in a loss of learning and socialising opportunities for children in Namibia and there was a lack of access to school feeding programs and parents had to provide or find alternative care for children. There has also been a 6% increase in health workers across Namibia as a result of the pandemic (United Nations Namibia 2020). The Namibian economy remains confined, following the aftermath of COVID-19. Hence, development partners, public and private sectors need the commitment to explore new approaches to revive the fragile economy (NSA,2019). By March 2023 Namibia has recorded 4 090 deaths due to COVID-19, most of these deaths occurred in 2021 due to the Delta and Omicron variants.

5.11.6 CULTURAL HERITAGE

From the Namibian GIS data and information from the Atlas of Namibia, there are no heritage sites within the proposed site with regards to the following periods: records from 1.8 million to 10000 years ago, 10000 to 2000 years ago or within the last 2000 years (Bubenzer, 2002 & Mendelsohn et al., 2002).

Regardless, the 2014 field survey undertaken as part of the ESIA process located a total of thirteen archaeological sites (Table 12) on farm Groot Omitiomire representing the sporadic human occupation of the area from the late Pleistocene (probably 150 000BC) until the recent Holocene period (SLR, 2017). All of the 13 listed sites will be impacted upon by the current mining concept. Therefore, a full heritage specialist study will be commissioned to investigate the status of the listed occurrences of heritage or archaeological artifacts on the ML.

Table 12 - Site Gazetteer (SLR, 2017)

Reference number	Description
QRS 99/1	Extensive low density stone artifact scatter >0.5 km^2, <10 objects m^2,
QRS 99/2	Isolated finds of flaked hydrothermal quartz
QRS 99/3	Minor occurrences of flaked quartz in pebble bed
QRS 99/4	Isolated find of quartz polyhedral
QRS 99/5	Isolated quartz flaking debris
QRS 99/6	Localized scatter flaked quartz
QRS 99/7	Depression approximately 25 m in diameter with marginal spoil heaps
QRS 99/8	Isolated quartz artifact debris
QRS 99/9	Pebble horizon with late Pleistocene artifacts in chert and quartzite
QRS 99/10	General scatter of quartz polyhedral cores and artifact flaking debris
QRS 99/11	Isolated microlithic core, quartz
QRS 99/12	Extensive and fairly dense surface scatter ca 20 000 m^2, >50 objects /m^2

Reference number	Description
QRS 99/13	Isolated quartz polyhedral

6 IMPACT IDENTIFICATION AND EVALUATION METHODOLOGY

6.1 INTRODUCTION

Chapter 2 provides an overview of the approach used in the ESIA process, and details each of the steps undertaken to date (screening and scoping) and the subsequent assessment process. Prediction and evaluation of impacts is a key step in the ESIA process. This chapter outlines the methods that will be followed to identify and evaluate the impacts arising from the proposed Project. The findings will be presented in the full assessment report.

This chapter provides comprehensive details of the following:

- The assessment guidance that will be used to assess impacts;
- The limitations, uncertainties, and assumptions regarding the assessment methodology;
- How impacts will be identified and evaluated, and how the level of significance will be derived;
- How mitigation will be applied in the assessment, and how additional mitigation will be identified; and
- The cumulative impact assessment (CIA) method to be used.

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

The scope of the assessment was determined by undertaking a preliminary screening of the proposed Project against the receiving environment, obtained through a desktop review, available site-specific literature, monitoring data and site reports, as set out in the scoping report.

6.2 ASSESSMENT GUIDANCE

The following principal documents will be used to inform the assessment method to be used in this assessment:

- The methodology utilised in the 2014 environmental and social impact assessment and the 2017 updated environmental and social impact assessment for the Omitiomire Copper Mining Project (SLR, 2017);
- The Namibian Draft Procedures and Guidance for EIA and EMP (Republic of Namibia, 2008);
- International Finance Corporation standards and models, in particular, performance standard 1: 'Assessment and management of environmental and social risks and impacts (International Finance Corporation, 2012 and 2017);

- International Finance Corporation Cumulative Impact Assessment (CIA) and Management Good Practice Handbook (International Finance Corporation, 2013).

6.3 LIMITATIONS, UNCERTAINTIES AND ASSUMPTIONS

The following limitations and uncertainties associated with the assessment methodology will be considered in the assessment phase:

- Topic-specific assessment guidance has not been developed in Namibia. A generic assessment methodology will be applied to all topics using IFC guidance and professional judgment; and
- Guidance for the CIA has not been developed in Namibia, but a single accepted state of global practice has been established. The IFC's guidance document (International Finance Corporation, 2013) will be used for the CIA.

6.4 ASSESSMENT METHODOLOGY

The ESIA methodology applied to this assessment has been developed by ECC using the International Finance Corporation (IFC) standards and models, in particular performance standard 1: Assessment and management of environmental and social risks and impacts (International Finance Corporation, 2017); Namibian Draft Procedures and Guidance for EIA and EMP (Republic of Namibia, 2008); international and national best practice; and over 25 years of combined ESIA experience. The methodology is set out in Figure 28 and Figure 29.

The impacts assessment methodology that was used in the 2014 EIA was also utilised for the assessment of impacts in the follow-up ESIA conducted by SLR in 2017. The SLR method complies with the Environmental Impact Assessment Regulations: Environmental Management Act, 2007 (Government Gazette No. 4878) EIA regulations. Part A provides the approach for determining impact consequence (combining severity, spatial scale and duration) and impact significance (the overall rating of the impact). Impact consequence and significance are determined from Part B and C. The interpretation of the impact significance is given in Part D. Both mitigated and unmitigated scenarios are considered for each impact.

