

Submitted to: Uis Tin Mining Company (Pty) Ltd.
Attention: Mr Ephraim Tourob
4th Avenue East, Number 1, Uis
P O Box 30
Uis, Namibia.

ESIA SCOPING REPORT:

STAGE II EXPANSION OF THE PILOT TIN PROCESSING PLANT PROJECT ON ML 134

PROJECT NUMBER: ECC-84-284-REP-12-D

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Client Name: Mr Ephraim Tourob
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Authors: Lester Harker, Jessica Bezuidenhout, and Matthew Bliss
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ENVIRONMENTAL COMPLIANCE CONSULTANCY CONTACT DETAILS:

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



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

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EXECUTIVE SUMMARY

Environmental Compliance Consultancy (ECC) has been contracted by Uis Tin Mining Company (Pty) Ltd., a subsidiary of AfriTin Mining (Pty) Ltd. to undertake an environmental and social impact assessment (ESIA). Uis Tin Mining Company (Pty) Ltd. is the Proponent for the proposed Project, referred to as “the Proponent”.

ECC is conducting an ESIA for the proposed stage II expansion of the pilot tin processing plant and mining activities on Mining Licence (ML) 134 in the Erongo Region, Namibia. The proposed Project will be referred to as the “Uis Stage II Project” or the “Project” herein.

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

SCREENING PHASE

A high-level ESIA formed part of the company's recently published preliminary economic assessment (PEA) and was incorporated into the screening phase. Alternatives considered on the Project were limited to technological designs of the comminution and processing machinery, and placement within the already disturbed footprint. Water supply alternatives were also considered.

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

- Surface and groundwater impacts
- Impacts on road users
- Visual impacts affecting the sense of place
- Impacts to air quality
- Social impacts during construction, operations, and post-closure
- Cumulative local industry impacts
- Habitat alteration and impacts on biodiversity.

SCOPING PHASE

The objective of the scoping phase is to obtain an understanding of the biophysical and socioeconomic environment in which the Project is located. It also provides an opportunity for the public to have input into the scope of the assessment. The technical inputs combined with the inputs from the I&APs led to the development of the Terms of Reference (ToR) for the assessment phase. The following were consulted during the preparation of the scoping report:

- Desktop and literature research
- Site visits by ECC and specialists
- Environmental monitoring data
- Specialist baseline studies, including:

- Acid-base accounting (ongoing study)
- Air quality
- Biodiversity study
- Heritage and archaeology study
- Noise
- Road traffic study
- Socioeconomic baseline
- Soil sampling and analysis
- Surface and groundwater studies
- Visual impacts on sense of place.

TERMS OF REFERENCE

The ToR within the scoping report that is proposed for the assessment phase will cover the following:

- Soil impact assessment
- Acid mine drainage impact assessment
- Surface and groundwater impact assessment
- Biodiversity impact assessment
- Noise impact assessment
- Air quality impact assessment
- Traffic impact assessment
- Visual impact assessment
- Socioeconomic impact assessment
- Heritage impact assessment
- Blast and vibration assessment.

The methodology used for assessing impacts is described in the scoping report. A hierarchical decision-making process is followed, to prevent or eliminate, reduce, or offset, mitigate, or manage potential impacts. The draft scoping report and draft environmental management plan (EMP) will be provided to the public for review prior to submission to the competent authority, including MME and MEFT.

The next stage of this assessment will be the impact assessment phase. No comments were received on the circulated scoping report and EMP. Comments are considered if received, and where they are deemed to be material to the decision-making, or might enhance the ESIA, they will be incorporated.

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



The ESIA report, appendices and addendum will be formally submitted to the competent authority, first the MME and then to the MEFT as part of the application for an environmental clearance certificate for the proposed Project once finalised.

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DEFINITIONS AND ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
CBNRM	community based natural resource management
CC	Close Corporation
CEO	Chief Executive Officer
CIA	cumulative impact assesment
COVID	Coronavirus
COVID-19	Coronavirus 2019
CUPB	Cape Cross-Uis Pegmatite Belt
CWC	clean water channel
dBA	decibels
DEA	Directorate of Environmental Assessment
DMS	dense medium separation
DWA	Department Water Affairs
EAP	environmental assessment practitioner
ECC	Environmental Compliance Consultancy
ECC	environmental clearance certificate
EHS	environmental health and safety
EIA	environmental impact assessment
EMA	Environmental Management Act
EMP	environmental management plan
EPLs	exclusive prospecting licences
ESIA	environmental and social impact assessment
g/t	grams per tonne
GDP	gross domestic product
GG	government gazatte
GN	government notice
HCV	high conservation value
HDPE	high density polyethylene
HIV/AIDS	human immunodeficiency virus / acquired immunodeficiency syndrome
I&APs	interested and affected parties
IFC	International Finance Corporation
ITS	ITS Global - traffic engineering consultants
km	kilometers
km/h	kilometres per hour
km ²	kilometres squared
kV	kilovolts
kW	kilowatt
LOM	life of mine
Ltd	Limited
m	metre

ABBREVIATIONS	DESCRIPTION
m/s	metre per second
m ³	cubic metres
m ³ /day	cubic metres per day
Ma	million years ago
masl	metres above sea level
MAWLR	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
mg/m ² /day	milligrams per metres squared per day
ML	mining licence
mm	millimetre
Mm ³	million cubic metres
MME	Ministry of Mines and Energy (competent authority)
MoWT	Ministry of Works and Transport
Mt	million tonnes per annum
Mtpa	million tonnes per annum
MW	million watts
N\$	Namibian dollar
Na	sodium
NBRI	National Botanical Research Institute
NDP	national development plan
NHC	National Heritage Council
NSR	noise sensitive receptor
NT	near-threatened
OECD	Organisation for Economic Co-operation and Development
PCD	pollution control dam
pH	acidity alkalinity unit
PM	particulate matter
PM ₁₀	particulate matter with an aerodynamic diameter of less than 10 µm (thoracic particles)
PM _{2.5}	particulate matter with an aerodynamic diameter of less than 2.5 µm (respirable particles)
Project	Uis Tin Mine Stage II Project
Proponent	Uis Tin Mining Company (Pty) Ltd
Pty	propriety
Reg	registration
ROM	run of mine
RWD	return water dam
t	tonnes
TB	tuberculosis
ToR	terms of reference
Tph	tonnes per hour
TSF	tailings storage facility



ABBREVIATIONS	DESCRIPTION
WHO	World Health Organisation
WRD	waste rock dump
Zn	zinc

1 INTRODUCTION

1.1 COMPANY BACKGROUND

Environmental Compliance Consultancy (ECC) has been contracted by Uis Tin Mining Company (Pty) Ltd, the Proponent, a subsidiary of AfriTin Mining (Pty) Ltd. to undertake an environmental and social impact assessment (ESIA) and an Environmental Management Plan (EMP) in terms of the Environmental Management Act, No 7 of 2007 and its regulations of 2012.

AfriTin Mining is a mining company with a portfolio of tin assets in Namibia and South Africa. Uis Tin Mining Company, the Namibian registered subsidiary, proposes to undertake mechanical and process flow upgrades to its existing tin extraction systems. The Project objectives are to increase production throughput by expanding the pilot tin processing plant on mining licence (ML) 134 located near Uis in the Erongo Region, Namibia. Uis can be accessed by the C36 road from Omaruru, the C35 from Henties Bay or the C35 from Khorixas. Refer to Figure 1 for the project location.

The proposed Project upgrades to the current pilot plant's processing and supporting infrastructure will expand production from the current 80 tons per hour (tph) in stage 1 to 120 tph in Stage II. As part of this project the following upgrades will also be made: upgrades to the dense medium separation (DMS) cyclone feed, inlet pressure system, and constant moisture control of feed material, etc.

Ore (cassiterite) will continue to be extracted from the current two open pit mines, which will supply the Stage II operations within the ML 134 area. Open-pit 1 will continue to be mined and opened in a southerly direction and will eventually join with Open-pit 2.

The Proponent intends to upgrade on-site supporting infrastructure to be able to sustain the planned expansion Project. The additional changes include:

- Upgrades to the existing sewage effluent water collection and treatment system
- Building a clean stormwater channel (CWC) and berm around the pilot plant for water re-use in the processing plant
- An upgrade of the existing settling and evaporation ponds
- Increased water supply (from 75 000 to 150 000 cubic litres per year).

These upgrades are designed to consistently achieve a targeted tin recovery of 64% and they form an integral part of the 20 year life of mine (LOM).

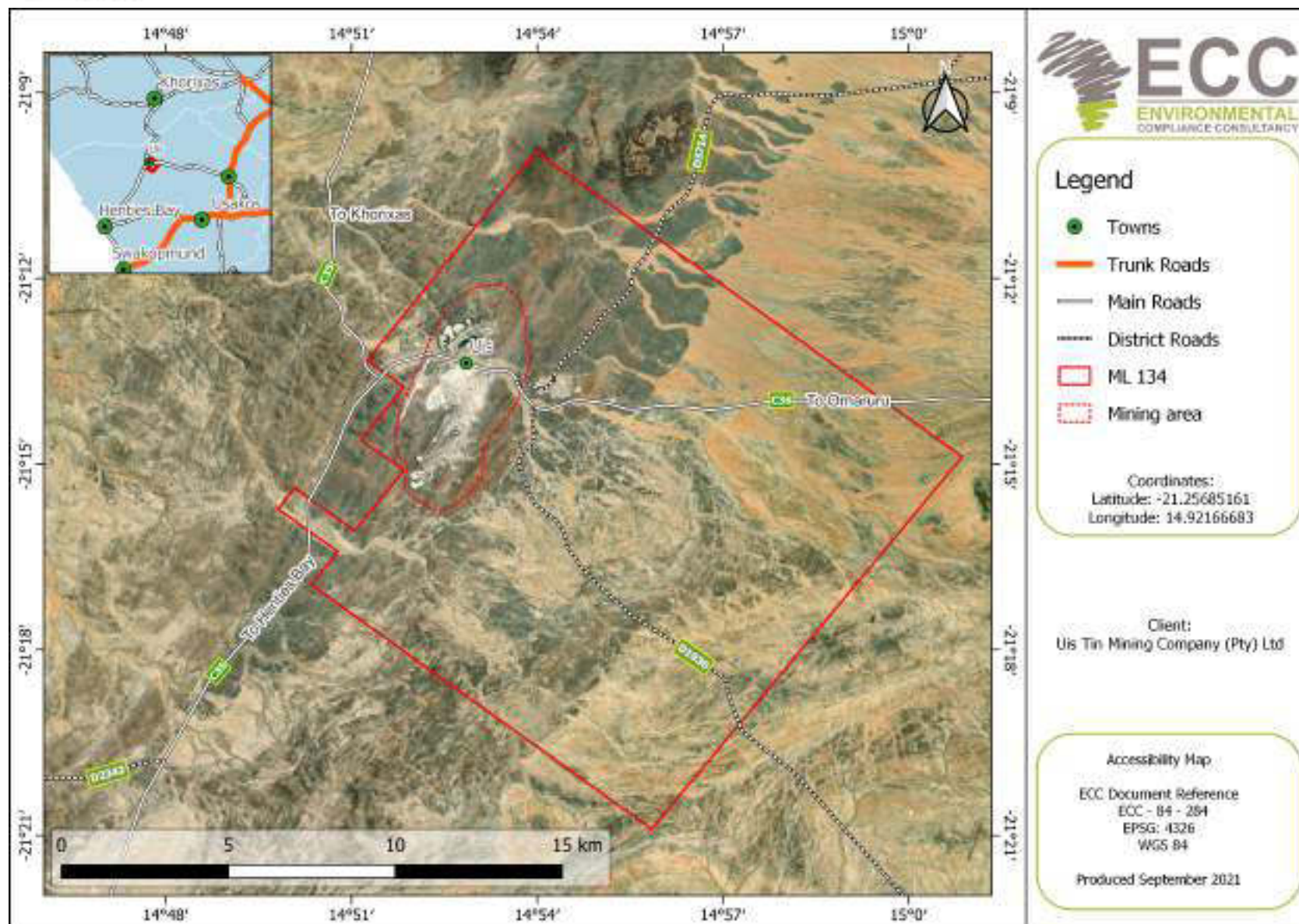


Figure 1 - A map showing the location of the Uis tin mining area and ML 134

1.2 PURPOSE OF THE SCOPING REPORT

The purpose of this report is to present the findings of the scoping study phase that forms part of the ESIA process.

The scoping report summarises the prescribed ESIA process that has been followed; it provides information on the baseline biophysical and socioeconomic environments, Project description and details; it outlines the terms of reference for the assessment phase; and it also includes a preliminary environmental management plan (EMP), which is provided as Appendix A.

The scoping report and appendices was submitted to the public for review between 23 February and 9 March 2022. This stage provided 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 any public comments, will then be submitted to the competent authorities, Ministry of Mines and Energy (MME) 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

The Uis Tin Mining Company is the Proponent for the proposed Project. The Proponent holds the rights to the mining licence 134 located in Uis, Erongo Region, Namibia. The Proponents' details are provided in Table 1.

Table 1 – Proponents details

COMPANY REPRESENTATIVE:	CONTACT DETAILS:
Efraim Tourob	Uis Tin Mining Company (Pty) Ltd: 4 th Avenue East, Number 1, Uis PO Box 30, Uis efraim.tourob@afritinmining.com +264 (64) 504 404

1.4 ENVIRONMENTAL AND SOCIAL ASSESSMENT PRACTITIONER

Environmental Compliance Consultancy (ECC) (Reg. No. CC 2013/11401) has prepared this scoping report and the preliminary EMP on behalf of the Proponent.

This report was authored by employees of ECC, who have neither material interest in the outcome of this report, nor any interest that could be reasonably regarded as being capable of affecting their independence in the preparation of this report. ECC is independent from 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 Government. No member or employee of ECC is, or is intending

to be, a director, officer, or any other direct employee of Uis Tin Mining Company (Pty) Ltd. No member or employee of ECC has, or has had, any shareholding in the Uis Tin Mining Company (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 proposed Project

LISTED ACTIVITY	AS DEFINED BY THE REGULATIONS OF THE ACT	RELEVANCE TO THE PROJECT
Energy generation, transmission, and storage activities	<p>The construction of facilities for:</p> <p>(1a) The generation of electricity.</p> <p>(1b) The transmission and supply of electricity.</p>	<ul style="list-style-type: none"> – External diesel generators are in use on site as emergency back-up power supply sources to skeleton operations in the event of a power failure. – An existing 66 kilovolt powerline and associated infrastructure located within the Accessory Work Permit area of the ML will continue to be used. No upgrades are needed for the proposed Project.
Waste management, treatment, handling, and disposal activities	<p>2.1 The construction of facilities for waste sites, and the treatment and disposal of waste.</p> <p>2.2 Any activity entailing a scheduled process referred to in the Atmospheric Pollution Prevention Ordinance Act, 1976.</p> <p>2.3 The importing, processing, use and recycling, temporary storage, transit, or exporting, of waste.</p>	<ul style="list-style-type: none"> – The following fall within provision 2.2: Any activity entailing a scheduled process referred to in the Atmospheric Pollution Prevention Ordinance, 1976. – Mining activities generate dust, monitored monthly. – Potential for noxious gas generation and emission. – The following aspects fall within this provision: (2.3). The import, processing, use and recycling, temporary storage, transit, or export of waste. – A Clarus Fusion Waste Water Treatment Plant, or WWTP sewage effluent water collection and treatment system is being operated and maintained by an external service provider and must be upgraded as part of the expansion to accommodate additional volume. Sewage waste is collected monthly, and as needed, by a local contractor and disposed at the local sewage plant. – Industrial waste collection facility is in use within the processing plant physical boundaries.

LISTED ACTIVITY	AS DEFINED BY THE REGULATIONS OF THE ACT	RELEVANCE TO THE PROJECT
		<ul style="list-style-type: none"> - Overburden and processing plant waste minerals (>6mm) are transported and co-disposed on the WRD site located within the mining licence footprint. - Solid and Hazardous waste collection points are in use on the site. Hazardous waste is disposed of at an approved facility, or in an approved manner as per permitting.
Mining and quarrying activities	<p>3.1 The construction of facilities for any process or activities that require a license, right or other form of authorisation, and the renewal of a licence, right or other form of authorisation, in terms of the Minerals (Prospecting and Mining) Act, 1992.</p> <p>3.2 Other forms of mining or extraction of any natural resources, whether regulated by law or not.</p> <p>3.3 Resource extraction, manipulation, conservation, and related activities.</p>	<ul style="list-style-type: none"> - The current operations are permitted under an approved mining licence (ML134). - The resource, tin ore within pegmatite is mined and extracted within the processing plant to produce a tin concentrate. The process crushes the ore and separates the denser tin and related minerals from the pegmatite, primarily through gravity type separation. No chemicals are used in the separation process.
Water resource developments	<p>8.1 The abstraction of ground or surface water for industrial or commercial purposes.</p> <p>8.2 The abstraction of groundwater at a volume exceeding the threshold authorised in terms of the law relating to water resources.</p> <p>8.5 Construction of dams, reservoirs, levees, and weirs.</p> <p>8.6 Construction of industrial and domestic wastewater treatment plants and related pipeline systems.</p> <p>8.8 Construction and other activities in watercourses within flood lines.</p>	<ul style="list-style-type: none"> - Mining operations will continue to utilize groundwater and surface water sources for their processing requirements, dust suppression and human consumption. - Currently, there is an abstraction permit that allows for 75 000 cubic meters abstraction threshold per year valid for two years. An amendment application will be submitted to increase abstraction to 150 000 cubic meters per year to supply production needs.