Both the criteria used in the SLR assessment in 2017 to assess the impacts and the method of determining the significance of the impacts is fundamentally the same as the ECC methodology of identifying and assessing impact significance. Significance is defined as the product of an impact consequence (which is a function of its severity, spatial extent and duration rating) multiplied by the level of probability of the impact occurring. Therefore, the assessment that will be undertaken for the current scope of the project will draw from the findings of the prior assessment.

The evaluation and identification of the environmental and social impacts require the assessment of the Project characteristics against the baseline characteristics, ensuring that 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/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 any potential change. The magnitude of change (the impact) is the identifiable changes to the existing environment that may be negligible, low, minor, moderate, high, or very high; temporary/short-term, long-term or permanent; and either beneficial or adverse (Figure 28).

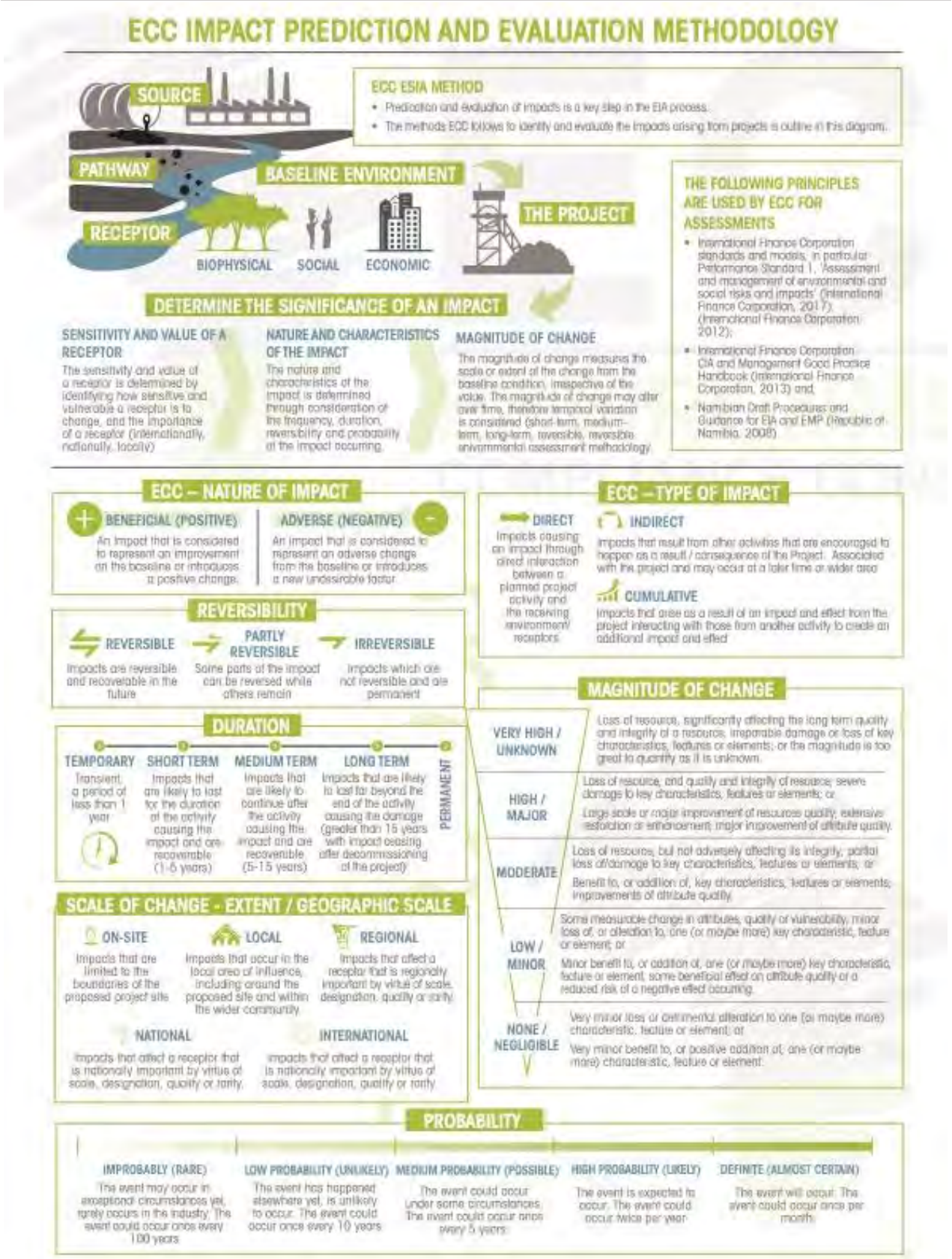


Figure 28 - ECC ESIA methodology based on IFC standards

- The significance of impacts has been derived by applying the identified thresholds for receptor sensitivity and magnitude of change, as well as the definition of significance. Moderate and major adverse impacts are considered as significant.
- The following thresholds were therefore used to ensure that the assessment of significance had been applied appropriately: a significant impact would meet at least one of the following criteria:
- It exceeds widely recognized levels of acceptable change
- It threatens or enhances the viability or integrity of a receptor or receptor group of concern; and
- It is likely to be material to the ultimate decision about whether or not the environmental clearance certificate is granted.

				SIGNIFICANCE OF IMPACT			
			Significance of Impact	Impacts are considered to be local factors that are unlikely to be critical to decision-making	Impacts are considered to be important factors but are unlikely to be key decision-making factors. The impact will be experienced, but the impact magnitude is sufficiently small (with and without mitigation) 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.	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 features of national importance and resources/ features that are unique and which, if lost, cannot be replaced or relocated.	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 to highly valued/sensitive resource/receptors. Impacts are expected to be permanent and non-reversible on a national scale and/ or have international significance or result in a legislative non-compliance.
	Biophysical	Social		Low	Minor (2)	Moderate (3)	Major (4)
SENSITIVITY	A biophysical receptor that is protected under legislation or information convention (CITES) listed as rare, threatened or endangered IUCN species. Highly valued/ sensitive resource/ receptors.	These affected people/ communities will not be able to adapt to changes or continue to maintain pre-impact livelihoods.	High (3)	Minor (3)	Moderate (6)	Major (9)	Major (12)
	Of value, importance/ rarity on a regional scale, and with limited potential for substitution; and/or not protected or listed (globally) but may be a rare or threatened species in the country; with little resilience to ecosystem changes, important to ecosystem functions, or one under threat or population decline	Able to adapt with some difficulty and maintain pre-impact status but only with a degree of support	Medium (2)	Low (2)	Minor (4)	Moderate (6)	Major (8)
	Not protected or listed as common/abundant; or not critical to other ecosystems functions.	These affected are able to adapt with relative ease and maintain pre-impact status. There is no perceptible change to people's livelihood.	Low (1)	Low (1)	Low (2)	Minor (3)	Moderate (4)

SENSITIVITY AND VALUE

Low
Of value, importance or rarity on a local scale and/or not particularly sensitive to change or has considerable capacity to accommodate a change.

Medium
Of value, importance or rarity on a regional scale, and with limited potential for substitution; and/or moderate sensitivity to change, or moderate capacity to accommodate a change.

High
Of value, importance or rarity on an international and national scale, and with very limited potential for substitution; and/or very sensitive to change or has little capacity to accommodate a change.

MITIGATION

Mitigation comprises a hierarchy of measures ranging from preventative environmental impacts by avoidance, to measures that provide opportunities for environmental enhancement. The mitigation hierarchy is avoidance; reduction at source; reduction of receptor level; repairing and correcting; compensation; remediation; and enhancement.

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

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

The EIA is an iterative process whereby the outcomes of the environmental and social assessments inform the project.

The EMP provides the good practice mitigation measures and specified additional measures or follow-up action ECC has recommended for the project.

SIGNIFICANCE DESCRIPTION

Low - Major Beneficial (All Scores)
Impacts are considered to be beneficial to the environment and society.

Low (negative) 0 - 25
Impacts are considered to be local factors that are unlikely to be critical to decision-making.

Minor (negative) 25 - 50
Impacts are considered to be important factors but are unlikely to be key decision-making factors. The impact will be experienced, but the impact magnitude is sufficiently small (with and without mitigation) 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 features of national importance and resources/ features that are unique and which, if lost, 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 to highly valued/sensitive resource/receptors. Impacts are expected to be permanent and non- reversible on a national scale and/or have international significance or result in a legislative non- compliance.

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Figure 29 - ECC ESIA methodology based on IFC standards.

6.5 MITIGATION

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

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

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

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

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

The ESIA is an iterative process whereby the outcomes of the environmental assessments inform the environmental management of the Omitiomire Copper Project through the ESMP .

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

7 ASSESSMENT TERMS OF REFERENCE

A full impact assessment will be completed with input from stakeholders during the public participation phase. Previous specialist studies that were conducted provide valuable insights into the baseline environmental and social conditions. Additional specialist studies also provide input to the assessment process. A final ESMP will be produced to manage residual impacts that cannot be mitigated through the Project design, planning and assessment process.

The EAP has been appointed to manage an application for an environmental clearance certificate as per the Environmental Management Act, Act 7 of 2007, to prepare and update the Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) for the proposed Project to reflect the current state of the biophysical and social environmental baselines, in compliance with the provisions of the Environmental Management Act 2007 and associated regulations.

7.1 TERMS AND REFERENCE FOR THE SCOPING REPORT

A full environmental and social impact assessment (ESIA) is required for this mine construction and operation Project.

The terms of reference for the scoping report are:

1. To provide the public and authorities with the background information document (BID) on the Project;
2. To consult with I&AP's and the relevant stakeholders and authorities about the proposed Project;
3. To conduct public and stakeholder meetings with relevant authorities by invitation and through notices placed in national public newspapers;
4. To register their interest in the Project and to record their concerns and issues;
5. To ensure the transparency of this process;
6. Allow adequate opportunity for comments to be received from I&APs and the authorities in this participation process;
7. To ensure that appropriate specialist studies are included in the scope of the impact assessment report to address the key concerns and issues raised during the consultation phase; and
8. To ensure that the application and scoping report are completed and submitted to the competent authority in the prescribed manner.

7.2 TERMS OF REFERENCE FOR THE ASSESSMENT REPORT

The ESIA for Project is to be conducted in accordance with the defined scope of work as outlined in this scoping report and or as subsequently approved by the Environmental Commissioner. The scope of the impact assessment report shall consider all related environmental and social matters

raised during the public (including the authorities) consultation process, as well as impacts identified by the appointed specialist consultants to assist in the determination of the significance of those environmental impacts of the proposed Project.

The objectives of the ESIA are:

- To address the issues and concerns raised by authorities, both the public and I&APs, as well as the specialist consultants through the public consultation and scoping process;
- To identify and evaluate actual and potential impacts resulting from the proposed Omitiomire copper mine from within Mining Licence 197, that potentially may influence the biophysical and social environment;
- To recommend management, mitigation and monitoring programmes to be implemented before and or during mining; and
- To define an appropriate Environmental and Social Management Plan (ESMP) for the proposed mining construction and operations in ML 197.