LISTED ACTIVITY	AS DEFINED BY THE REGULATIONS OF THE ACT	RELEVANCE TO THE PROJECT
	<p>8.9 Construction and other activities within a catchment area.</p>	<ul style="list-style-type: none"> - The Project will entail the installation of a new clean water channel (CWC) stormwater channel and berm around the processing plant as well as an upgrade of the existing settling and evaporation ponds, all to increase the availability of recycle and reusable water. - The Project falls within the Ugab catchment area.
<p>Hazardous substance treatment, handling, and storage</p>	<p>9.1 The manufacturing, storage, handling, or processing of hazardous substance defined in the Hazardous Substances Ordinance, 1974.</p> <p>9.2 Any process or activity that requires a permit, licence, or other form of authorisation, or the modification of, or changes to, existing facilities for any process or activity that requires amendment of an existing permit, licence or authorisation, or which requires a new permit, licence or authorisation in terms of governing the generation or release of emissions, pollution, effluent, or waste.</p> <p>9.4 The storage and handling of dangerous goods, including petrol, diesel, liquid petroleum, gas, or paraffin, in containers with the combined capacity of more than 30 cubic meters at one location.</p>	<ul style="list-style-type: none"> - Explosives will be stored safely on site for use in the mine. - Licences will be obtained for hazardous substances and their storage and use on site. - Petrol, diesel, liquid petroleum gas or paraffin will be stored for use in vehicles and equipment. - A diesel storage tank is installed and properly bunded on site.

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 public concerns 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 Draft Procedures and Guidance for EIA and EMP (Republic of Namibia, 2008); international and national best practice guidelines; and combined relevant ESIA experience.

This assessment was undertaken for the Proponent in accordance with Namibian legal requirements.

This assessment is a formal process. The potential effects that the Project will have on the biophysical, social, and economic environments are identified, assessed, and documented so that the breadth and significance of potential impacts can be taken into account when considering a record of decision for the proposed Project.

Final mitigation measures and recommendations are based on the cumulative experience of the consulting team and the client, taking into consideration the potential environmental and social impacts. The process followed, through the basic assessment, is illustrated in Figure 2 and is detailed further in the following sections.

1. Project screening	2. Establishing the assessment scope	3. Baseline studies
Complete	In Progress	In Progress
<p>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.</p> <p>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.</p> <p>Stakeholder engagement:</p> <ul style="list-style-type: none"> • Registration of the project • Preparation of the BID 	<p>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.</p> <p>The scope of this assessment was determined through undertaking a preliminary assessment of the proposed Project against the receiving environment.</p> <p>Feedback obtained from consultation with the public and the Proponent informs this process.</p> <p>Impacts that are identified as potentially significant during the screening and scoping phase are taken forward for further assessment in the ESIA process.</p> <p>The following environmental and social topics were scoped into the assessment:</p> <p>SOCIOECONOMIC ENVIRONMENT</p> <ul style="list-style-type: none"> • Employment • Local businesses • Visual impacts on sense of place <p>BIOPHYSICAL ENVIRONMENT</p> <ul style="list-style-type: none"> • Noise and air quality, including dust emissions • Surface and ground water • Heritage and culture • Topography and soil • Biodiversity and • Mine waste characterisation <p>The following topics were scoped out of the ESIA, and they are therefore not discussed further in this report.</p> <ul style="list-style-type: none"> • An assessment of safety impacts or risks associated with developing the mine are not included within the scope of this assessment, and will be addressed by the Proponent in a site-specific safety management plan. 	<p>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.</p> <p>The region and general area have been studied extensively for various projects and assessments, therefore there is a vast volume of literature available to be referenced. The Project site-specific area has not yet been studied as part of the ESIA process to date, but field studies will be conducted as part of this assessment and may include but are not limited to the following:</p> <ul style="list-style-type: none"> • Field surveys • Desktop studies • Consultation with stakeholders • Specialist field visits, monitoring, and ongoing studies <p>The environmental and social baselines will be provided in the next update of the scoping study.</p> 

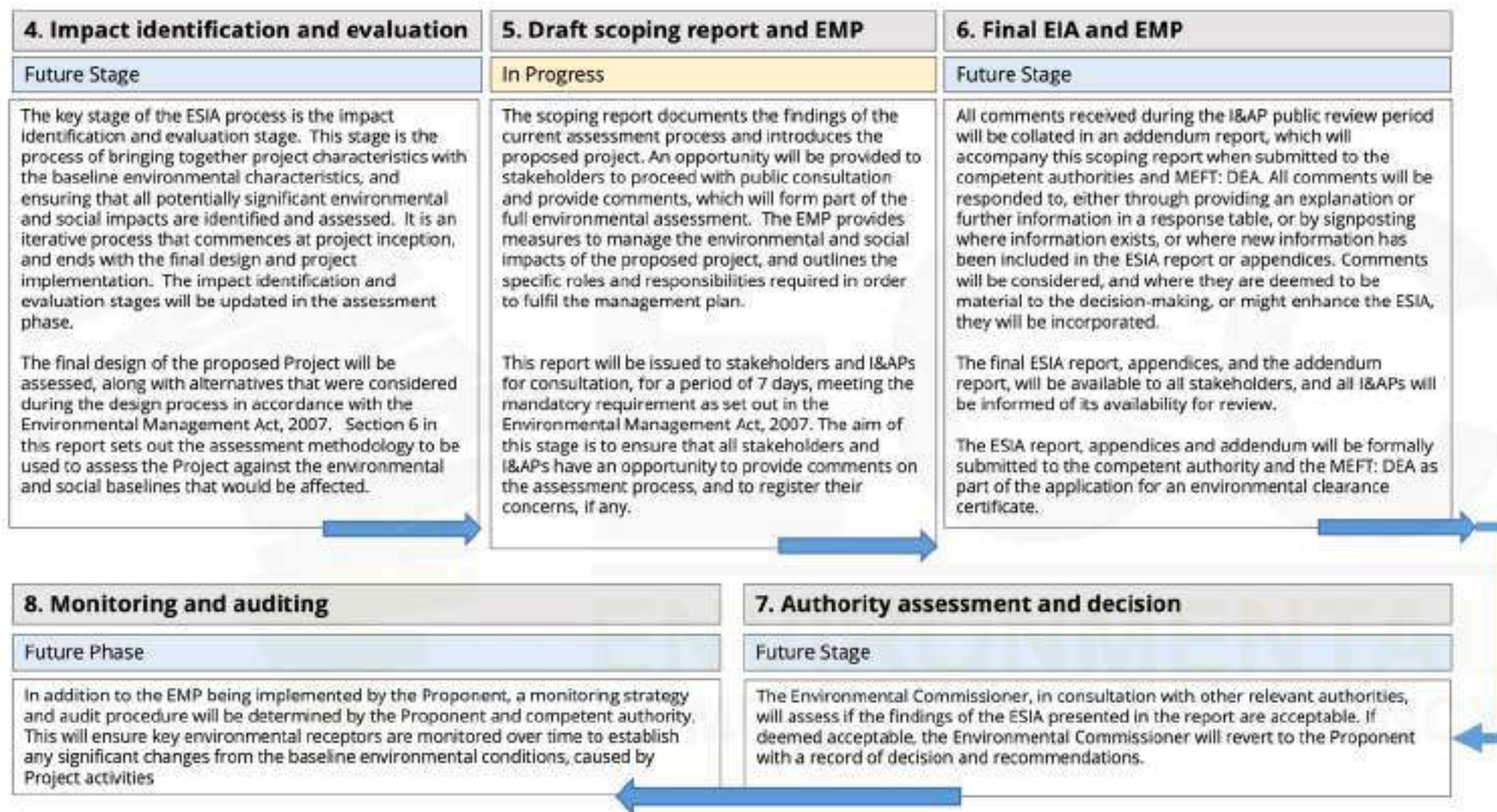


Figure 2 – ESIA processing showing the current phase

2.3 STUDY AREA

This ESIA study area has been defined according to the geographic scope of the receiving environment, and potential impacts that could arise because of the proposed Project. The study area encompasses the interior of ML 134, the Uis townlands and the general mining area's spatial footprint.

2.4 PUBLIC CONSULTATION

Public participation and consultation are requirements 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 decision-making and can provide many benefits. Consultation is ongoing during 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) Appendix B
- Determine the relevant government, regional and local regulating authorities
- Listen to and understand community issues, record concerns, and questions
- Explain the process of the ESIA and timeframes involved
- Establish a platform for ongoing consultation.

2.5 IDENTIFICATION OF KEY STAKEHOLDERS AND INTERESTED OR AFFECTED PARTIES

A stakeholder mapping exercise was undertaken to identify individual 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 is included in Appendix B.

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

- Directly and indirectly affected landholders
- The general public with an interest in the Project
- Ministry of Environment, Forestry and Tourism (MEFT)
- Ministry of Agriculture, Water and Land Reform (MAWLR)
- Ministry of Mines and Energy (MME)
- Ministry of Works and Transport (MWT) and the Roads Authority
- Erongo Regional Council
- Town residents and business owners
- Uis Village Council

- Okombahe Traditional Authority
- NamWater and NamPower.

Appendix B provides a list of interested and affected parties, evidence of consultation, including minutes of public meetings, advertisements in two national newspapers, and a summary of the comments or questions raised by the public.

A map of the identified stakeholders for the Mining Licence is illustrated in Figure 3.

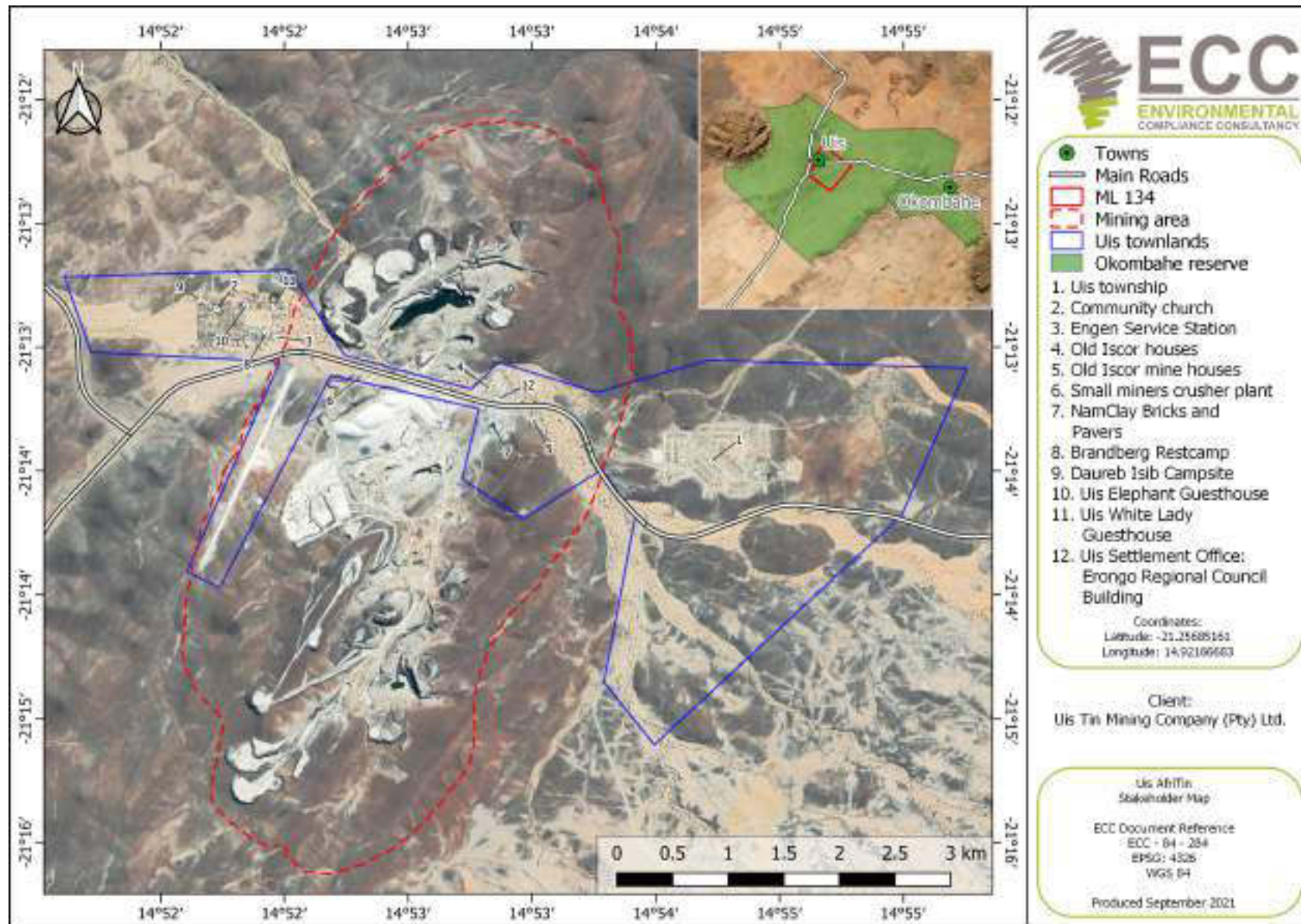


Figure 3 – Stakeholders to the mining licence area

2.6 SUMMARY OF ISSUES RAISED

During the compilation of this report, several stakeholders were engaged for input and feedback into potential issues or concerns regarding the proposed Project. A focus group meeting was held on the 16th of September 2021 at the Uis Settlement Office, but only one attendee showed up for the meeting. A follow-up public meeting was held at the same venue on the 19th of October 2021. Minutes of this meeting and attendance registers can be found in Appendix B. Overall, the proposed Project received significant positive feedback, and was well received by the public during the meeting.

The matters raised could be considered typical concerns for this scale of Project, and these can be summarised as follows:

- Heritage impacts
- Power and water supply
- Waste management
- Waste resource management
- Visual impacts
- Biodiversity impacts
- Socioeconomic and social impacts, such as job creation, training opportunities skills development for youth and unskilled workers, staff housing and accommodation, local housing overall, in migration and informal settlement growth, and the lack of amenities in Uis
- Potential pollution impacts
- Mine closure, and ideas for the site and related assets (pits, mine rock, etc.).

To ensure that interested and affected parties have the opportunity to comment and provide feedback on this assessment, the completed report was circulated (23 February – 9 March 2022) to all neighbouring landholders, potentially interested and/or affected parties, 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 document. The public review period has not delivered up any comments from the public.

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. The Proponent holds a valid environmental clearance certificate for its current mining (Phase I) 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.

A thorough review of relevant legislation has been conducted for the proposed Project. Table 3 below identifies relevant legal requirements specific to the Project. Table 4 provides the national policies and plan and Table 5 specific permits for the Project. This chapter outlines the regulatory framework applicable to the proposed Project.

3.1 NATIONAL REGULATORY FRAMEWORK

Table 3 – Details of the regulatory framework as it applied to the proposed Project

NATIONAL REGULATORY FRAMEWORK	SUMMARY	APPLICABILITY TO THE PROJECT
Constitution of the Republic of Namibia (1990)	<p>The constitution defines the country's position in relation to sustainable development and environmental management.</p> <p>The constitution refers that the state shall actively promote and maintain the welfare of the people by adopting policies aimed at the following:</p> <p>“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.”</p>	<p>The proposed Project is committed to the sustainable use of the environment, and has aligned its corporate mission, vision, and objectives within the ambit of the Constitution of the Republic of Namibia (1990).</p>
Minerals (Prospecting and Mining) Act No. 33 of 1992	<p>The Act provides for the granting of various licences related to mining and exploration.</p> <p>Section 50 (l) 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.”</p> <p>The Act sets out the requirements associated with licence terms and conditions, such that the holder of a mineral licence shall comply with.</p> <p>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</p>	<p>The proposed mining activity requires an EIA to be carried out, as it triggers listed activities in the Environmental Management Act's regulations.</p> <p>The Project shall be compliant with Section 76 of the Act with regards to records, maps, plans and financial statements, information, reports, and returns submitted.</p>

NATIONAL REGULATORY FRAMEWORK	SUMMARY	APPLICABILITY TO THE PROJECT
	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, including the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2011)	<p>The Act aims to promote sustainable management of the environment and use of natural resources. The Act requires certain activities to obtain an environmental clearance certificate prior to Project development.</p> <p>The Act states that an EIA should be undertaken and submitted as part of the environmental clearance certificate application process.</p> <p>The MEFT is responsible for the protection and management of Namibia’s natural environment. The Department of Environmental Affairs, under the MEFT, is responsible for the administration of the EIA process.</p>	<p>This environmental scoping report documents the findings of the scoping phase of the environmental assessment undertaken for the proposed Project.</p> <p>The process has been undertaken in line with the requirements under the Act and its regulations.</p>
Water Act, 1956 (Act No. 54 of 1956)	<p>Although the Water Resources Management Act (No. 11 of 2013), has been billed, but not promulgated, it cannot be enacted, as the regulations have not been passed – therefore the Water Act of 1956 remains the current piece of legislation relating to water management in Namibia.</p> <p>This Act provides for the control, conservation, and use of water for domestic, agricultural, urban, and industrial purposes; and to make provision for the control of certain activities on or in water.</p> <p>The Department of Water Affairs, within the Ministry of Agriculture, Water and Land Reform (MAWLR), is responsible for the administration of the Act.</p>	<p>The Act stipulates obligations to prevent the pollution of water.</p> <p>Measures to minimise potential surface and groundwater pollution are contained in the EMP.</p> <p>The Project is obliged to have all permits relevant to its operations under this Act.</p> <p>Abstraction of water from boreholes requires an abstraction permit to be obtained from the Ministry of Agriculture, Water and Land Reform.</p> <p>The placement of mining infrastructure, such as the tailings storage facility, and the location of industrial effluent storage ponds, require consideration in terms of the Water</p>

NATIONAL REGULATORY FRAMEWORK	SUMMARY	APPLICABILITY TO THE PROJECT
		Act. This will be considered in the assessment phase of the ESIA.
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.	The proposed Project is already on an existing and disturbed area, and land may be cleared were necessity. Planned activities will take place within the boundaries of the mining licence. Measures for potential impact due to land clearing will be included in the EMP to ensure conservation of soil and vegetation that will be affected by or used as part of the rehabilitation phase of the Project.
The Forestry Act, No. 12 of 2001 as amended by the Forest Amendment Act, No. 13 of 2005	Section 22 deals with the protection of natural vegetation that is not part of the surveyed erven of a local authority area as defined. Section 23 requires a permit from the Director for the clearance of vegetation on more than 15 hectares on any piece of land or several pieces of land situated in the same locality as that which has predominantly woody vegetation; or cut or remove more than 500 cubic metres of forest produce from any piece of land in a period of one year.	The Project activities may require limited land clearing where necessary. The Proponent will ensure that all required permits are in place before vegetation removal commences.
National Heritage Act, No. 27 of 2004.	The Act provides provision 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 consent, subject to any conditions that the Council deems necessary.	Since the proposed Project area is an already operational area, it is unlikely that there is potential for heritage related objects to be found in the mining licence area. However, the relevant stipulations in the Act will be taken into consideration and incorporated into the EMP. In cases where heritage sites are discovered, a generic <i>Chance Find Procedure</i> will be used.