7.3 ESIA SCOPE OF WORK AND SPECIALIST STUDIES

7.3.1 GROUND AND SURFACE WATER ASSESSMENT

To assess the potential hydrology and hydrogeological issues relevant to the Project and assess the significance of the operational and environmental impacts that the Project may have on the hydrological and hydrogeological environments at and beyond the proposed site (ML 197). To investigate an optional source of groundwater external to the ML as a water supply source including general comments.

Scope of work:

To prepare a detailed surface and groundwater updated assessment report that will entail:

- A review of the existing information on the revised mine layout and associated surface and groundwater documents, including a review of design recommendations for ground and surface water control measures;
- A revision of the groundwater impact assessment for the updated mining layout as part of the amended ESIA report including a revision of the current groundwater model;
- Revise the surface water impact assessment for the updated mining layout as part of the amended ESIA report including revision of the current stormwater management plan; and
- To prepare detailed surface water and groundwater impact assessment along with recommended mitigation (where required), to be incorporated into the ESMP.

7.3.2 BIODIVERSITY ASSESSMENT

Scope of work:

The necessary verification fieldwork for the ML will include the following:

- Small mammal transects to determine small mammal diversity in the area;
- Larger mammal presence will be determined in the area;
- Reptile & amphibian transects (diurnal & nocturnal) to determine reptile & amphibian diversity in the area;
- Bird transects to determine avian diversity in the area; and
- Flora transects to determine plant diversity in the area.
- to confirm as many species as possible as well as for comparative purposes with the 2017 biodiversity impact assessment conducted.

7.3.3 Noise impact assessment

Scope of work:
The assessment will include a study of the effects of noise from various sources on the biophysical and social environments on and surrounding the proposed mine site including the M53 road.

7.3.4 Air quality impact assessment

Scope of work:
The assessment will include a study of the legal requirements pertaining to air quality applicable to international legal guidelines, limits and dust control regulations. The assessment will also include a desktop review of all available project data, including meteorological data, previous air quality assessments, EIAs, and technical air quality data and modelled results.

7.3.5 Mine-induced blast vibration assessment

The blast and vibration impact assessment will detail the potential impacts associated with the proposed mining activities and will be completed as follows:

Scope of work:

- Without vibration level records from past blasting activities, a site survey may be required;
- Identify sensitive receptors;
- Map out zones of influence with receptors and site infrastructure identified;
- Assess the potential impacts; and
- Propose mitigation measures, as necessary.

7.3.6 Heritage impact assessment

Scope of work:
A heritage assessment will be required to comply with the Namibian national legislature, including the National Heritage Act, 2004 (Act No 27 of 2004) and the National Heritage Regulations (if applicable), Government Notice (GN) 3490 of 2005.

Additionally, the proposed assessment process will comply with the requirements of IFC PS 8. The assessment process aims to verify the existing archaeological and heritage resources recorded in the 2014 archaeological study by Dr, John Kinahan and identify potentially additional significant heritage resources, as defined in Part I of the National Heritage Act, 2004.

7.3.7 GEOCHEMISTRY OF ORE AND WASTE ROCK

A geochemical sampling and analysis campaign has been commissioned to determine the chemical makeup of the mineralised and waste rock dumps that will be produced by the Project.

Scope of work:

- The number, and appropriate location, of representative samples to be collected for geochemical analysis;
- The static analytical testing programme; and
- Production of a draft Technical Memorandum report that will include recommendations in relation to longer-term kinetic material assessment and a discussion of any implications for operational and/or mine closure management.

7.3.8 CLIMATE CHANGE ASSESSMENT

A climate change assessment will be commissioned to assess the emission baseline of the biophysical environment and formulate recommendations and propositions for the management or mitigation of any potential impacts that the Project may contribute to climate change through scope 1, 2 and 3 emissions.

Scope of work

- Conducting climate-related scenario analysis, including selecting relevant scenarios and identifying key inputs and parameters;
- Estimating Scope1, 2 and 3 GHG emissions, including challenges with data collection across the value chain (clarity on how Scope 3 emissions will be assessed is to be identified);and
- Assess the impacts the Project may have on the receiving biophysical and socio-economic environment due to current and project climate scenarios including but not limited to:
    - Operating temperature variances;
    - Rainfall variability;
    - Water availability;
    - Energy – electricity;
    - Energy – liquid/gaseous fuels;
    - Soils;
    - Air quality;
    - Impact on flora and fauna;
    - Veld fires;

- Impact on mine access;
- Employee health and safety;
- Employment;
- Social norms; and
- Youth and gender sensitivity.

– Assess the impacts that the following factors may have on the Project, including but not limited to:

  - International markets;
  - National and international policies; and
  - Carbon pricing policies

8 CONCLUSION

This draft scoping report provides the baseline data and project description of the construction and operation of a copper mine (Project) for the assessment phase of the ESIA. ECC will carry out an in-depth environmental and social impact assessment to identify potential significant impacts.

These potential impacts will then be further analysed to establish mitigation measures that protect the environment and maximise social benefits. The mitigation will form the foundation of the detailed Project ESMP.

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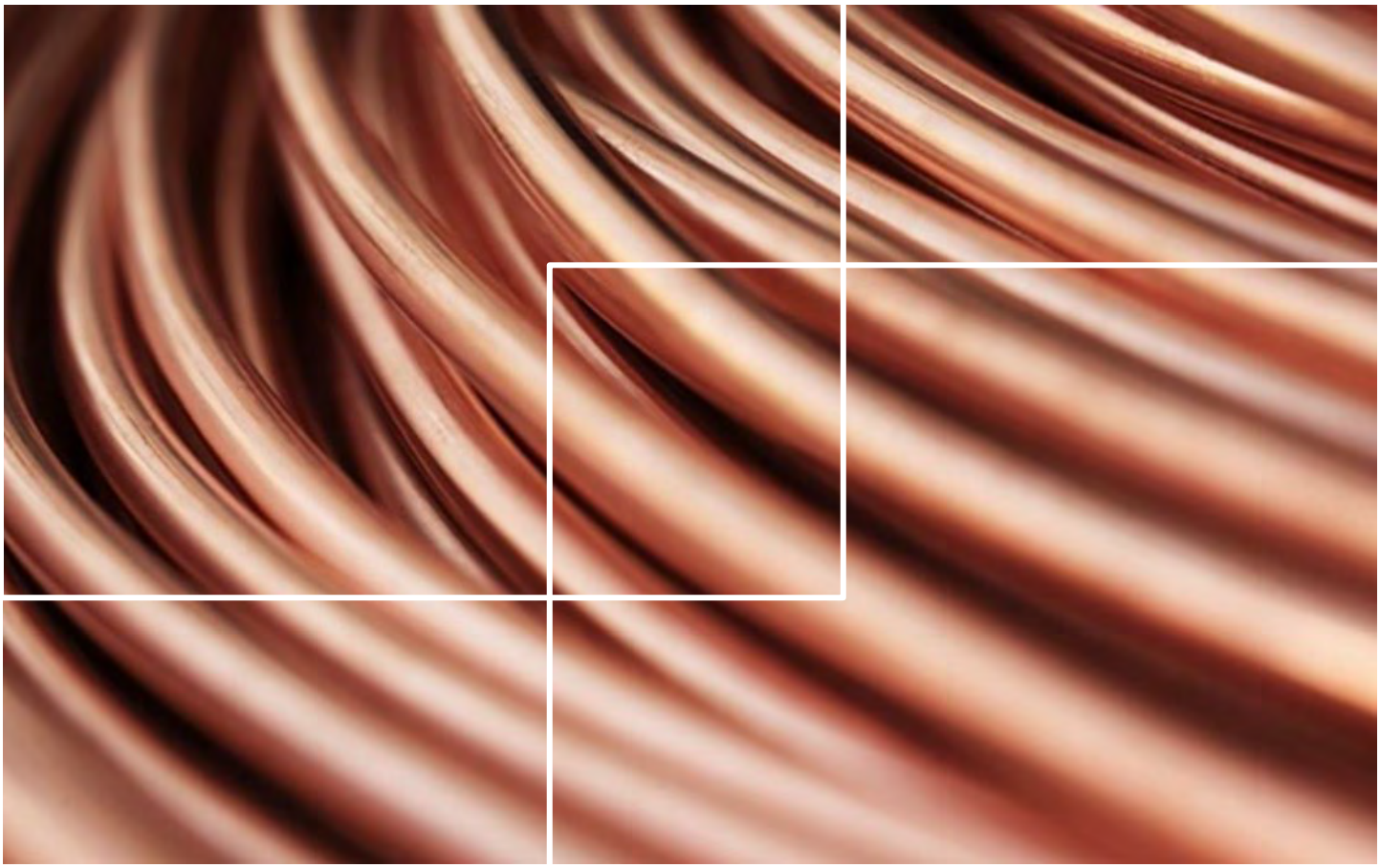
APPENDIX A - ENVIRONMENTAL MANAGEMENT PLAN

APPENDIX B - PUBLIC CONSULTATION DOCUMENT

APPENDIX C - ADDENDUM REPORT

APPENDIX D - EAP CVS



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Mining and Exploration
(Pty) Ltd

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ADDENDUM REPORT:

I&AP COMMENTS AND RESPONSES ON DRAFT SCOPING REPORT FOR THE OMITIOMIRE COPPER MINE ON ML 197

PROJECT NUMBER: ECC-134-394-REP-16-D

REPORT VERSION: REV 01

DATE: 12 JULY 2023

Prepared by: ECC ENVIRONMENTAL COMPLIANCE CONSULTANCY

TITLE AND APPROVAL PAGE

Project Name:	I&AP Comments and Responses on draft scoping report for the Omitiomire Copper Mine on ML 197
Client Company Name:	Craton Mining and Exploration (Pty) Ltd
Client Representatives:	Mr Mike Stuart
Ministry Reference:	APP-0010357/APP-001107
Authors:	Monique Jarrett and Jessica Bezuidenhout
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Date of issue:	12 July 2023
Review Period	NA

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ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
EAP	environmental assessment practitioner
ECC	Environmental Compliance Consultancy
EIA	environmental impact assessment
EMA	Environmental Management Act, No.7 of 2007
EMP	environmental management plan
ESIA	environmental and social impact assessment
I&APs	interested and affected parties
km	kilometre
m	metre
MEFT	Ministry of Environment, Forestry and Tourism
ML	mining licence
MLA	mining licence area
MME	Ministry of Mines and Energy

1 INTRODUCTION

1.1 PURPOSE OF THE COMMENTS CONSOLIDATION REPORT

This document has been compiled following the required period of review to be provided for public and registered interested and affected parties (I&APs) to have access to and opportunity to comment in writing on the draft scoping report for the proposed Omitiomire Copper Mine, Khomas Region, Namibia (the Project) before submission to the Environmental Commissioner.

The draft scoping report was completed for the Project and undertaken in accordance with the requirements of the Environmental Management Act, 2007 (Act No. 7 of 2007) and the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2011) gazetted under the Environmental Management Act (EMA), 2007 (Act No. 7 of 2007).