NATIONAL REGULATORY FRAMEWORK	SUMMARY	APPLICABILITY TO THE PROJECT
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. Separate from the EMP, the Project Proponent shall also develop and implement a comprehensive occupational health and safety plan to ensure adequate protection for its personnel throughout the Project lifecycle.
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. The employees and support business shall adhere to national road regulations on public roads.
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, transport, handling, use, and disposal 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 safe handling, transfer, storage, use, and disposal protocols are developed, implemented, and audited throughout its operations. The Proponent is obliged to ensure that all permits under this Ordinance are obtained prior to Project commencement.
The Atmospheric Pollution Prevention Ordinance, No. 11 of 1976	The Ordinance pertains to the prevention of air pollution, with 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 nature of mining activities does generate dust. Activities within the mining operations and processing plant will generate gases, odours, and air pollution. The Proponent will ensure that all measures reasonably practicable will be implemented to reduce and mitigate impacts to air quality, and this will be included in the EMP.

3.2 NATIONAL POLICES AND PLANS

Table 4 – National polices and plans applicable to the proposed Project

POLICY OR PLAN	DESCRIPTION	RELEVANCE TO THE PROJECT
Vision 2030	<p>Vision 2030 sets out the nation’s development targets and strategies to achieve its national objectives.</p> <p>Vision 2030 states that the overall goal is to improve the quality of life of the Namibian people aligned with the developed world.</p>	<p>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).</p>
Fifth National Development Plan (NDP5)	<p>The NDP5 is the fifth in a series of seven five-year national development plans that outline the objectives and aspiration of Namibia’s long-term vision.</p> <p>The NDP5 pillars are economic progression, social transformation, environmental sustainability, and good governance.</p>	<p>The planned Project supports meeting the objectives of the NDP5 through creating opportunities for continued employment.</p>
The Harambee Prosperity Plan ii (2021 – 2025)	<p>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.</p>	<p>The Project will contribute to the continued advancement of the mining industry and provide additional employment generation within the regional and national landscape.</p>
Minerals Policy	<p>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.</p> <p>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.</p>	<p>The planned Project conforms to the Policy, which has been considered through the ESIA process and the production of this report.</p> <p>The Proponent intends to continue to support local spending and procurement.</p> <p>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</p>

POLICY OR PLAN	DESCRIPTION	RELEVANCE TO THE PROJECT
	The objectives of the Minerals Policy are in line with the objectives of the Fifth National Development Plan that include reduction of poverty, employment creation, and economic empowerment in Namibia.	the start. The ESIA is one such mechanism to ensure environmental integrity throughout the planned Project's lifecycle.

Table 5 – Specific permits and licence requirements for the proposed Project under the various applicable Acts

PERMIT OR LICENCE	ACT/REGULATION	RELATED ACTIVITIES REQUIRING PERMITS	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).
Surface rights agreements (mine, infrastructure corridors)	Section 52(1)(A) of the Minerals Act, No. 33 of 1992.	Also required in the permit application for accessory works areas.	Ministry of Mines and Energy (MME).
Exclusive prospecting licences	Section 68 (2) (A) of the Minerals Act, No. 33 of 1992.	Written permission from the mining commissioner before prospecting can commence.	Ministry of Mines and Energy (MME).
Accessory work permit	Section 90(3) of the Minerals Act, No. 33 of 1992.	Written permission from the mining commissioner before accessory works can be erected on an EMP or mining licence area.	Ministry of Mines and Energy (MME).
Permit for boreholes (exploration and water boreholes)	A permit is issued under the Water Act, No. 54 Of 1956 (enforced).	Required before the drilling of boreholes for exploration and the abstraction of water.	Ministry of Agriculture, Water and Land Reform (MAWLR).
Tailings waste disposal permit	A permit is issued under the Water Act, No. 54 of 1956 (enforced).	Required for the disposal of tailings.	Ministry of Agriculture, Water and Land Reform (MAWLR).

PERMIT OR LICENCE	ACT/REGULATION	RELATED ACTIVITIES REQUIRING PERMITS	RELEVANT AUTHORITY
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).
Permit for the destruction, protection or relocation of heritage objects and artefacts	The Heritage Act, No. 27 of 2004.	This Act relates to interference with heritage artefacts during the Project life. Heritage sites could potentially be located within the proposed mining licence footprint.	National Heritage Council (NHC).
Consumer installation certificate for bulk fuel storage	Petroleum Products Regulations.	A consumer installation certificate is available for bulk fuel storage and dispensing on site.	Ministry of Mines and Energy (MME).
Licence for explosives magazine	Minerals (Prospecting and Mining) Act, No. 33 of 1992; Mine Safety Regulations.	This is also covered under the accessory works application.	Ministry of Mines and Energy (MME).
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.	Part x (10), explosives and blasting.	Ministry of Mines and Energy (MME).

3.3 WORLD BANK STANDARDS

The International Finance Corporation (IFC) is a member of the World Bank Group and is the largest global development institution focusing on the private sector in developing countries. Its standards have become a global benchmark for environmental and social performance. They form the basis for the Equator Principles (IFC, 2013); a voluntary environmental and social risk-management framework used globally by 90 financial institutions and 32 export credit agencies of the OECD, among others.

The Equator Principles are a framework and set of guidelines for evaluating social and environmental risks in Project finance and apply to all new Projects with a total capital cost of US\$10 million or more, no matter what industry sectors are considered. Depending on the funding mechanism for the Project, the Equator Principles may be applicable to this Project. If so, the IFC performance standards that may be applicable are provided in Table 6 below.

Table 6 – Applicable IFC performance standards

IFC STANDARDS	RELEVANCE
Performance standard 1	Assessment and management of environmental and social risks and impacts
Performance standard 2	Labour and working conditions performance standard
Performance standard 3	Resource efficiency and pollution prevention performance
Performance standard 4	Community health, safety, and security
Performance standard 5	Land acquisition and involuntary resettlement
Performance standard 6	Biodiversity conservation and sustainable management of living natural resources
Performance standard 8	Cultural heritage

4 PROJECT DESCRIPTION

4.1 NEED FOR THE PROJECT

Mining activities could contribute to the national and local economies of Namibia. UTMC expects the development and operation of the proposed Phase 1 Stage II mining activities to have a positive impact on the Namibian economy. Mining is a significant economic driver and source of investment in Namibia (Uusiku, 2021). The Namibian economy can expect sustained benefits from revenues created during the operational phase of the Stage II expansion program, in the form of royalties and taxes during the life of mine (LoM), in addition to a positive contribution towards employment.

UTMC has achieved steady-state production with the Phase I pilot plant and recorded a month on month increase in Plant throughput. Regardless, current production remains below the allowable design capacity of the Plant. UTMC plans to enhance its profitability by increasing the plant's production capacity further and in three successive stages. The scope of the ESIA is limited to the proposed Stage II operations (ore extraction and processing only).

4.2 BACKGROUND

In 2018 the Uis Tin Mine infrastructure development commenced on the historical Uis Tin Mine located adjacent to the Uis mining village which was built and developed to support the historical mine.

A Definitive Feasibility Study (DFS) herein after referred to as DFS was conducted between October 2020 and December 2020 for the expansion of production at Uis Tin Mine Company with the intention to fast-track opportunities to implement Stage II of Phase I by leveraging the mine's existing capabilities.

The expansion of the materials handling and concentrating plant (Plant) is being designed to increase the average monthly production from 80 to 120 tonnes of tin concentrate which form the basis for the Stage II expansion methodology. To achieve the increased production, selected mechanical systems upgrades within the Plant will be applied. For example, the ore feed rate will increase by 50%. Improvements to the operation of the concentrating circuit will continue to achieve a consistent recovery tin (DFS, 2021). This will be achieved by:

- Increasing the throughput capacity by 50% from 80tph to 120tph, which can be achieved by modular expansion of individual circuits
- Improving the overall recovery of tin from 60% to 70% (currently at 64%) by adding beneficiation capacity for tailings streams in the concentrator, which are currently discarded

- Improving the overall recovery of tantalum from 15% to 30% by optimising liberation between the tin- and tantalum-bearing minerals, which includes improved magnetic separation efficiency.

The Project requires a capital investment of approximately N\$100 million and will be financed by a financial investment institution.

4.3 THE TRANSITION FROM HISTORICAL TO CURRENT MINING

The historical tin mine extracted ore from 14 different pegmatite ore bodies spread over an area of approximately 2km east-west and 4km north-south (Figure 4). The historical mine did not conduct rehabilitation work on its open pits and waste rock dumps leaving access to previously developed mining faces. These open pit faces are currently being mined further under ML 134 issued to UTMC, therefore eliminating the need for major pre-stripping or costly mining development work (DFS, 2021).

Since Uis Tin Mining Company (Pty) Ltd took ownership of the mine in 2018 construction of the Pilot Phase I Stage I ore processing and concentrating infrastructure and establishing supporting infrastructure for the mining and processing operations was developed and completed in 2019.

This strategy allowed UTMC to initially focus on the production of tin concentrate (cassiterite mineral) which also contains tantalum (columbite-tantalite) and lithium (as petalite). Tantalum and lithium concentrate streams can be added later for potential by-product production. Such a modification to a system of several concentrate streams will likely wait until after ramp-up to nameplate capacity. By the end of December 2020, more than 312 tonnes of tin concentrate at a grade exceeding 60% Sn had been produced and exported to the Thailand Smelting and Refining Company Ltd ("Thaisarco") under a fixed off take agreement (DFS, 2021). The ramp-up construction work is anticipated to take approximately six months to complete.



Figure 4 - Historical open pits, pegmatite-tin ore, and waste dumps

4.4 ACCESS

Access to the Project is obtained via an established road network that connects the Project to larger towns and cities with modern infrastructure. The two main access routes to the Project are via the C36 from the town of Omaruru and the C35 from the town of Henties Bay. Both roads are two-way gravel roads that are maintained by the local road authorities. The condition of the roads is good and allows for easy and efficient traveling and transport. From the towns of Henties Bay and Omaruru access can be gained to larger towns and cities via tarred roads. The closest large town to the Project is Swakopmund and is located 165km by road from the Project. Walvis Bay is a port city 40km from Swakopmund by road, with an international airport, and import and export infrastructure. Swakopmund is also connected to the town of Omaruru via rail. Uis is located approximately 270km northwest of the Namibian capital, Windhoek (DFS, 2021).

Imports of industrial goods and equipment from South Africa are done via Windhoek via the B1 and B6 main roads, while most imports from overseas come by sea through Walvis Bay. Concentrate export from UTMC is by road and sea via Walvis Bay. The location of the Project in relation to other towns, cities, and access routes are illustrated in Figure 1 above.

4.5 MINING AND PIT DESIGN PARAMETERS

Typical opencast mining is used to excavate cassiterite-bearing pegmatite ore. The pegmatite is present as large, sub-vertical and outcropping veins up to 100m in thickness. Phase 1 Stage I and Stage II mining activities will take advantage of the exposed outcrops and accessible mine workings (historical) through conventional open pit mining methods. At a current stripping ratio of 1:1.5 due to the necessity of increased waste removal as pegmatite is mined at depth. The current plan provides a LoM of 18 years with 20 years of processing (DFS, 2021). An overall pit slope angle design of 55 degrees (crest to crest) was selected using digital measurements on the generated digital terrain model (DTM) therefore limiting mining bench heights to 10 m for stability and operational reasons. The approach forms part of a five-year mine plan that prioritises the reduction of overburden stripping in the initial stages, extracting higher volumes of pegmatite and conversion of ore into saleable tin concentrate for export (DFS, 2021). See Figure 5 illustrating the current ore mining and processing infrastructure placement from an aerial perspective.



Figure 5 - UTMC Mine and Ore Processing Infrastructure (Source: Minxcon, 2020)

The proposed mining method is illustrated below (Figure 6). All mining is done by contractors. The mining production schedule has been tested and is set to achieve a fixed target per production quarter.



Figure 6 - Proposed Mining Method (Source: Minxcon, 2021)

4.6 MINING FLEET

Mining operations are contracted to Nexus-Ino who is responsible for pit work and haulage. Table 7 lists the current fleet of mining equipment proposed for the Stage II expansion operations. More mining equipment will be brought in once production is consistently on target, in line with the design capacities, and in consideration of future stages. Drilling and blasting will be on 10 m benches and loading will take place in 2.5 m fitches in the mineralised zones, intended to enhance dilution control.

Table 7 - Current Mining Fleet (Source: Nexus-Ino Mining, 2021)

No.	Plant Number	Make	Description
1	TT126	Scania GX460	40t Tipper Truck
2	TT127	Scania GX460	40t Tipper Truck
3	AD008	Bell B30	30t Tipper Truck
4	AD009	Bell B30	30t Tipper Truck
5	AD010	Bell B30	30t Tipper Truck
6	TT084	Powestar 2628	10m3 Tipper Truck
7	TT097	Powestar 2628	10m3 Tipper Truck
8	EX009	New Holland E305B	30t Excavator
9	EX015	Kobelco SK500	50t Excavator
10	EX017	Kobelco SK380	38t Excavator
11	LD020	Cat 950	Front End Loader
12	LD022	Cat 950	Front End Loader
13	LD024	Cat 226B3	Skid Steer
14	TLB05	JCB 3Dx 4WD	Tractor Bachoe Loader
15	TLB08	Cat 426F2	Tractor Bachoe Loader
16	BD010	Cat D7	Track Bulldozer
17	WT121	Powerstar 2628	18000l Watertruck
18	GR022	LuiGong CLG425	Wheel Grader
19	Workshop	Fima 40055	500l Compressor
20	Workshop	Rato	420cc Welder

4.7 GEOLOGY AND MINERALISATION

The tin-bearing pegmatite intrusions occurring at the Uis Tin Mine are part of the Pan-African Damara Belt, which is the northeast-trending branch of the Damara Orogen in Namibia. The Damara Supergroup comprises metasedimentary and metavolcanic lithologies of the Damara Belt and is divided into various tectonostratigraphic zones. Economically mineralised pegmatites are post-tectonic and represent highly evolved magmatic systems. The pegmatites of the Damara Belt are grouped into various northeast-trending pegmatite belts and occur in a variety of morphologies (DFS, 2021).

The Uis Tin Mine occurs at the north-eastern extent of the 120-km long Cape Cross–Uis Pegmatite Belt (CUPB), or the northern tin belt, extending from Cape Cross to the town of Uis and is known for its abundant tin mineralisation. The CUPB is separated from the Northern Central Zone which hosts the Nainais-Kahero pegmatite belt, or central tin belt, by the Autseib Fault. ML 134 and ML 129, known as Uis and Tsaurob respectively, occur in the CUPB, while ML 133, known as Nai-nais, occurs in the Nai-naisKahero pegmatite belt. The CUPB hosts a variety of mineralised to barren, syn- to post-tectonic pegmatites (DFS, 2021).

The mining licence ML 134 is approximately 200 km² in size and includes a large portion of the Sn-Nb-Ta type granitic pegmatites in the Uis swarm. The pegmatites strike to the northeast and east, dipping between 30°NW and 70°NW, and are discordant to the country rocks which generally dip to the southeast. The larger pegmatite bodies appear to pinch out along strike or splay out into different pegmatite veins (DFS, 2021).

The V1/V2 pegmatite is the only orebody for which a Mineral Resource estimate compliant with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012 Edition) (“JORC Code”) has been completed. Sixteen historically drilled dykes were mined from eight principal open pits until mine closure in 1990. The pits were named: K3/K5 pit, the K6 pit, the K8/K10 pit, the P4/P5 pit, the P6 pit, the V1/V2 pit, the V4/V5/V12 pit, and the V9/V10/V13 pit. The surrounding unmined pegmatite intrusions were also considered in this economic assessment where pegmatite size and observed mineralisation matched predetermined specifications. For the JORC study, only surficial data such as geological mapping and structural measurements were available for this latter group of pegmatites (DFS, 2021).

The Uis pegmatites are granitic in composition, containing abundant quartz, orthoclase, muscovite and albite. Minor mineralogy includes tourmaline, garnet, apatite, microcline and beryl. Li-bearing phases include petalite, spodumene (Karlowa Swarm), lepidolite, hectorite, eucryptite and amblygonite. Sn is present in the form of cassiterite, whereas Ta-Nb-oxides occur as columbite (-tantalite) group minerals, tapiolite with minor wodginite, and ixolite (DFS, 2021).

The central cluster of the Uis swarm encompasses approximately 180 standalone pegmatite bodies at various scales and sizes. Figure 4 illustrates a plan view of the previously mined V1 and V2 pegmatites (DFS, 2021).

4.8 BLASTING

Rock fragmentation is undertaken by drilling and blasting, with the weathered zones requiring blasting with lower powder factors. Blasting is a core component of the mining operation, impacting all downstream mining and comminution (crushing) processes, and also affecting dilution factors, the plant’s operation and ore recovery.

UTMC concluded a contract for blast-hole drilling operations. Blasting is sourced through a down-the-hole service rendered by Bulk Mining Explosives (“BME”) based on separate orders for each blast and conducted on a bi-weekly basis. Blast notices are created and put up at key locations around the Uis settlement as well as at the entrance to the mine site notifying the community of the time and duration of each blast event. The blasting method that exerts the least amount of environmental and social influence on Project receptors as well as to produce smaller rock fragments should be recommended through specialist input. A blast and vibration specialist study was commissioned by UTMC and contracted to Blast Management & Consulting. The results of which will be presented in the impact assessment report.

Owing to the slow ramp-up of the plant, current mining progressed well ahead of processing, which resulted in a large build-up of inventory on the RoM stockpile, negating any future risks of mining interruptions (DFS, 2021). The blasting cycle may increase to a weekly event during Phase II.

4.9 DRILLING

UTMC drilled 26 additional drillholes in addition to historical drilling by Iscor in the 1970’s and 1980’s to form a combined dataset of 177 diamond and percussion drillholes which informed the resource estimation of the Uis deposit.