Environmental Compliance Consultancy (ECC) prepared the scoping report, which was provided to the public and registered I&APs for review for 14 days from 30 May -13 June 2023.

This document compiles all comments received during the public review period; presents the responses from ECC as the appointed environmental assessment practitioner (EAP) for the project, the Proponent and specialists engaged in the assessment.

The document has been set out to provide a concise summary as set out below in Table 1.

Table 1 - Report structure

Chapter	Title	Content
-	Acronyms	A list of acronyms used throughout the report.
1	Introduction	This chapter introduces the addendum report provides background information on the scoping report process.
2	Summary of comments	This chapter provides a summary of key issues raised in comments in submissions received from I&AP's and stakeholders.
3	Detailed comment and response table	The full set of comments received from IAPs during the public review period with detailed responses provided to all comments received.
4	Acknowledgements	Provides acknowledgements to relevant parties for participation in the scoping process as detailed in the scoping report and addendum.
Appendix	A	Original submitted comments and responses

2 SUMMARY OF COMMENTS FROM I&APS

2.1 INTRODUCTION

In accordance with the Regulations of the EMA 2007, on the 30th of May 2023 the scoping report was circulated electronically to all registered interested and affected parties (I&APs), identified key stakeholders. Submissions received from 1 individual was collated in a separate "Comments and Responses" table per that are presented in Table 2. Responses have been provided to all comments received. The original submissions as received from I&APs are provided in Appendix 1.

2.2 KEY FEEDBACK ON ISSUES OF CONCERN

The scoping report was provided to all I&APs, identified stakeholders and made publicly available on ECC's website. This public review period is set out to solicit comments, feedback, and allow genuine participation in the final phase of the ESIA process. Several comments were received from Marius and Nikki Basson owners of Farm Omakapu, No.104. The key area raised from the review of their comments can be summarised as follows:

Air Quality monitoring

The owners of Farm Omakapu, Marius and Nikki Basson had a few questions pertaining to environmental and baseline monitoring. They requested various dust bucket and air quality testing stations be set up on their farm to establish the current baseline of air quality on their farm to then eventually compare and assess any changes once the mine is in operation as this may affect the operations of their lodge. The EAP will be in contact with Marius and Nikki Basson to erect additional dust bucket stations on their farm where requested.

Baseline establishment and monitoring of groundwater rest levels and groundwater quality

The owners of Farm Omakapu further requested the groundwater levels on their farm be monitored as part of establishing the Project's baseline. They further suggested that pump tests be conducted to ensure that the borehole yields are accurately documented to track the Project's ongoing effect on groundwater levels. This will assist in guaranteeing that the groundwater levels of Farm Omitiomire and the surrounding farms are maintained according to pre-mining activity levels post-closure.

Similarly, they recommended additional monitoring boreholes be drilled on Farm Omitiomire and the surrounding farms to monitor groundwater quality. ECC has commissioned a groundwater study to assess the groundwater network and conduct pump testing. As part of the baseline establishment for the ESIA and to provide the basis for future monitoring work once the operation of the mine has commenced, ECC conducts monthly monitoring of groundwater rest levels and

quarterly monitoring of groundwater quality. The drilling of test/monitoring boreholes is standard practice on any mine site to monitor groundwater quality and levels.

3 DRAFT SCOPING REPORT - COMMENTS AND RESPONSES

Table 2 – Comments and feedback from the scoping report public review period received from: Marius and Nikki Basson, Farm Okamapu No. 104

Comment	EAP/Proponent Response
We need a dust bucket to be installed at the main lodge building per our initial correspondence sent to you, the one installed this week is in our Game Camp closest to the Omitiomere border.	Comment noted and we will be in contact with you.
In addition to the dust bucket at the lodge, we would also like to request the installation of dust buckets next to the main gravel road the mine vehicles will use. These buckets need to be installed directly next to the road and not 200m away as the dust will obviously be far less by the time it reaches the bucket	Comment noted, this will be assessed as part of the traffic and road study. Additional monitoring sites will be added where necessary.
We are concerned with the manner in which the water levels are being tested. The mining company needs to establish a baseline and draw down cone for the entire areas underground water. This means the mine has to test the yield of the boreholes on the farms i.e. you need to install your own equipment in the farmers borehole and then pump the water in the borehole for at least 24 hours to determine the litres of water supplied per hour. This needs to be the same before the mining operations start and when operation ceases. If my borehole delivers 10 000L/hour before operation it needs to do so at the end. This has to be done for all parties who's water supply can be negatively impacted by these mining operations. Furthermore you need to drill additional test boreholes on these farms as well as on Omitiomire to establish a proper baseline and guarantees need to be made that you will restore the quality and quantity of water to the parties negatively affected by the mining operations. We are happy to supply you with a contract/agreement that the mine can use in this regard	ECC has commissioned Knight Piesold to conduct the groundwater and river diversion study, part of this study is to review the groundwater network and conduct pump testing. As part of our baseline establishment and to provide the basis for future monitoring work once the operation of the mine has commenced, ECC conducts monthly monitoring of groundwater rest levels and quarterly monitoring of groundwater quality. Knight Piesold have drilled 4 test pumping holes on Omitiomire Farm and undertaken extensive test pumping. The drilling of test/monitoring boreholes is standard practice on any mine site to monitor groundwater quality and levels.

Comment	EAP/Proponent Response
On page 67 of ECC report no 134-394-REP you mention that baseline environmental monitoring of ground level water is being carried out, can you describe where and how this is being done? No tests are being conducted on our farm.	Trained environmental practitioners from ECC conduct on-site monitoring on a monthly basis of groundwater levels. Groundwater rest water levels are measured by using a groundwater dip meter, which has a weight attached to the end of a measuring tape. Once the weight touches the water, a beeping noise will be heard to alert the EP that the rest water level has been reached and the measurement can be recorded. Monitoring on your farm will be discussed with the Proponent and is now being carried out. Monthly water level monitoring is also being undertaken on farms Ekuja, Omitiomire, Ojereand Lindenhof.
On page 67 of ECC report no 134-394-REP you mention that ambient air quality is being monitored, where is the device to monitor the air quality installed? In our initial correspondence, we also requested that a device be installed at our lodge to monitor the air quality on an ongoing basis as we operate in the tourism industry. Can we have a discussion in this regard?	Comment noted and we will be in contact with you. A dust monitoring installation has been installed at the lodge house.

Table 3 - Comments and feedback from the scoping report preliminary environmental management plan public review period received from: Karl Lichtenberg after the I&AP registration period (18 June 2023).

***Text in bold has been taken from the preliminary environmental management plan to give context to the questions asked.**

Comment	EAP/Proponent Response
Missing Impact of river rerouting on biodiversity: Habitat Loss: Rerouting a river often involves altering the natural course of the water, which can lead to the destruction or alteration of existing habitats. This can result in the loss of important habitats for various species, including aquatic organisms, plants, and animals that rely on the river and its surrounding areas for survival. Disruption of Aquatic Ecosystems: Rivers support complex aquatic ecosystems with interconnected food chains and diverse species. Rerouting a river can disrupt these ecosystems by changing the flow patterns, water temperature, and nutrient distribution. This disruption can lead to declines in fish populations, including migratory species that rely on specific river conditions for their life cycles. Fragmentation: Rerouting a river can create physical barriers and fragment habitats. When a river is diverted or dammed, it can isolate populations of species on either side, limiting gene flow and reducing genetic diversity. Fragmentation can also impede the movement of aquatic organisms, such as fish, affecting their ability to migrate, find food, and reproduce.	All potential impacts from the river diversion will be assessed and discussed in the assessment report, this is only the scoping phase that sets the scope of the assessment to be completed. Your comments are duly noted and will be taken forward into the assessment phase.

Comment	EAP/Proponent Response
Changes in Water Quality: Altering the course of a river can impact water quality. Rerouting may lead to changes in sediment distribution, nutrient levels, and oxygen content, potentially affecting the survival of aquatic organisms and altering the overall ecological balance. Loss of Riparian Zones: Rivers are often surrounded by riparian zones, which are important transitional areas between land and water. These zones support a variety of plant and animal species and provide critical habitat, food sources, and breeding grounds. Rerouting a river can result in the loss or degradation of these riparian zones, leading to a decline in biodiversity. Cascading Effects: The impacts of rerouting a river can have cascading effects on the surrounding ecosystems. For example, changes in water flow can affect wetlands, floodplains, and other interconnected habitats, disrupting the entire ecological network and potentially causing further species decline.	
Impact of noise and light pollution on biodiversity missing	All potential impacts from noise and light will be assessed and discussed in the impact assessment phase.
Climate (CO_2) pollution and impact on fauna and flora caused by increased traffic by all vehicles heading towards and leaving the mine site.	All potential impacts from CO_2 will be assessed and discussed in the impact assessment phase.
Mitigation for ground water levels would be to fill up the mine at the end of the operation and reesatblish the river to its original drainage line	This will be addressed in the impact assessment phase and final environmental management plan once specialist studies have been completed.
How can this (poaching) be effectively be prevented?	This will be fully addressed in the final environmental management plan.

Comment	EAP/Proponent Response
There also should be adequate technical and personell means on site to effectively combat fire, should firebreaks fail, Implement a strict no smoking policy.	Comment noted.
How can this (illegal collection of veld food, collecting wood) effectively be prevented?	This will be fully addressed in the final environmental management plan.
How would this (**banning domestic pets**) be enforced?	This will be fully addressed in the final environmental management plan.
How would this (**planting of invasive alien plant species**) be enforced?	This will be fully addressed in the final environmental management plan.
Is this (**Ensure all trenches are backfilled upon completion and when open clearly marked and with protective berms or fencing to prevent access)** for mining or waste? Waste should not be left on site in any form or kind to prevent leakage into the environment. All waste should be removed to a zoned and registered landfill.	This is an error as it is unlikely that the Proponent will utilise trenching.
How can this (**Progressive rehabilitation during the mining phase**) be enforced?	This will be fully addressed in the final environmental management plan and the Proponent's mine closure plan.
How can this (**Stick to speed limits**) be enforced? Speed humps to not seem a adequate solution for gravel roads rather technically limit all vehicles used in this phase to a adequate speed.	Trackers can be placed in all mining vehicles to ensure that speeds are constantly tracked and alerts are sent to management as soon as speed limits are broken and disciplinary action will be taken against offenders. Speed humps would be for the mine site not on external gravel roads.