Continuous drilling takes place on the mining benches within the open pits (V1 and V2) in tandem with blasting operations by an independent contractor. Drilling and blast optimisation using accurate data will assist in determining improved ore blasting outcomes. Observations of numerous oversize ore were made in October in the haul trucks and at the feed hopper to the mill crusher. A rock breaker appears to be employed full time at the hopper to manage the oversize. Improvements in terms of ore size could be achieved with drilling and blasting adjustments.

4.10 HAUL ROADS

The available space within the pit was used for safe haul roads wherever possible instead of expanding the pit walls. The haul road width was reduced at the lower levels of the pit to minimise waste stripping as much as possible. The exit positions of the ramps were determined based on the proposed positions of the primary crusher and the waste co-placement facility (DFS, 2021). On surface haul roads are dual directional separated by a course gravel-based island. The width of one lane (18m x 18m) is wide enough to accommodate the width of the largest mobile plant on site i.e. 40t tipper truck.

It is not envisaged that the ramp to surface will need additional protective measures to ensure stability whilst in use.

Haul road dust suppression is conducted for the Project and is handled through a comprehensive dust management system.

4.11 SITE LAYOUT: MATERIALS HANDLING AND CONCENTRATING PLANT

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 proposed site layout is provided in Figure 9. Optimal use of available space was considered in the placement of additional comminution and process infrastructure

The layout (Figure 7) of the Plant illustrates the limited spatial extent to which the modifications will be applied. The Figure also shows all new elements to be added during Stage II and future elements in subsequent development stages.

The processing plant is strategically placed to allow ore throughput of 80 tph. The anticipated expansion of production volume will not require the Plant to re-locate only modified. The engineering adjustments and additions to be made within the current footprint of the processing plant will allow a throughput of 120 tph.

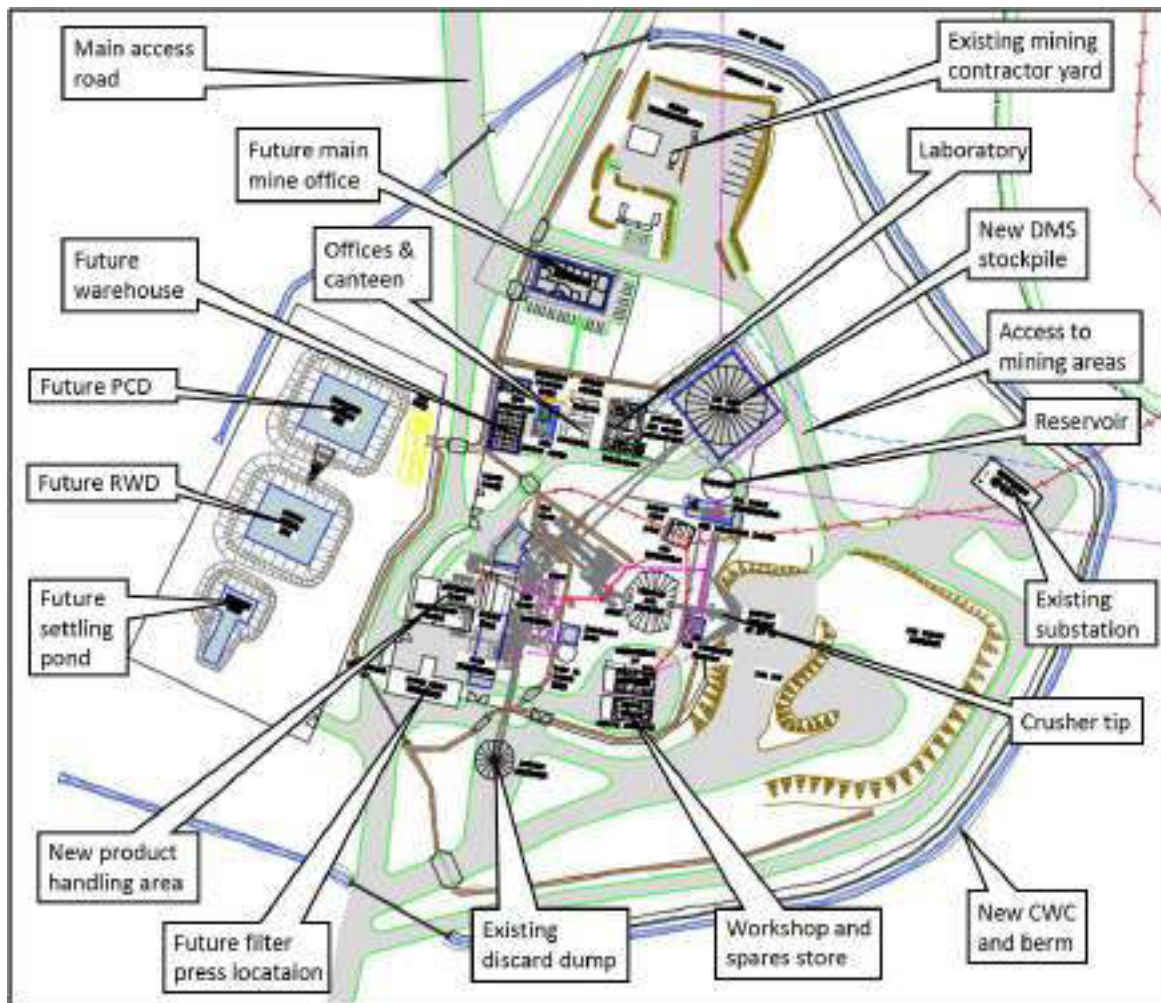


Figure 7 - Diagrammatic layout of the processing plant and comminution areas

4.12 COMMINATION AREA

The processing plant consists of a comminution section and a concentrator section. At the start of the concentrating section, ore is screened into a coarse fraction (larger than 0.65 mm) and a fine fraction. Crushing to a top size of 6.4 mm is done in four stages. From the primary crusher, ore is conveyed to the primary stockpile, from where it is fed to the secondary crushing plant, in which the ore passes through another three stages of comminution (DFS, 2021).

4.13 METALLURGY AND PROCESSING

No chemicals are used in the ore beneficiation process. The process plant employs 4-stage crushing followed by gravity concentration (pre-concentration, concentration, and scavenging). The coarser fraction is processed with dense media separation (DMS) and the finer fraction with scavenging spirals. Concentrates from the DMS and spirals are cleaned on a shaking table to separate the heavier dense metals from the waste rock granules. Discards (waste rock granules) are dewatered and co-disposed with mine waste rock. Coarse and fine

tailings are dewatered on vibrating screens, while slimes are dewatered through a thickener and filter press combination. Recovered water is reused in the process. Dewatered tailings are co-disposed with mining waste rock (DFS, 2021).

The following changes are envisioned to be made to the process flow in various sections of the plant as part of the additions under the Phase I Stage II development:

- A crusher and screen to be added to Area 100 in feed preparation
- A stockpile has been added between crushing and beneficiation in Area 300
- Densifier capacity has been increased in Area 320
- The medium circuits for DMS2 and DMS3 have been combined to improve operability of DMS 3 and maximise Sn recovery from DMS2 floats
- The DMS 2 floats re-crush circuit has been converted to a closed circuit in Area 350. In addition, bins have been added before roll crushers to improve operability
- Additional spirals to re-process middlings will be installed in Area 440
- An additional shaking table will be installed to improve capacity and the shaking tables will be relocated. The shaking tables will be replaced with ones with higher separation efficiency.

A simplified summary of the plant flow diagram of the Stage II process is shown in Figure 8.

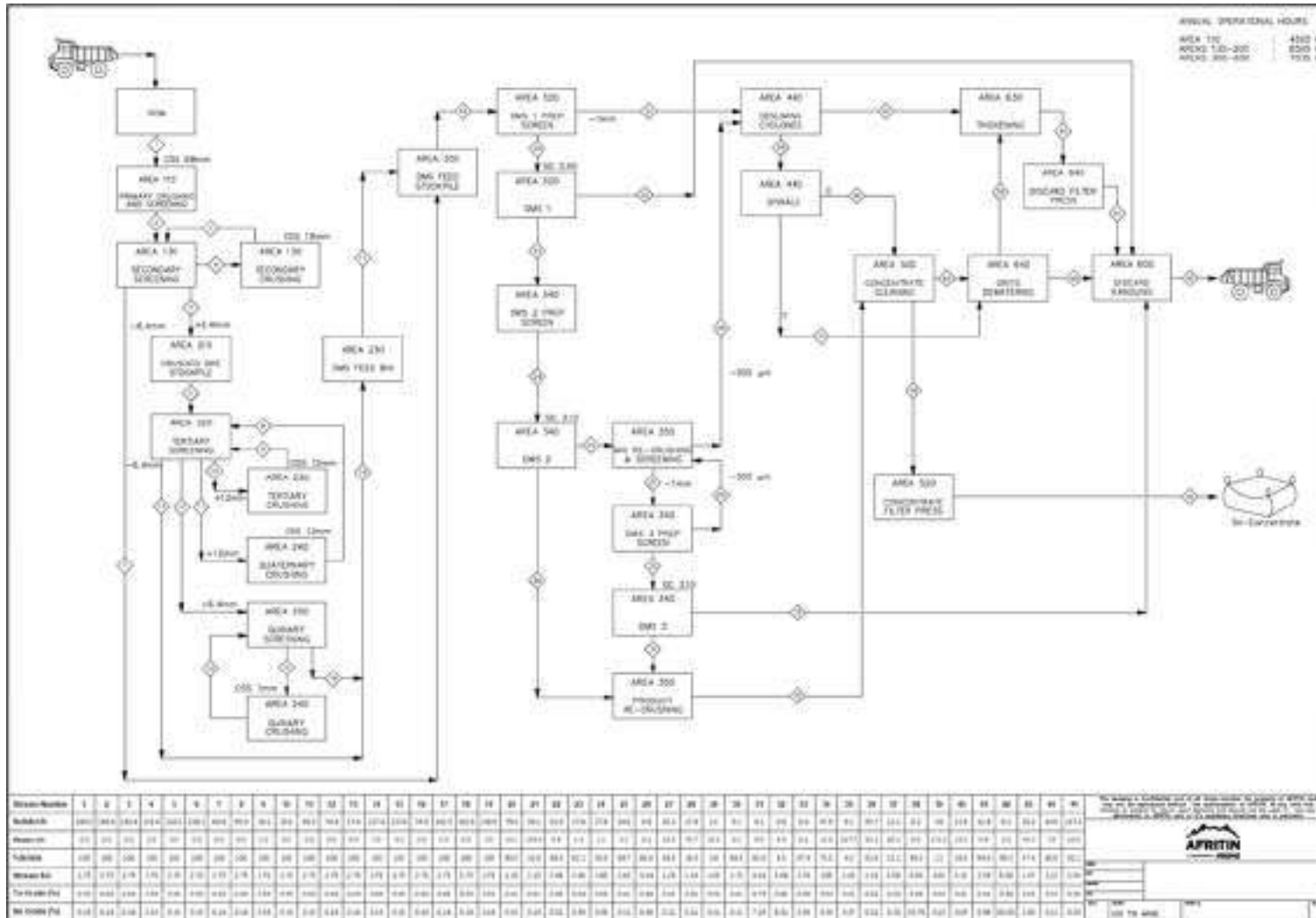


Figure 8 - Flow diagram of processing methodology

4.14 SUPPORT INFRASTRUCTURE AND SERVICES

4.14.1 MINING OFFICE BLOCK

The mining office block is a modular structure installed on a mesh reinforced concrete slab. The building provides office space to technical personnel, including the process manager the technical services manager, geology personnel, surveyors, maintenance engineers, and mining support staff. The building has a meeting room, male and female ablutions, a kitchen, a pit control room, a first aid room, and an open quadrant used as seating space for personnel.

4.14.2 UTMC WORKSHOP AND WAREHOUSE

The mining warehouse (or stores) is a steel sheeted high wall structure. The warehouse is used for the storage of all critical and operational spares, as well as office and other consumables. Goods will be received by the stores' personnel through the east facing receiving bay prior to storage in the main building. Access to the stores building is limited to stores personnel. Acetylene gas, oil, paint, and other flammable materials are stored in separate areas within the main building on shelves and designed accordingly to store dangerous goods.

4.14.3 HEAVY MOBILE EQUIPMENT WORKSHOP

The heavy equipment workshop is managed by Nexus-Ino which is the main shop for maintenance and rebuilds of mining equipment. The building design is capable of handling maintenance work for 40t ADT trucks and support equipment as per the maintenance plan. The structure is steel sheeted on the sides supported on concrete plinths, with modular container offices. The workshop is bunded with an internal drainage system into a suitable hydrocarbon collection and treatment system. This facility is also used to maintain light vehicles used on site. One wash bay is available for equipment, before, during and after maintenance, and therefore settling dams/ponds are installed as part of the wastewater treatment system in the wash bay.

4.14.4 FUEL FACILITY

Diesel for mine operations is contained in a designated and designed site fuel facility. Northern Fuel has erected infrastructure and facilities for the storage and handling of fuel. The service provider is responsible for the supply, delivery, and management of stock for the life of mine. The Proponent does ensure the facility has the required installation certificates prior to commissioning the fuel facility and is audited monthly for operational compliance.

4.14.5 EXPLOSIVE MAGAZINE

The appointed contractor, BME, based in Arandis, provides explosives and blasting services to the mine on the day of blasting. The contractor has established and is responsible for its satellite explosive magazine infrastructure, located next to the Nexus-Ino workshop. Space provision was made for both sites, and the siting of the explosive magazine is in conformance with the requirements of the Namibian Labour Act, Namibian Mining Legislation, and Regional Explosives Standards or regulations.

4.14.6 COMMUNICATION

Radio, telephone, and internet connections are already functional for the mining operation. Communication infrastructure, including masts, is installed.

4.15 UTILITIES

4.15.1 POWER SUPPLY

A 1,500 kVA supply agreement was signed with NamPower, with a 66 kV supply take-off from the Uis NamPower substation. An extension to the existing substation was constructed, with the associated switchgear, metering, and a 66 kV feeder bay. A 66 kV overhead line feeds an existing 66/11 kV substation situated outside the safe blast radius of the open pit mine, close to the current plant area. The capacity of the 66/11 kV transformer is 2,000 kVA, with a protection circuit breaker in the 66 kV circuit. See Figure 9.



Figure 9 - Main power supply off take (Source: ECC, 2021)

4.15.2 STAND-BY POWER

Standby power supply consists of two 635 kVA containerised Perkins and one 600 kVA MAN diesel generating sets. These are installed in the power station area, and power from each is fed onto a common generator busbar. An automatic centralised synchronisation controller, that interfaces with the individual generator control panels, will allow for the switching and running of the generators in parallel. The standby power station has the capacity to supply the full backup power

requirements of the processing plant. The standby power- generating sets is illustrated in Figure 10 (DFS, 2021).



Figure 10 - Genset stand-by power source (Source: Minxcon, 2021)

4.15.3 WATER SUPPLY

Phase I of the operations sources its water supply from within the Ugab catchment area, utilising the Uis River alluvial aquifer system. The current mine design indicates a water requirement for Phase I Stage I to be between 10 m³/h and 15 m³/h, but actual water consumption has recently exceeded 20 m³/h. Borehole water levels are monitored monthly to keep track of the utilisation of the water source and to manage its sustainability. The largest water demand occurs at start-up of the plant, as the facility is run on water only, this demand is then reduced with the feeding of the ore into the plant (DFS, 2021).

The abstraction of groundwater from existing boreholes are permitted under two abstraction permits issued for industrial (mining) purposes by the Ministry of Agriculture, Water and Land Reform (MAWLR) since 2019. An amendment application was submitted by UTMC in August 2021 to the MAWLR to amend the allowable abstraction volume from boreholes to 75 000 m³ per annum. The permit was issued [October 2021] and is valid for two years therefore a total volume of 150 000 m³ over a two-year period was granted (Appendix C).

The borehole locations are presented in Figure 11.

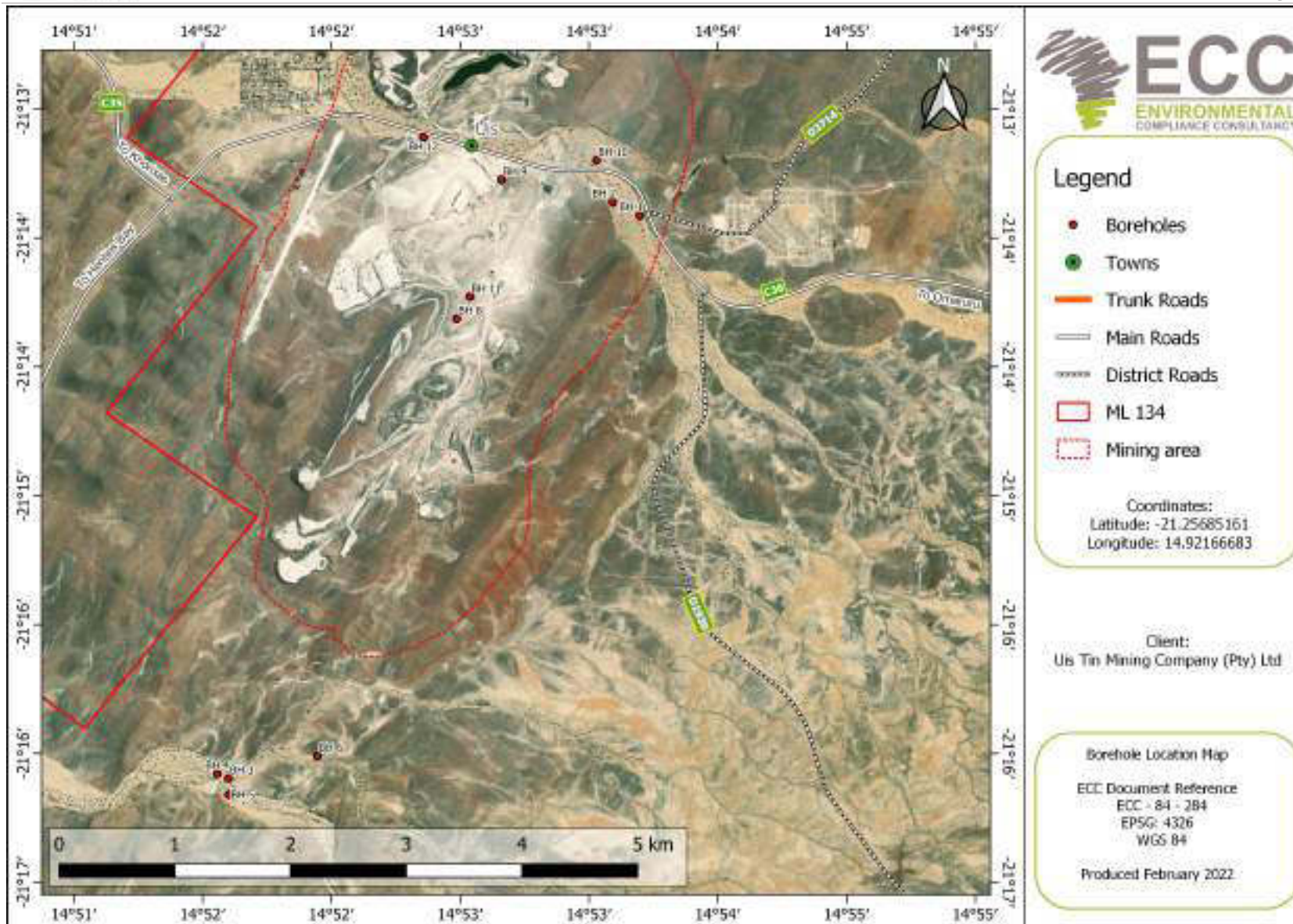


Figure 11 - Borehole locations

Process water is supplied from well fields and an open-pit lake (K5) north of the mining area through a pipeline network. Raw water is pumped into a 1,000 m³ bulk reservoir located at the process plant, from where make-up water is pumped to another 250 m³ process make-up water tank, close to the wet part of the plant.

Potable water to the production areas is supplied through a 35 mm municipal water-supply pipeline that was installed during construction. This water is not used for processing needs (DFS, 2021).

4.15.4 WATER DEMAND

The Base Case results from a site wide water balance study done by ECC in early 2021 estimate that the operations (based on a peak production rate of 87 726 tonnes per month from October 2022 until end of December 2034) will use:

- Approximately 244 m³ of potable water per month - supplied from NamWater;
- The average external water supply required during the peak production period will be approximately 2 500 m³/month;
- The peak demand of this externally sourced water per month is estimated at approximately 5250 m³ per month. It is recommended that provision be made for a supply of 6300 m³ per month , offering a 20 % safety buffer;
- Approximately 370 m³ per month of process water from Ralf's pond;
- Approximately 630 m³ per month of raw water from the open pit – south pit;
- Approximately 1500 m³ per month of raw water from the K5 open pit; and
- Approximately 6000 m³ per month of raw water from the various boreholes currently in operation.

The above is particularly dependent on the functionality and performance of the filter press to return 80 % of the tailings water to the Plant. The above figures are the average values per month during the peak production period (October 2022 to end of December 2034).

However, the ground water resources are in the process of being verified and the boreholes to be used tested to calculate their long-term sustainable yields (Hubbard, Gouws, Smit, & Botha, 2021). This is done in conjunction with a groundwater survey and an updated groundwater model by Digby Wells.

Water supply for the Project is proposed from a combination of surface and groundwater sources and supply optimisation studies are ongoing. Further studies by Digby Wells currently underway will inform this aspect and will be reported on in the final impact assessment report.

4.16 MINERAL AND NON-MINERALISED WASTE

4.16.1 WASTE ROCK

The proposed waste dumps are located northeast and northwest of the open pit, as shown in Figure 7 (page 39). The site has three separate dumps which can store an estimated total of 26.66 Mm³ of waste rock and plant waste fines: A (8.75 Mm³), B (14.82 Mm³) and C (3.09 Mm³). This is a 10% overcapacity when compared to the LoM co-disposal volume requirement of 23.85 Mm³ (DFS, 2021).

The current mine plan, taking the 15 Mt pit design into consideration, will produce a total of 23.9 Mt of waste rock and 14.7 Mt of dewatered plant waste fines over the LoM. Dewatered plant waste fines are co-disposed with mining waste rock on a co-disposal facility (DFS, 2021). The co-disposal facility has capacity to be expanded upon and will be used to store Stage II waste rock and plant waste fines. The definitive feasibility study outlines and describes the design and operating philosophy behind this operation. The parameters taken into consideration are:

- The angle of repose of the outer slope to be 36° for each 20 m lift and a minimum rock crest width of 10 m. This will provide a stable outer shell of waste rock that is erosion-resistant
- Interior paddock embankment slopes ranging from 2.5 H : 1 V to 1.5 H : 1 V 10 m high lifts with 5 m wide benches between lifts. This approach will establish an overall slope angle of 3.5 H : 1 V
- Diversion ditches to route runoff from the upstream catchment areas (non-contact water) to the environment, and collection ditches to route contact water from the co-disposal facility to the sediment ponds
- Rock drain to convey flows from upstream catchment area to a sediment pond located downstream of the co-disposal facility and maintain a low phreatic surface within the co-disposal facility
- Strategically placed sediment ponds to collect all contact water from the co-disposal facility and rock drain. Collected water will be recycled for use in the process or for other uses on site to reduce makeup water requirements
- Appropriate waste dump volume requirement of 13.92Mm³ and the overall plant waste fines dump volume requirement is 9.93 Mm³ (DFS, 2021).

Rehabilitation requirements are considered in dump location and design, and all dumping areas will undergo an ore sterilisation campaign prior to waste dumping. 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 has not been considered for this stage. Waste dumps will be sloped to 3:1 near the top and 4:1 at the bottom covered with finer material, then soils, then ripped and planted. The co-disposal facilities should be re-sloped in this manner as soon as possible in a progressive rehabilitation program. The shallow slopes provide increased stability should the increase fines content create problems with pore pressures. The approach is designed to maintain a low phreatic surface, as noted above.

4.16.2 GENERAL WASTE

Waste is separated at source, stored in a manner to avoid discharge of contaminants 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 general waste and Walvis Bay for hazardous waste).

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 EMP.

4.16.3 EFFLUENT AND WASTEWATER

Project generated sewage is collected and uses gravity reticulation via buried sewer pipes and transported to the Clarus treatment facility. Sewage is treated in this purpose-built sewage treatment plant. Prior to the ESIA being conducted, the Clarus system displayed indications of limited capacity to failure. UTMC commissioned a root cause analysis of the capacity issues and requested an upgraded sewage treatment facility to be installed. The new plant will have the capacity to treat the sewage generated on-site per day. The water output from the plant will be suitable for use in dust suppression, vehicle washing, irrigation, fire suppression water, and process water.

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 could be used as fertiliser for rehabilitation of mining landforms.

4.17 ALTERNATIVES CONSIDERED

The primary alternative to be assessed is the water supply for mining operations in Stage II. For every alternative option there is a trade-off or an impact on another aspect of the Project. The environmental baseline chapter, provide further information to the decision-making process.

4.18 WATER SUPPLY

The alternatives for water supply are discussed in the utilities section above. The alternatives for water supply are as follows:

- NamWater supply to the Uis reservoir
- Surface water dammed in the K5
- Groundwater boreholes within the mining licence area (P11429)
- Possible desalination option could be to obtain water from the Orano Desalination Plant from Henties Bay

- Another option could be to develop an abstraction plant near Cape Cross where seawater will be abstracted and used.

Water supply optimisation strategies are currently in progress and will be included in the assessment phase.

4.19 REHABILITATION AND CLOSURE

The Proponent will commit to establishing a rehabilitation plan as part of the mine closure plan. A conceptual mine closure plan with costing is under development by UTMC in association with ECC and forms part of the EMP requirements and will be updated into the assessment phase.

5 ENVIRONMENTAL AND SOCIAL BASELINE

5.1 BASELINE DATA COLLECTION

Initial desktop baseline studies relevant to the Project formed part of the initial environmental assessments conducted for the mining licence on which the Project is situated. As part of this assessment, baseline conditions were studied in detail, with inputs from specialist studies commissioned as part of the environmental and social impact assessment process.

5.2 DESKTOP AND FIELD SURVEYS

Initial desktop baseline studies were completed between 2018 and 2021 for the Project. Additional desktop and field-based baseline studies were conducted between March and November 2021 and builds onto the dataset of site environmental monitoring data being collected since 2019.

This section sets out the biophysical and socioeconomic environments in which the Project is situated. It is an important part of the scoping component of the assessment, as it determines if there are any knowledge gaps that require additional information prior to the assessment phase being completed.

5.3 SPECIALIST STUDIES

The specialist studies as outlined in Table 8 were commissioned, some completed some still underway, to determine the current state of the baseline environments:

Table 8 - Specialist studies conducted for the ESIA

STUDY AREA	PURPOSE	SPECIALISTS
Terrestrial ecology	<ul style="list-style-type: none"> - Biodiversity and habitat. - Identification of species of concern and sensitive areas. - Impacts of mining construction and operations on habitats and biodiversity (if any). 	- Peter Cunningham
Hydrology	<ul style="list-style-type: none"> - Water supply. - Storm protection. - Impact on heritage aspects. - Clean and dirty water management systems. 	- Nurizon Consulting (Pty) Ltd
Groundwater	<ul style="list-style-type: none"> - Assess the potential for contamination of aquifers from TSF & WRD. - Provide a model to determine impacts of drawdown and plume mobility. - Assess the sustainability of boreholes for water supply. 	- Digby Wells and ECC
Air quality	<ul style="list-style-type: none"> - Provide emission standards and dust suppression requirements. - Assess prevailing wind directions and possible effects of emissions on the process and/or personnel. - Model potential air quality impacts. 	- Airshed

STUDY AREA	PURPOSE	SPECIALISTS
Noise and sense of place	– Identification of possible receptors and assess levels of noise to which they may be exposed during construction and operations.	– Airshed – ECC
Traffic	– The traffic impact assessment will study the potential traffic impacts and loading on routes associated with the mining activities. – Assessing the capacity of infrastructure and safety aspects of the mine entrance. – Assessing the need for an intersection upgrade at the mine entrance and providing a concept layout plan if necessary.	– ITS Global
Heritage and culture	– A heritage assessment is required, in order to comply with Namibian national legislature.	– Dr John Kinahan
Visual and tourism	– Assessing the potential visual impacts of a proposed Project on the receiving environment.	– ECC
Social and economic	– Includes the assessment of impacts on the social and economic landscape within the sphere of influence of the Project.	– ECC
Geochemical sampling and analysis	– The geochemical analysis of waste rock, tailings, and overburden will be undertaken to assess the mineralogical composition, acid mine drainage potential, and metal concentration of the leachate of waste rock and tailings.	– ECC: Mine Waste and Management Consultants
Blast vibration impact	– Assessing the impact of blasting on receptors in the area within the measured blast zone.	– Blast Management and Consulting

5.4 LOCATION

The proposed Project is located approximately 120 km inland from the Atlantic coastline. The site is within the settlement of Uis in the northern part of the Erongo Region and not within proximity to any other major town. Omaruru is situated east of Uis by approximately 122 km along the C36 gravel road. A small village called Okambahe is situated approximately 60 km southeast of Uis. The B2 main road can be accessed via the D1930 gravel road heading southeast from Uis toward Usakos for approximately 132 km.

5.5 LAND USE

The Project is situated in a predominantly subsistence agricultural region dominated by small stock farming land uses and to a lesser extent small scale mining. Figure 12 outlines the proposed mining licence area map with surrounding landownership status. Farming activities on surrounding properties will be able to continue relatively undisturbed by the proposed Project. The Project area is part of a communal reserve called the Okombahe Reserve and falls within the Tsiseb conservancy.

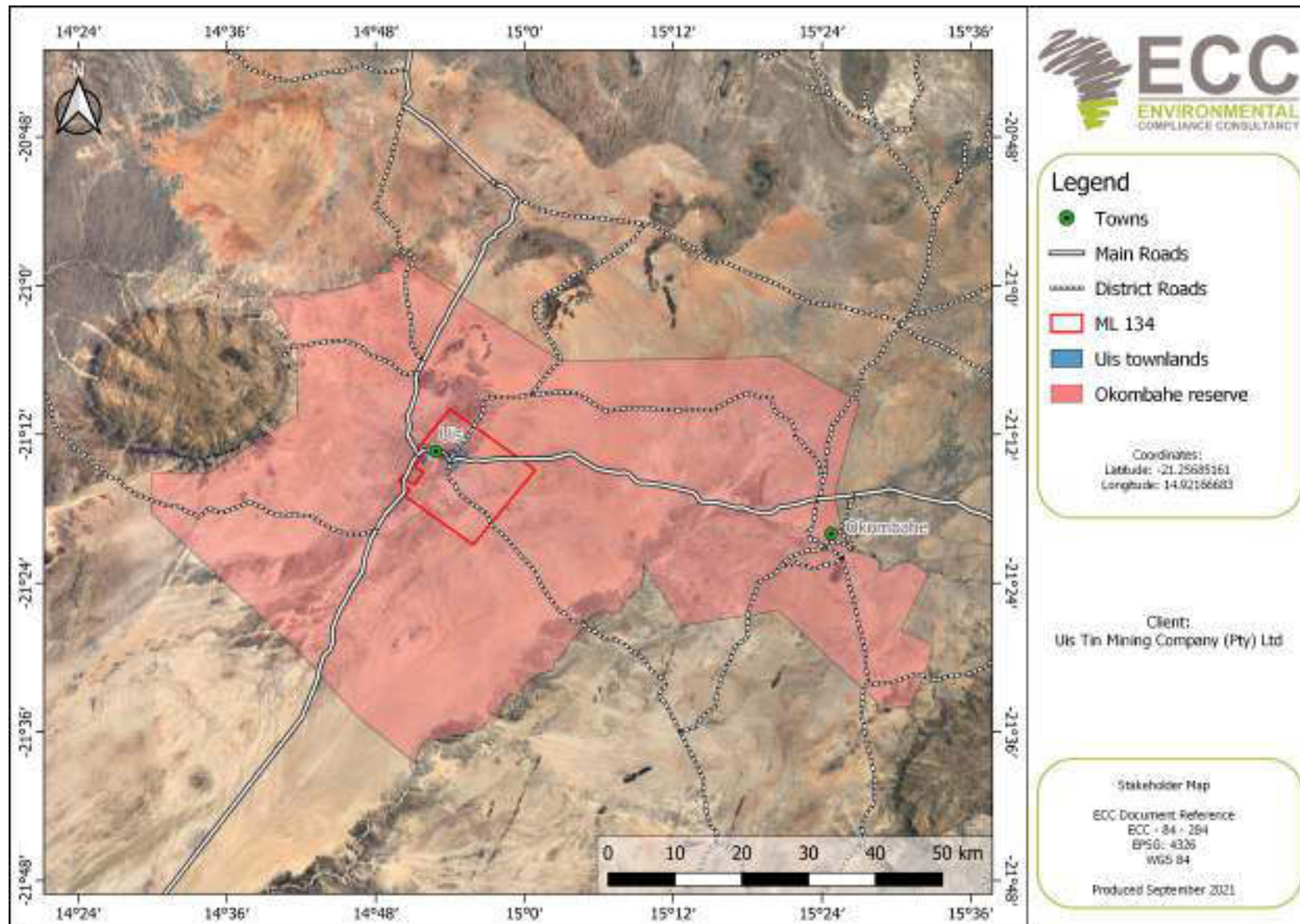


Figure 12 - A map showing the Project location within the Okombahe Reserve and in proximity to nearby villages.

5.6 GEOLOGICAL SETTING

The regional geology of the ML 134 area consists mainly of the Swakop Group and a very small section to the eastern side of the ML overlap Damara granites. The main rock types of this area are schists, dolomites, and granite. Granite hosts pegmatite dykes, within which are localized occurrences of tin and tantalum minerals, cassiterite and columbite-tantalite group. The Swakop Group is part of the Damara Supergroup and Gariep Complex (Bubenzer, 2002). The Uis Tin Mine focusses its mining activities on the cassiterite bearing pegmatites and produces a tin concentrate that also contains tantalum and lithium. The different geological group formations associated with the ML are illustrated in Figure 13. Additional geology and mineralization details can be found above in Chapter 4.

5.7 TOPOGRAPHY

The topography of the ML is relatively flat with various rock outcrops and the elevation gradually decreases from the south-eastern side of the ML towards the north-western side (towards Uis), varying between 1050 m to just below 700 m above mean sea level. This ML is situated close to the Brandberg which is highly elevated at about 2475m above mean sea level. This is illustrated in Figure 14.