Comment	EAP/Proponent Response
The water table should be monitored at the site, as water may drain in but also regularly on agreed upon points in a 50km radius. (**With regards to potential issues or impacts under table 6 pg. 34**)	This will be fully addressed in the final environmental management plan.
how can this (**water-saving measures**) be enforced? At a minimum watermeters should be installed where ever possible.	Water saving is conducted as part of the mining process, such as covering ponds of open water to prevent evaporation, water is reused and recycled including the effluent from accommodations. This will be fully addressed in the final environmental management plan.
All personell should additionally be dewormed, as this (**Use of the portable chemical toilets instead of the veld must be strictly adhered**) cannot be effectively enforced.	While it is unnecessary to require personnel to take deworming medication, personnel cannot be forced to take deworming medication. Measures will be implemented to enforce the use of toilets and prevent defecation in the veld, however your comment is noted.
How can this (**re-use of water during the construction and operational phases**) be enforced? Adequate facilities have to be set up to ensure collection of reusable water -> architecture should always account for collection of reusable water.	This will be fully addressed in the final environmental management plan.
Use of mine sump should be minimilized as this will impact ground water levels.	This will be addressed in the assessment report and final environmental management plan once specialist studies have been completed.
All data on water consumtion, water levels, accidents, road kills, spills etc (all impacts on the environment) where possible should be made available to the public (water usage/ground water levels for example can be made available in real time on a webpage)	Comment noted.

Comment	EAP/Proponent Response
(**Based on all plant and surface infrastructure (including the waste rock dumps/tailings storage facilities) to be designed and constructed according to national standards and applicable legislative requirements, to prevent surface water and groundwater contamination**) international standards, if those are more stringent	Applicable legislative requirements will be used and where these are deemed inadequate international standards will be used
This is not a good policy (**Dewatering of the mine may be necessary; if suitable this water can either be used in the processing plant or pumped into drainage lines of the catchment downstream of the infrastructure (non-contact water**). Pumping water into the drainage lines downstream will mean a lot ot this water will evaporate and impact on groundwater levels will increase due to underground erosion. If possible water should be pumped into boreholes or should be made available to surrounding communities/ businesses whose groundwater is negatively impacted.	This will be addressed in the impact assessment report and final environmental management plan once specialist studies have been completed.
How will this (**impact of mining and any dewatering on the surrounding aquifers will be monitored and reported on**) be monitored? Rresults should be made available publically in real time	Trained environmental practitioners will conduct on-site monitoring on a monthly basis. Groundwater rest water levels will be monitored to assess abstraction rates and groundwater levels
Appointed members of the surrounding communities should have the right to participate in monitoring activities.	Comment noted, and the EAP will work with the proponent to establish such a platform. A community forum will be held quarterly whereby monitoring data will be presented and discussed with neighbours and community stakeholders.
Air Quality should be measured and made available to the public in real-time, for example via website.	Comment noted, Air quality is already being monitored on-site. The EAP will work with the proponent to establish such a platform. A community forum will be held

Comment	EAP/Proponent Response
	quarterly whereby monitoring data will be presented and discussed with neighbours and community stakeholders.

4 ACKNOWLEDGEMENTS

Through the ESIA process, the Proponent and ECC have endeavoured to provide a platform to hear and address all relevant comments put forward by I&APs. ECC would like to thank the I&APs and stakeholders for providing feedback during the scoping phase of the ESIA process. We acknowledge and appreciate the time required to review these documents and ECC genuinely appreciate the input provided by I&APS. The valuable feedback received during the scoping report phase of the ESIA process will ensure a robust impact assessment is submitted to the relevant authorities for a record of decision to be made. ECC acknowledges that constructive feedback results in an improved ESIA and a project that is understood by the community and I&APs.

APPENDIX A – ORIGINAL COMMENTS RECEIVED

FW: NOTICE OF THE PUBLIC REVIEW PERIOD FOR THE SCOPING REPORT AND ENVIRONMENTAL MANAGEMENT PLAN FOR OMITIOMIRE COPPER MINE ON ML 197 IN THE KHOMAS REGION, NAMIBIA External Inbox ×

Nikki Basson Sun, Jun 11, 7:47 AM (5 days ago)
to me, Lichtenberg, Drikus, Holger, TH, kataneno@iafrica.com.na

Good day,

Thank you for the documentation and the installation of the dust bucket and the measuring of the borehole level on Farm Okamapu No 104, we would now like to bring the following to your attention:

1. We need a dust bucket to be installed at the main lodge building per our initial correspondence sent to you, the one installed this week is in our Game Camp closest to the Omitiomere border.
2. In addition to the dust bucket at the lodge, we would also like to request the installation of dust buckets next to the main gravel road the mine vehicles will use. These buckets need to be installed directly next to the road and not 200m away as the dust will obviously be far less by the time it reaches the bucket.
3. We are concerned with the manner in which the water levels are being tested. The mining company needs to establish a baseline and draw down code for the entire areas underground water. This means the mine has to test the yield of the boreholes on the farms i.e. you need to install your own equipment in the farmers borehole and then pump the water in the borehole for atleast 24 hours to determine the litres of water supplied per hour. This needs to be the same before the mining operations start and when operation ceases. If my borehole delivers 10 000L/hour before operation it needs to do so at the end. This has to be done for all parties who's water supply can be negatively impacted by these mining operations. Furthermore you need to drill additional test boreholes on these farms as well as on Omitiomere to establish a proper baseline and guarantees need to be made that you will restore the quality and quantity of water to the parties negatively affected by the mining operations. We are happy to supply you with a contract/agreement that the mine can use in this regard.
4. On page 67 of ECC report no 134-394-REP you mention that baseline environmental monitoring of groundlevel water is being carried out, can you describe where and how this is being done? No tests are being conducted on our farm.
5. On page 67 of ECC report no 134-394-REP you mention that ambient air quality is being monitored, where is the device to monitor the air quality installed? In our initial correspondence we also requested that a device be installed at our lodge to monitor the air quality on an ongoing basis as we operate in the tourism industry. Can we have a discussion in this regard?

Many thanks

Marius & Nikki Basson

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