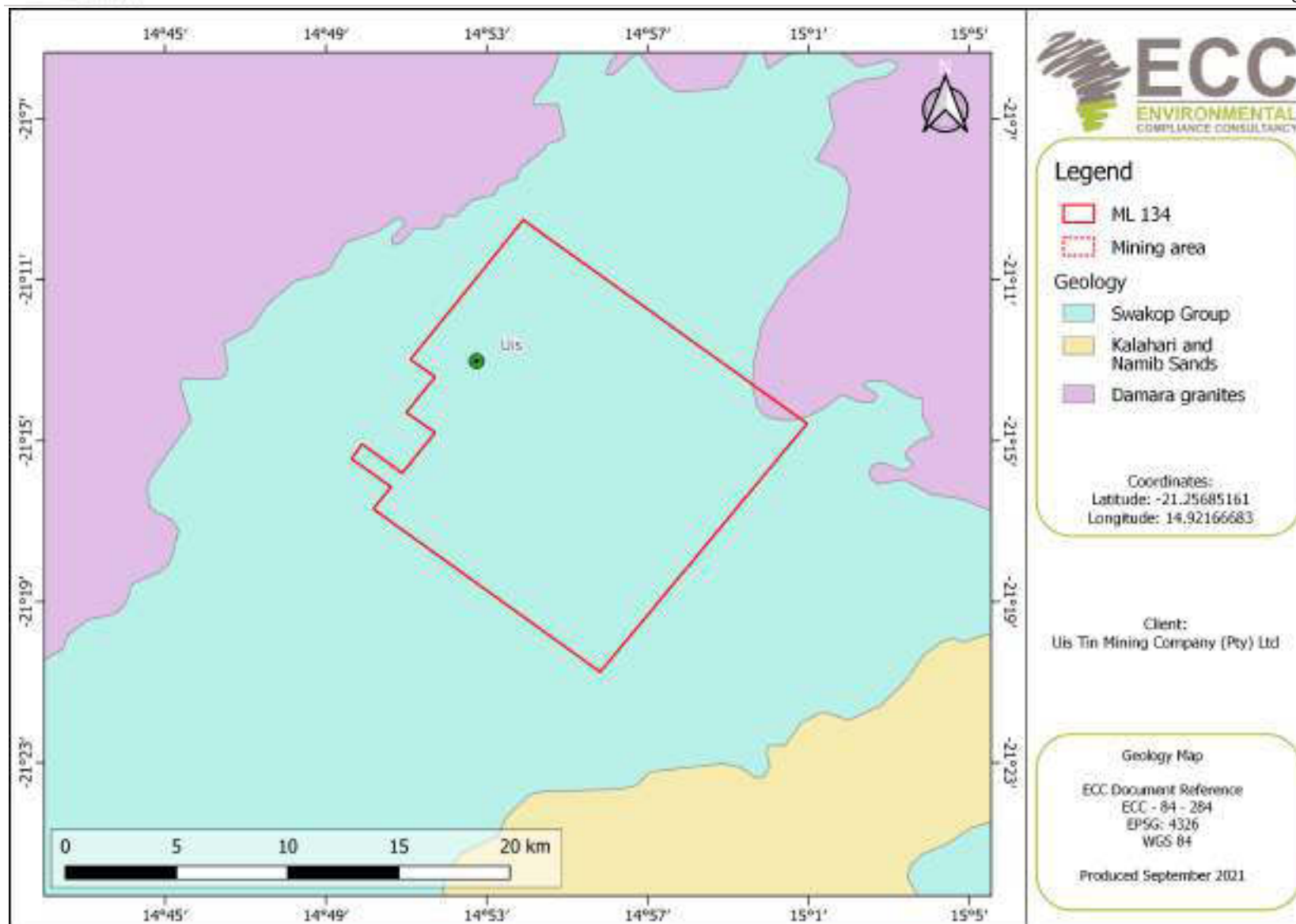


Figure 13 - A map showing the Project location geological setting

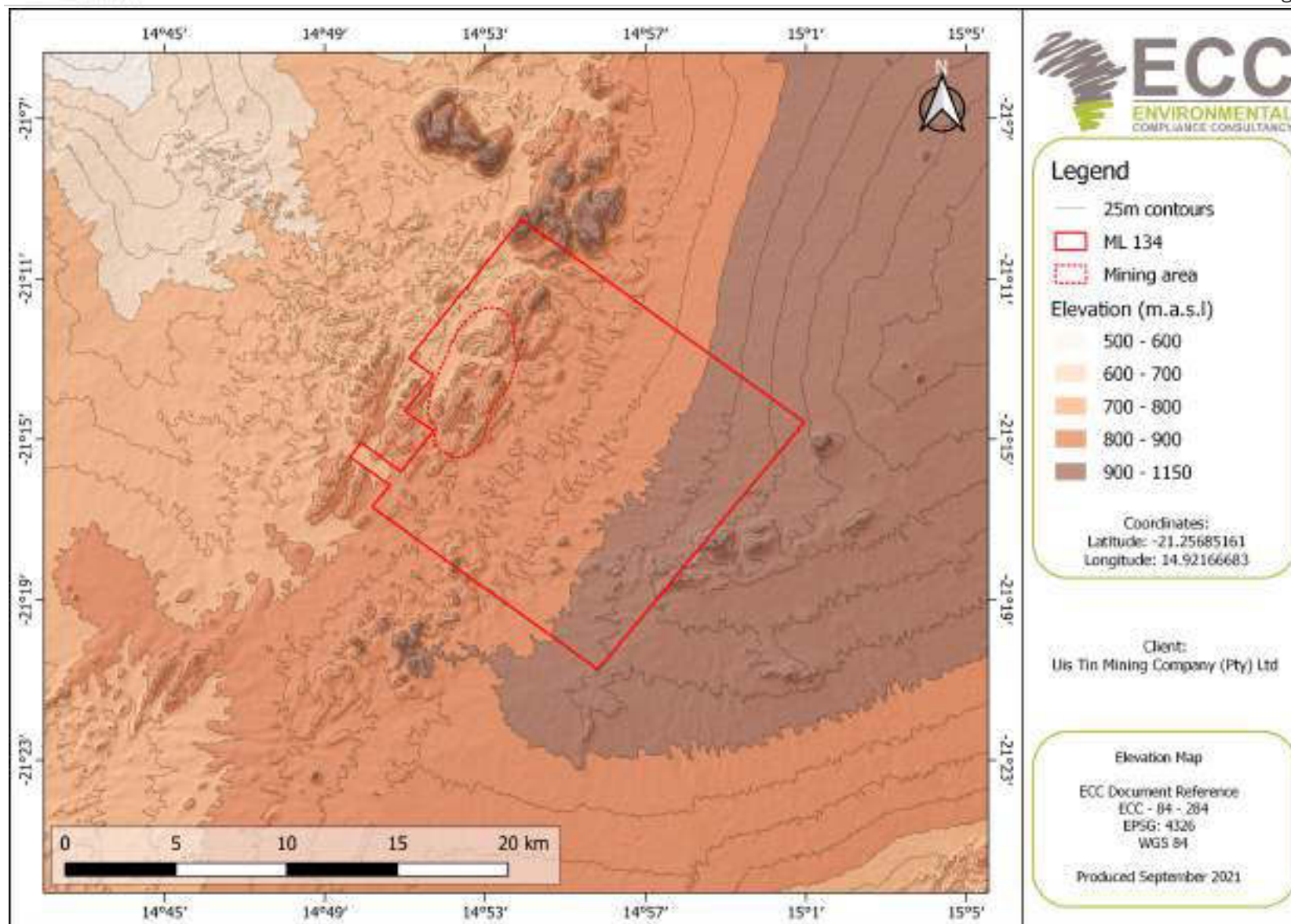


Figure 14 - Elevation map for ML 134.

5.8 SOILS

ML 134 is largely covered by rock outcrops and the area to the south-eastern side of the ML is covered by Eutric Regosols soil (Figure 15) (Bubenzer, 2002). Namibian soils vary a great deal, variations occur on a broad scale but there is even a great deal of variability at a local level.

The first part of the soil name provides information on the properties of the soil, namely: eutric soils are fertile with high base saturation. The second name reflects the conditions and processes which have led to the formation of the soils (Mendelsohn et al., 2002). Regosols are medium to fine-textured soils of actively eroding landscapes. These soils are not as shallow as Leptosols, but these soils never reach depths of more than 50 cm. This type of soil cannot provide vegetation with sufficient minerals or water (Mendelsohn et al., 2002).

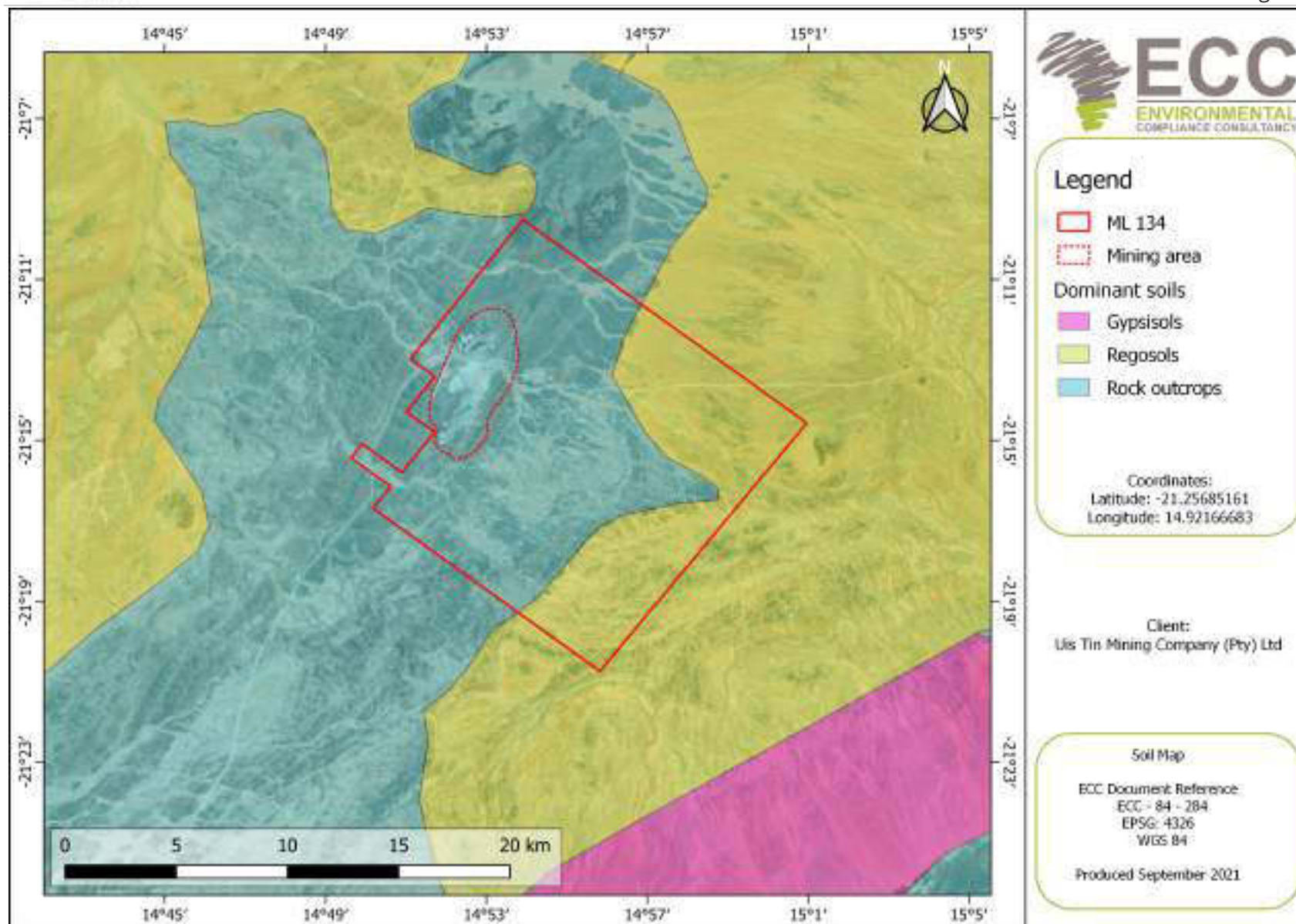


Figure 15 - Soil map of ML 134

5.9 HYDROLOGY AND GEOHYDROLOGY

The Erongo Region in the central-western part of Namibia receives between 350 to less than 50 mm of rainfall per year. Most of the ML area is in the arid part of the Erongo Region with rainfall of less than 150 mm per year (Bubenzer, 2002). Evaporation is 2100-2240 mm per year. All river courses flow in a south easterly direction through the ML (Figure 17).

ML 134 falls within the Ugab catchment area and over the Kunene South groundwater basin. In general, this region has little groundwater. Groundwater in the Project area (ML 134) is primarily associated with the interception of structures such as fractures (joints & faults) within subsurface hard rock (marble) bodies at various depths. On the ML there are a total of 11 boreholes of which four (4) are capped. Water is abstracted from seven production boreholes (Figure 16).

A provisional report (2019) has been issued on the safe yield of water. The results are subject to further bore field testing to deliver a final estimate (Van Wyk, 2019). The report represents the baseline conditions and it will be used as such by Digby Wells in designing its new pump testing regime, planned for early 2022. The current estimate based on the 2019 test pumping exercise conducted by Dawnmin Africa Investments (Pty) Ltd approximates 340 000 to 45 000 m³/a over a 5-year cycle (2019-2023).

The results of the additional testing of the bore field by Digby Wells will confirm a final safe yield figure that will be included in the assessment report.

The groundwater hydrochemistry is characterized by high concentrations of sodium chloride and sulphate. Interpretation done by Dawnmin Africa Investments is based on a tri-linear diagram (piper plot) and classifies the Uis groundwater as "sodium chloride" (brackish) type water (Van Wyk, 2019). This is a further indication of the less than frequent recharge in the area which affords groundwater more time to mineralise subsurface.

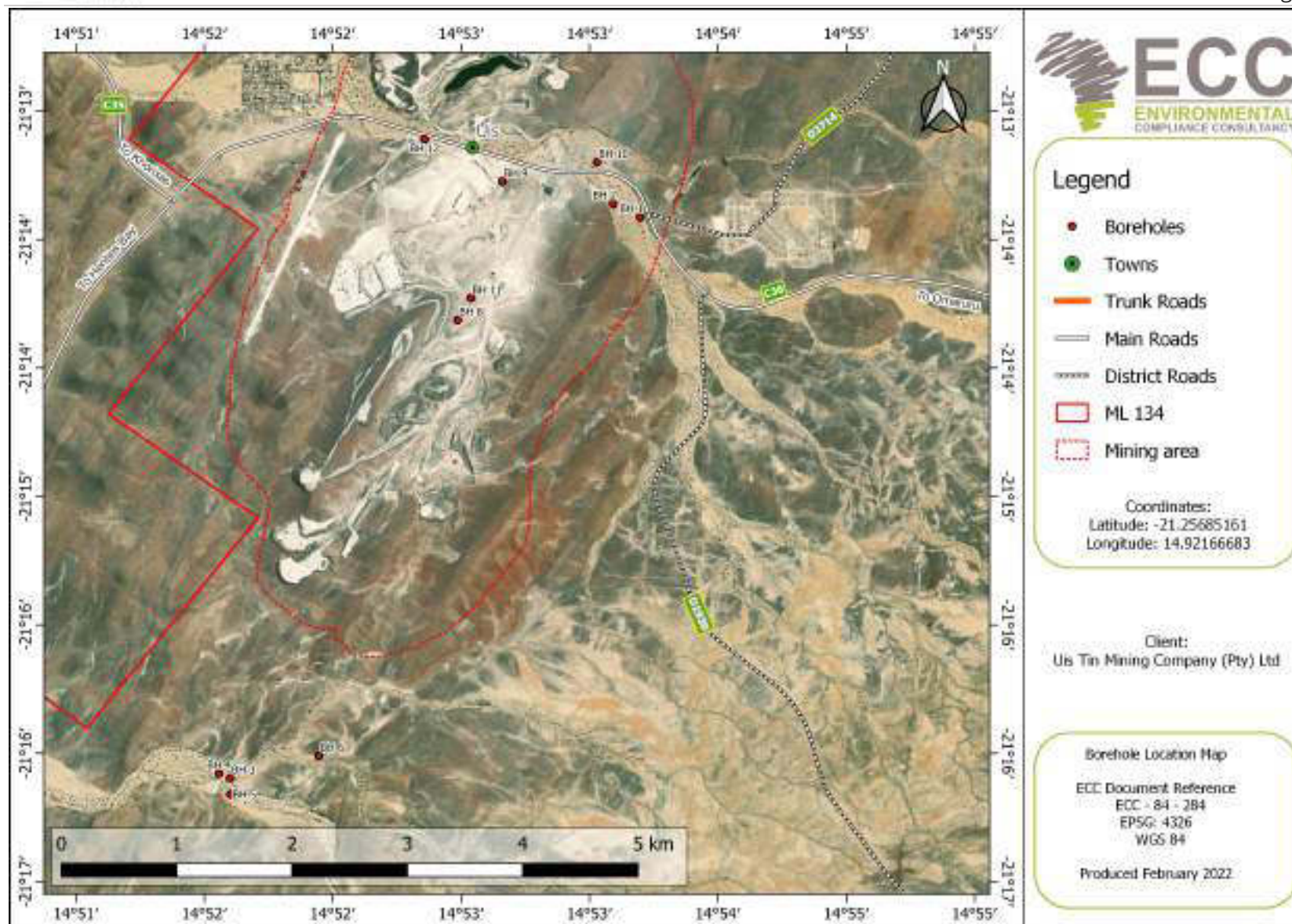


Figure 16 - Borehole locations

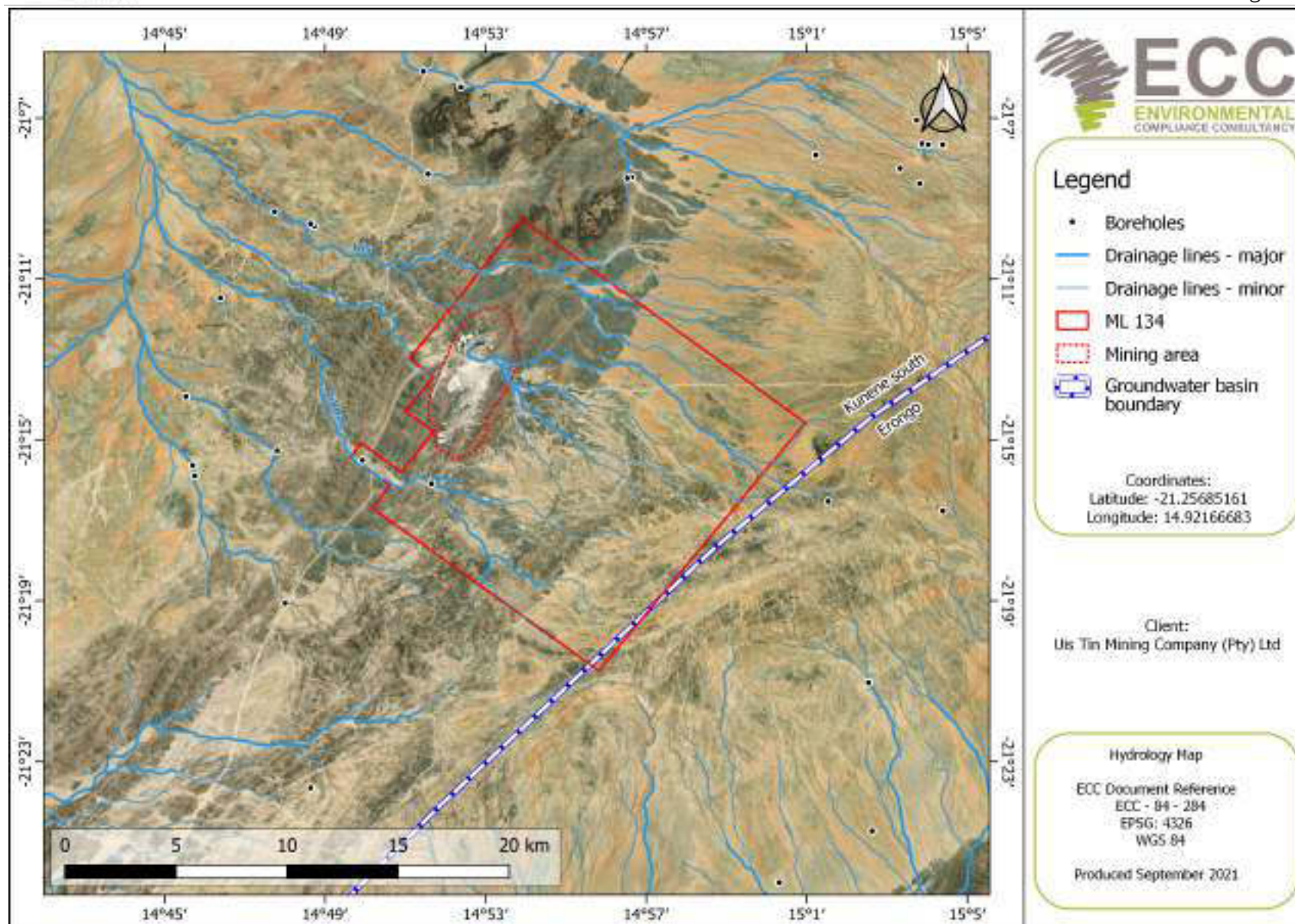


Figure 17 - Hydrology map of ML 134

5.10 BIODIVERSITY

Environment and Wildlife Consulting (2021) undertook a specialist assessment study of the vertebrate fauna and flora on ML 134. The dry and wet season assessments have been completed. The baseline studies for both seasons is the basis upon which the full assessment will be carried out, notwithstanding the relevant information gathered and recorded in from publicly available information sources. An assessment of the potential impacts will be carried out using the impact assessment methodology used by ECC in the assessment phase.

5.11 VEGETATION

Vegetation type and structure 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 other factors such as soil types and landscape also influence the vegetation. The dominant vegetation structure of ML 134 is sparse shrubland and grasses (Figure 18) (Bubenzer, 2002 & Mendelsohn et al., 2002).

The area has unique vegetation and wildlife species including reptiles and avifauna, many of which are endemic to the Namib Desert. ML 134 lies within the Nama-Karoo Biome and central-western escarpment type, which tends to have sparse shrubs and grassland occupying the gravel plains. The grass cover is sparse but dominates the little vegetation that grows on the gravel plains. The plant diversity of the areas is moderate (between 150 to 300 species) and the endemism is moderate to high (between six and 35 endemic species), with the higher number of species estimated to the north-western side of the ML, near the mine site (Bubenzer, 2002 & Mendelsohn et al., 2002).

A list of plant species that could be found within and surrounding ML 134 has been provided by the National Botanical Research Institute (NBRI) and can be seen in Appendix D. As in the NBRI tables, there is a low to moderate plant diversity and high endemism within these areas; of all the species found within these areas, 11 species are near-endemic, 20 species are endemic, and five (5) species are protected.

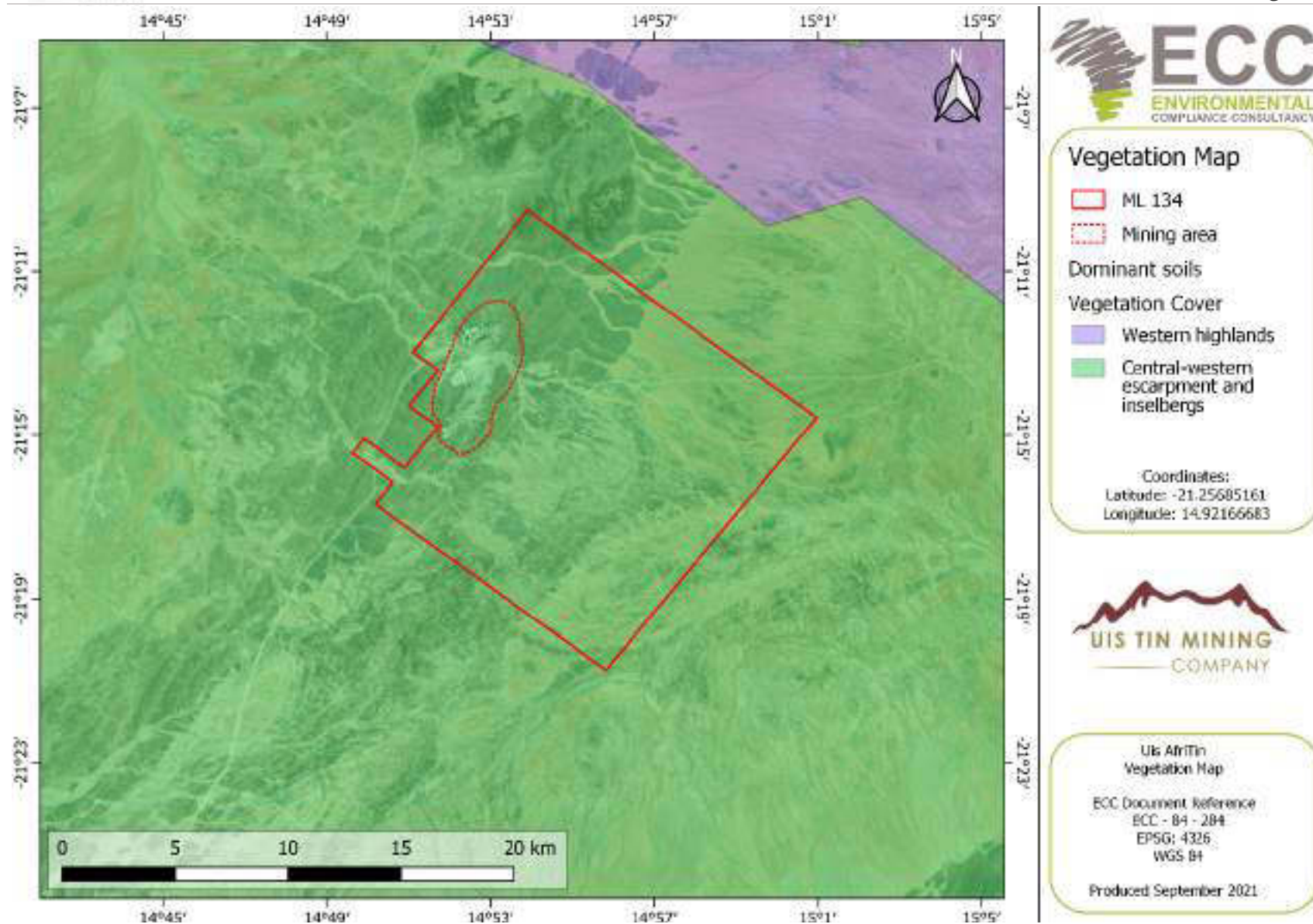


Figure 18 - Vegetation map of ML 134

5.12 FAUNA SPECIES

The area within and surrounding the ML has 111 to 140 bird species (moderate to high endemism with six to seven species), which is of medium diversity in comparison to the rest of Namibia, which has a total of up to 658 recorded bird species. The number of observed lizard species for this area is between 32 to more than 35 different species (high endemism with 12 to 14 species) and the mammal diversity of this area has been recorded to be from 61 to 75 species (high endemism with 7 to 8 species). The large carnivore diversity is approximately four (4) species for this area, thus the overall terrestrial diversity for this area is low in comparison with the rest of the country, but this area has an overall high species endemism (Bubenzer, 2002 & Mendelsohn et al., 2002).

Furthermore, the rodent diversity ranges between 16 to 23 species as recorded for this area and the different snakes recorded are between 20 to 29 different species (Bubenzer, 2002 & Mendelsohn et al., 2002).

The diversity of mammals and reptiles in the area is generally low and low with respect to the rest of Namibia, but this area is represented by various important species that need to be protected, some of which are critically endangered, such as the White-backed Vulture (Bubenzer, 2002, IUCN, 2021 & Mendelsohn et al., 2002). Although this area does not have the highest diversity of species in Namibia it clearly has a unique and sensitive ecosystem with high endemism and some High Conservation Value (HCVs) species (Bubenzer, 2002, IUCN, 2021 & Mendelsohn et al., 2002).

This part of the Erongo Region is relatively untouched, as most people that live within the area are confined to settlements, lodges/camps or larger towns like Uis. Within this area (Brandberg and Ugab River), there are also desert-adapted Elephants, which is not a distinct species, they are African bush elephants (*Loxodonta africana*), that are also specifically adapted to these harsh desert environments. There are approximately 62 desert adapted elephants left within the southern Kunene and northern Erongo regions; they mainly move within the ephemeral rivers, where they get water, food, and shelter under larger trees. A 32% decrease was seen since 2016 among the desert-adapted elephants, residents to the Ugab River, which was partly due to anthropogenic and natural reasons (major drought) (Elephant-Human Relations Aid, 2020).

In the Ugab and Huab rivers between 2014 and 2018, nine (9) out of 14 newborn elephant calves died, the exact causes were unknown, but human-caused stress factors and harsh environmental conditions may have contributed to this. These elephants are keystone species that play an essential role within these local desert ecosystems as they usually dig for water, making these resources available to other animals, as they break off large branches from trees, that assists smaller animals to also get access to green fodder in the drier seasons. Their deep tracks in the mud during the short rainy season provide an ideal environment for seedlings, which is essential for vegetation growth. Thus, these desert-adapted ecosystem engineers form an essential part of the balance within the desert ecosystem. The African Bush Elephant is an endangered species which contribute to the annual revenue of Namibia through tourism (Elephant-Human Relations Aid, 2020).

5.13 BUILT ENVIRONMENT AND INFRASTRUCTURE

5.13.1 INFRASTRUCTURE AND BULK SERVICES

The tarred C36 road transecting the town carries significant traffic volumes between Windhoek and Henties Bay and is considered an important tourism route to the Brandberg massif and surrounding attractions. This is also the primary access route to the site.

The D1930 and D3714 gravel roads converge on the town from the east and northeast and connect to the C36 tarred road. The D1930 is used to connect to the B2 main road that runs between Swakopmund and Windhoek. The D3714 branches off onto the D3715 and connects to Omatjete in the Kunene Region further northeast.

NamWater currently has an unused wellfield in the upper Uis River, with an associated reservoir and pipeline laid towards Uis.

Bulk water to Uis is pumped by NamWater from the Nei-Neis Water Supply Scheme south of Uis to a reservoir within Uis. This is used to supply potable water to the residents of Uis.

The town is supplied by a 66kV overhead power line by ErongoRED. The power supply for the Uis Tin Mine is derived from the grid consisting of a 66kv power line (approximately 1 km long) and a substation with associated infrastructure (Figure 19).

The power line and infrastructure are located within the Accessory Works Permit area, permitted by the Ministry of Mines and Energy (16 October 2018) in terms of Section 90 (3) of the Minerals Act 33, 1992 and has a valid environmental clearance certificate.

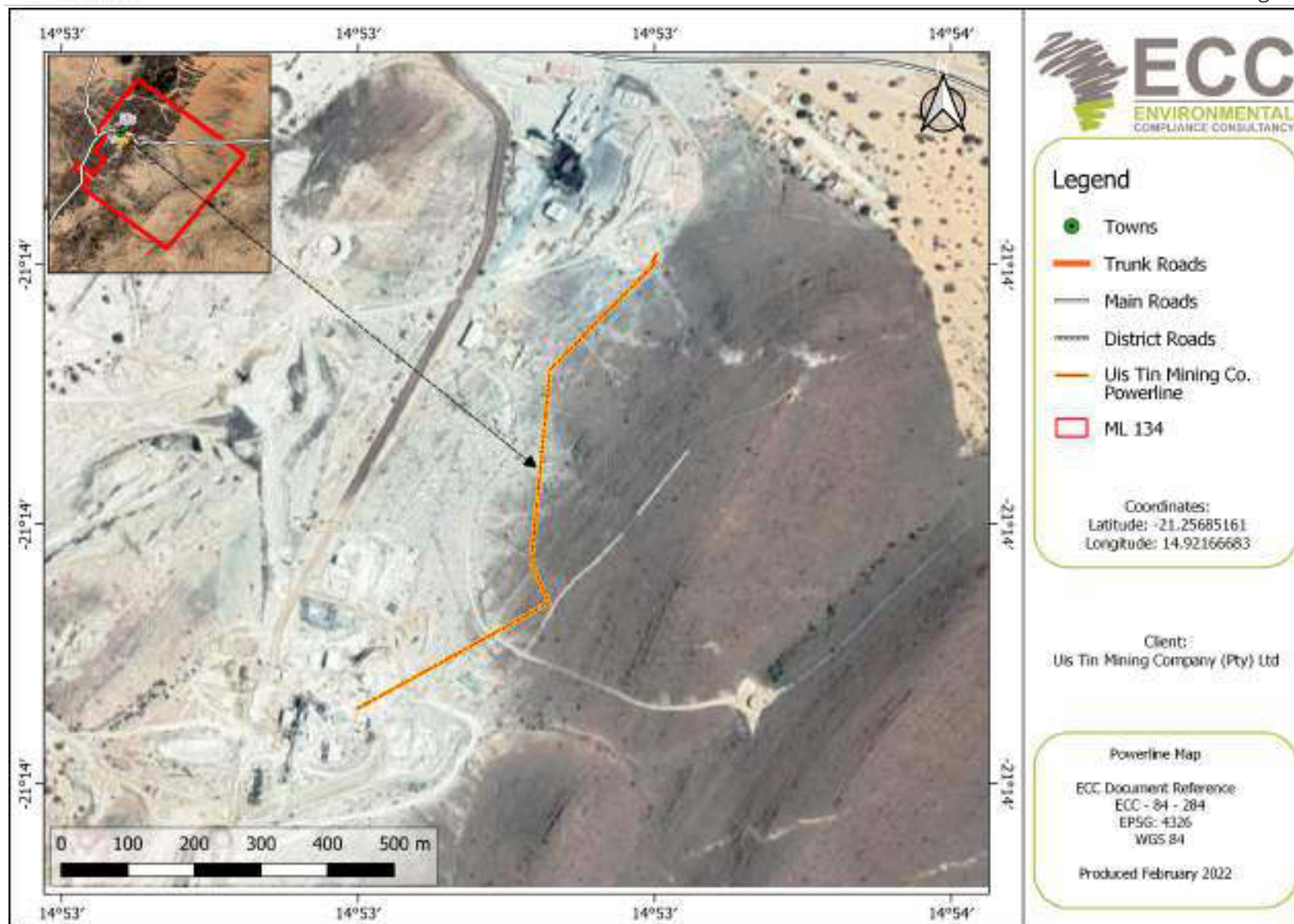


Figure 19 - A map showing the power line infrastructure

5.14 TRAFFIC AND TRANSPORT

Innovative Transport Solutions (ITS Global) was commissioned by ECC to assess the road traffic baseline. The traffic study is still underway, at a time when there were no COVID-related travel restrictions or lockdowns, which would have affected the accuracy of the baseline study.

The major existing roadways in proximity to the Project area include:

- C36 Road (T0203) – Class 2 major arterial, with a surfaced lane (approx. 3.5 meters wide) per direction. Gravel shoulders and a speed limit 80 km/h within Uis
- D1930 and D3714 Roads – Class 4 distributor, with a gravel lane per direction.

The current site access road from the C36 is for approximately 500 m. The width of this road is approximately seven meters.

The condition of the C36 road, near the development, is in a relatively poor condition with various spots of cracking and failure. There are various reasons for this type of failure to occur, but the most likely cause is that the traffic load exceeds the design capacity of the roadway as well as excessive travel speeds (ITS, 2021). Further details of how the Project could impact these roads and mitigation measures will be provided in the impact assessment phase.

5.15 SOCIO-ECONOMIC BASELINE

Namibia's GDP is recorded at 14 billion US Dollars as of 2019 (Plecher, 2020). The development of the services sector, which directly includes tourism-related products and services have created a significant positive impact on domestic and national economic growth levels; employment; and local and regional development. Examples of this are the continued development of small and medium-sized tourism-based accommodation developments throughout the country as well as large-scale tourism developments, including eco-tourism with a strong focus on wildlife marketing.

ML 134 is located within the Erongo Region, named after Mount Erongo, a well-known landmark in Namibia. Erongo contains the municipalities of Walvis Bay, Swakopmund, Henties Bay and Omaruru, as well as the towns Arandis, Karibib and Usakos. All the main centres within this region are connected by tarred roads, the capital is Swakopmund. The area surrounding the town Uis and ML 134 are less developed than some of the larger towns in the Erongo Region, as mentioned above.

The ML overlaps the communal conservancy Tsiseb. A communal conservancy represents a conservation area that is managed by a local community that aims to manage the natural resources within their conservancy in a sustainable way to generate returns and other benefits (MET/NACSO, 2018). The local residents are mainly employed by lodges, rest camps, and livestock or game farms. Tourism and consumptive wildlife use is the main benefit contributor to these local communities, as well as income generated from plant products and local crafts (MET/NACSO, 2018).

According to MET/NACSO (2018), “Wildlife is central in generating returns for conservancies”, thus it is essential to ensure that the ecosystem and biodiversity are healthy within these communal conservancies to ensure a bright future for both wildlife and Namibia’s local communities. Any major environmental or ecological impacts within these areas could compromise the success and future of the Community Based Natural Resource Management (CBNRM) programme, which mainly depends on healthy wildlife populations for tourism and consumptive wildlife use.

5.16 GOVERNANCE

Namibia was established in 1990 and is led by a democratically elected and stable government. The country ranked fifth out of 54 African countries in the Ibrahim Index of African Governance in 2015 for indicators that include: the quality of governance and the government’s ability to support human development, sustainable economic opportunity, rule of law, and human rights (National Planning Commission, 2017).

As a result of sound governance and stable macroeconomic management, Namibia has experienced rapid socioeconomic development. Namibia has achieved the level of ‘medium human development’ and ranks 125th on the Human Development Index out of 188 countries (National Planning Commission, 2017).

Namibia is divided into 14 regions and subdivided into 121 constituencies. The Erongo Region is divided into seven constituencies. The proposed Project is in the Karibib constituency of the Erongo Region. The Erongo Regional Council is responsible for the planning and development of the region in a sustainable manner for the benefit of its inhabitants by establishing, managing, and controlling settlement areas and focusing on core services. The council is accountable for an area of 63,586 km², which is about 7.7 % of the total area of Namibia (Erongo Regional Council, 2017).

5.17 DEMOGRAPHIC PROFILE

Namibia is one of the least densely populated countries in the world (2.8 persons per km²). 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 for a better life.

The national population growth rate is estimated at less than two percent, 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 years old (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 inter-censal demographic survey was conducted in 2016, and estimated the total population at 2.3 million (Namibia Statistics Agency, 2017).

It is predicted that urbanisation will continue, with an increase and move 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).

In the 2011 Census, the population of the Erongo Region was 150 809, with a growth rate of 28.6 % since 2001. The population of Namibia has been growing steadily; the population growth rate between 2001 and 2011 (the two census) was 1.4 %, with urban areas growing quicker than rural areas. The highest growth rate in Namibia was recorded in the Erongo region (3.4 %). This was mainly influenced by in-migration; more than 40 % of residents in these regions were born elsewhere. Situated in the central Namib Desert, Swakopmund is the capital of Erongo and the fourth-largest town in Namibia with 44 725 inhabitants (Namibia Statistics Agency, 2011). In 2010, Uis had a population of approximately 3 600 inhabitants.

The potential impacts associated with the introduction of the Project to the area will be assessed as part of the ESIA, taking the baseline conditions and the Project into consideration during the assessment, to determine the magnitude of change from the baseline, and the potential impacts associated.

5.18 HEALTH

Since independence in 1990, the health status of Namibia has increased steadily, with a remarkable improvement in access to primary health facilities and medical infrastructure. In 2015, the World Health Organization (WHO) recommended strategic priorities 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).

According to the MoHSS health facility census (MoHSS, 2009), the Erongo Region has a record of approximately 150 facilities which include individual private health care practices, group private health care practices, primary health care clinics and workplace clinics. Erongo has a high life expectancy as of 2011, it was 63 years.

As with 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).

As at the beginning of 2020, the coronavirus (COVID-19) caused illness in humans at a pandemic scale and has resulted in an increasing number of deaths worldwide. The viral outbreak has adversely affected various socioeconomic activities globally, and with reports of a continually increasing number of people testing positive, it is anticipated that this may have significant impacts on the operations of various economic sectors in Namibia too. The disease caused many countries to enter a state of emergency, 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 six percent increase in health worker appointments across Namibia as a result of the pandemic (United Nations Namibia 2020).

5.19 EMPLOYMENT

The Erongo Region is one of the most affluent regions in Namibia, with the second highest per capita income in Namibia at N\$ 16,819 per annum (Environ Dynamics, 2010). In Walvis Bay, most employment is through the harbour, fishing industry, and the processing of sea salt (Walvis Bay Municipality, 2008).

The labour force participation rate is the proportion of the economically active population, given as a percentage of the working age portion of the population (i.e. older than 15 years of age). The rate of labour force participation for the Erongo Region was 80.9 % compared to the average of 71.2 % for Namibia in 2018 (Namibian Statistics Agency, 2019).

In 2018, 53.4 % of all working Namibians were employed in the private sector, and 21.5 % by the state. State-owned enterprises employ a further 7.6 % and private individuals 16.6 %. 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. Wages and salaries represented the main income source of 47.4 % of households in Namibia (Namibian Statistics Agency, 2019).

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

Overall, the rate of unemployment is estimated at 33.4 % for Namibia, using the broad definition of unemployment. 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 at 34.6 %, and junior secondary education at 32.7 % (Namibian Statistics Agency, 2019).

According to the Namibian Chamber of Mines 2020 annual review, the mining industry employs over 9,000 people directly in the industry – 800 temporary employees and over 6 500 contractors. The Namibian mining industry spent almost two million Namibian dollars on skills expenditure, including operating mines, and exploration and development companies such as UTMC.

5.20 CRIME

Namibia's crime rate has been on the decline, in general and in the Erongo Region, since 2011. Namibia's crime index is 65.49 as at October 2021.

Namibia has a large market for ivory, rhino horn and pangolins. Since 2016 it has lost an average of 50 rhinos per year to poaching. Although it draws less attention than other wildlife species, the poaching of hippos is prevalent in Namibia. Illicit fauna products are often hidden among illegal stacks of timber on smuggling missions. Criminal syndicates appear to be increasingly involved in poaching and wildlife trafficking. While most poachers in the country are Namibians, foreign citizens from countries such as Zimbabwe and Angola are also involved. Illegal fishing also takes place in Namibian waters, primarily by foreign vessels (Global Organised Crime Index).

5.21 ECONOMIC AND BUSINESS ACTIVITIES

Key economic activities of the Erongo Region include agriculture, forestry, and fishing, mining and quarrying, manufacturing, tourism, and retail.

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. Mining is a prominent industry in the Erongo Region with the main commodities being uranium, gold, salt, and dimension stones.

The economy of the Erongo Region is dominated by the local economies of Swakopmund and Walvis Bay. In the rural parts of the region, extensive livestock farming is a common activity, but intensive farming is also practiced along the lower part of the Swakop River, and at Omaruru. Several fresh crops are produced, mainly for local consumption.

In the Erongo Region, 67.5 % of all households depend on salaries and wages as the main income (Namibian Statistics Agency, 2019). Exact figures do not exist, but this high percentage can be ascribed to the dominance of the mining, fishing, and manufacturing, and processing sectors, together with the prominence of state departments and the administrative sectors in the Erongo

Region. A total of 12.6 % of households receive their income from business activities (Namibian Statistics Agency, 2019).

5.22 HERITAGE AND CULTURE

In Namibia, several mountains are closely coupled to heritage values. The Namib Desert has rich archaeological and heritage value and presents valuable information about the occupation of the area dating back 700 000 years. Archaeological remains in Namibia are protected under the National Heritage Act 27 (2004) and National Heritage Regulations (Government Notice 106 of 2005).

An archaeological field site visit and reconnaissance survey was conducted on ML 134 by Dr John Kinahan, from the 18th to 23th October 2021 to identify possible sensitive archaeological sites that could be affected by the proposed Project activities. The surrounding area of the proposed Project is a long-established mining settlement, which lies close to (approximately 40 km west) the Dâures massif or Brandberg Mountain, which is considered a feature of archaeological importance, in the western parts of Namibia.

The archaeological assessment report, issued on the 1st of November 2021, forms the basis of recommended management actions to avoid or reduce potential negative impacts, as part of the environmental assessment. Detailed findings and management measures to protect potential archaeological or heritage sites will be incorporated into the assessment report.

The objectives of the archaeological assessment were to address the following elements:

- Identification and assessment of potential impacts on archaeological/heritage resources, including historical sites arising from the proposed exploration and mining activities
- Identification and demarcation of highly sensitive archaeological/heritage sites requiring special mitigation measures to eliminate, avoid, or compensate for possible destructive impacts
- Formulation and motivation of specific mitigation measures for the Project to be considered by the authorities for the issuance of clearance certificates
- Identify permit requirements as related to the removal and/or destruction of heritage resources.

The archaeological survey on ML 134 documented evidence of mid and late Holocene settlement, as well as evidence of more recent settlement, which is mainly in the form of cemeteries associated with the history of the mining settlement at Uis after 1946. The recent cemetery sites are not of archaeological significance and their conservation would be required under the Burial Place Ordinance (27 of 1966) rather than the National Heritage Act (27 of 2004). The earlier sites fall directly under the protection of the Heritage Act.

The dark red-brown monochrome painting of bundles at Site 312/889 has been identified as an area of potential heritage significance. As with nearby late Holocene seed gathering sites, it is likely

that the focal area to which the rock art at Site 312/889 belongs, lies outside the ML 134 lease and probably to the north. Based on these observations the area's Holocene archaeology is unlikely to be affected by mining activities.

5.23 NOISE AND VIBRATION

Noise is generally defined as unwanted sound transmitted through a compressible medium such as air. Sound, in turn, is defined as any pressure variation that the ear can detect. Human response to noise is complex and highly variable, as it is subjective rather than objective.

The IFC General Environmental Health and Safety Guidelines on noise addresses the impacts of noise beyond the property boundary of the facility under consideration and provides noise level guidelines. The IFC states that noise impacts should not exceed levels or result in a maximum increase above background levels of 3dBA at the nearest receptor location off-site (IFC, 2007). For a person with average hearing acuity, an increase of less than 3dBA in the general ambient noise level is not detectable. The 3dBA change is, therefore, a useful significance indicator for a noise impact.

A noise baseline survey was conducted on the 5th to 7th of May 2021, at designated points as shown in Figure 20 for the proposed Project site. The results from the noise impact assessment will be incorporated into the environmental impact assessment report.

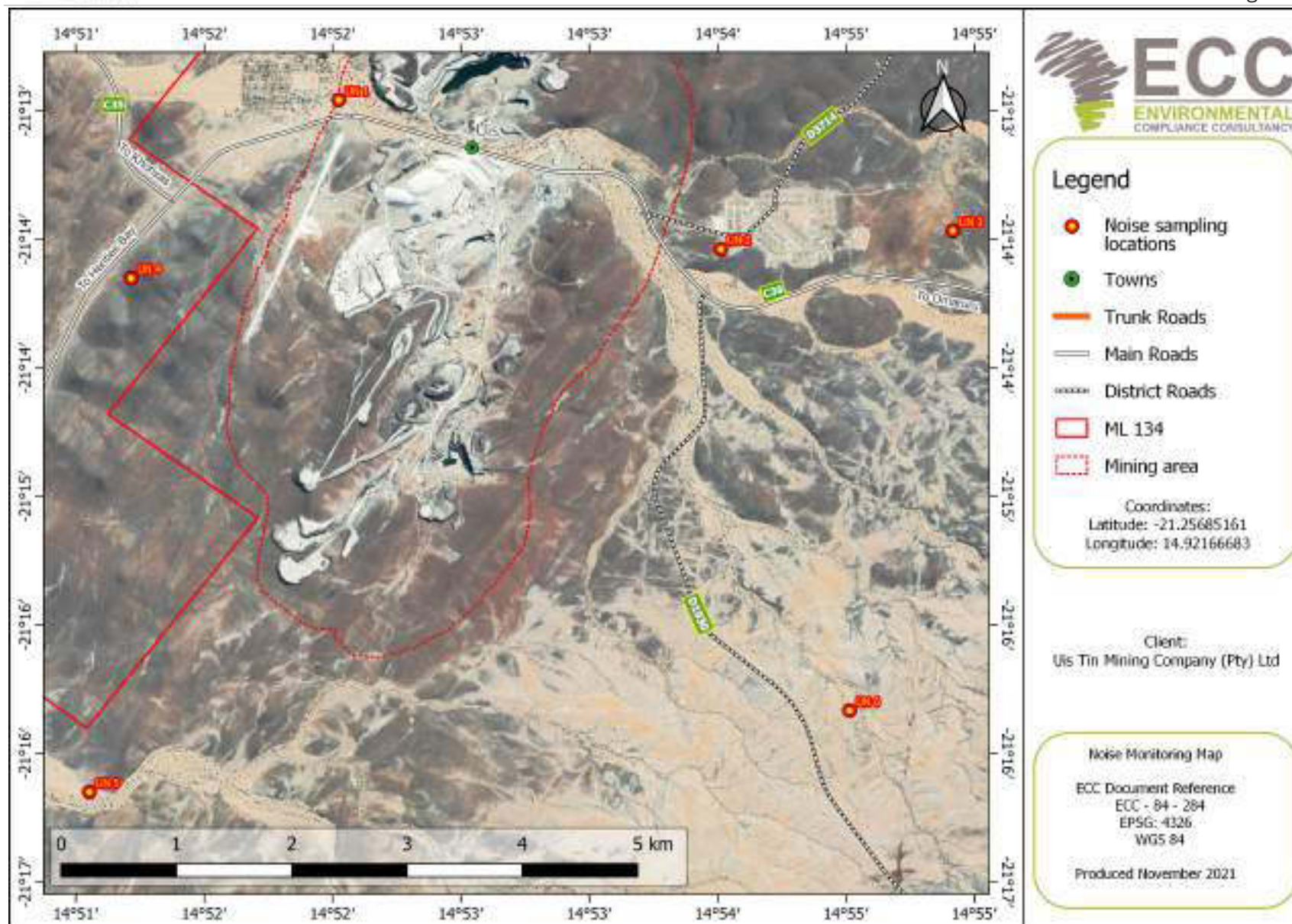


Figure 20 - Noise sampling points

Airshed Planning Professionals (Pty) Ltd, a firm that specialises in all aspects of air quality, ranging from neighbourhood concerns to regional air pollution impacts, was appointed to conduct the modelling and assessment process. Airshed identified sites to be monitored for day and night-time noise level measurements, for the noise baseline assessment. Survey sites were selected after careful consideration of future activities, accessibility, potential noise sensitive receptors, and safety restrictions. A total of six survey sites were selected.

These sites were chosen based on the sensitivity of the areas in terms of proximity to properties within the Project site. Noise sensitive receptors (NSRs) generally include private residences, community buildings such as schools and hospitals, and any publicly accessible areas. The ability of the environment to attenuate noise as it travels through the air was studied by considering land use and terrain. The same map shows the sensitive receptors near and at the proposed Project site.

The noise sources of the proposed Project are typical of opencast mining and ore processing facilities. Sources of noise at the Project site will include the following:

- Drilling
- Blasting – the character of noise generated by blasting is mentioned. Blasting can cause noise and vibration, which can have an impact upon neighbouring noise receptors. Blasting usually results in both ground and airborne vibration
- Ore and waste handling (loading, unloading, dozing) in open pits, on waste dumps, and in crusher/plant areas
- Crushing and screening of ore
- Haul truck traffic
- Diesel mobile equipment use (including reverse warnings)
- Ore processing activities such as crushing, screening, and milling.

5.24 ATMOSPHERIC ABSORPTION AND METEOROLOGY

Meteorological data purchased by Airshed for the past three years dating back to 2019 and used in their assessment will inform the baseline parameters. The measured data sets will indicate dominant wind flow patterns during day and night-time. Therefore, noise impacts can be predicted for Project activities.

Temperature gradients in the atmosphere create effects that are uniform in all directions from a source. On a sunny day with no wind, temperature decreases with altitude and creates a 'shadowing' effect for sounds. On a clear night, temperatures may increase with altitude, thereby 'focusing' sound on the ground surface. Noise impacts are therefore generally more notable during the night.

5.25 TERRAIN, GROUND ABSORPTION AND REFLECTION

Noise reduction caused by a barrier feature (i.e. natural terrain, installed acoustic barriers, buildings) depends on two factors, namely: the path difference of a sound wave as it travels around the barrier compared with direct transmission to the receiver, and the frequency content of the noise (Brüel & Kjær Sound and Vibration Measurement A/S, 2000). Sound reflected by the ground interferes with the directly propagated sound. The effect of the ground is different for acoustically hard (e.g. concrete or water), soft (e.g. grass, trees or vegetation), and mixed surfaces. Ground attenuation is often calculated in frequency bands, to consider the frequency content of the noise source and the type of ground between the source and the receiver (AirShed, 2021a).

The baseline noise study and impact assessment was conducted by Airshed and the outcomes of the noise assessment will be reported on in the ESIA report.

5.26 VISUAL AND SENSE OF PLACE

The proposed UTMC Project is situated in a disturbed area enclosed by high mountain ranges. No residential houses or tourist sites are accessed through the mine area. Therefore, there is no visual impact stemming from the proposed expansion Project on these receptors. The sense of place of the Project area has already been disturbed by the existing mining and processing activities of previous and existing mining as well as other industrial operations north of the mine site. The mountain ridge east of the mine area separates the mine from the informal residential area east of Uis. Similarly, the large WRD historically created by ISCOR effectively screens the viewshed of the western portion of Uis inhabitants and road users from the mine site. All road users of the C36 road driving past the entrance road of UTMC will not be able to see the entrance to the mine or any infrastructure of the mine as their view will be blocked by the infrastructure of the local brick factory.

The presence of the nearby airfield (Figure 21) west of the mine site is also not affected as it is visually screened from view by the interconnected historical WRD dump created by ISCOR and the mountain ridge west of the existing mine pits (V1 and V2).



Figure 21 - View of the airfield from the west facing slopes of the mountain ridge

5.27 LIGHTING

The night sky in the area is undisturbed. Namibia is known for its clear night skies and excellent stargazing settings. Artificial lighting, floodlights, and lighting for mining activities are not visible, although there are sites in proximity to the Project (north facing onto the C36: local brick factory) that are using lights for security purposes during nightfall. The baseline of undisturbed night skies will not be altered excessively during the construction and operations of the Stage II Project. Impacts associated site lighting, and the management and mitigation measures will be addressed in the assessment phase and EMP.

5.28 BIOPHYSICAL ENVIRONMENT BASELINE

5.28.1 CLIMATE AND METEOROLOGY

Namibia is arid to semi-arid and locally a hyper-arid country. Regionally, there is a growing demand for water due to climate change, population growth, economic development, and urbanisation, which increases pressure on existing water sources. The proposed Project is in central Namibia, an area that experiences generally hot daytime temperatures throughout the year, while the nights are mild to cool in winter.

Temperatures can reach up to +/- 35 °C in summer in Uis. The winter months, June July and August, are rainless and the average daytime temperatures range between 18 to 22 degrees Celsius. Rain is more frequent in the months from January to March as shown by recent historic data (Figure 22). In general terms the climate of Uis can be described as hot and dry, with more than 300 sunshine days per year. Solar radiation ranges from 6.0-6.4 kWh/m²/day (see Figure 23).

Winds of a westerly direction are predominant with average wind speeds between 12 and 19 km/h, mainly because of its proximity to the Atlantic Ocean and Namib Desert. The months of October to January 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 ENE, SW and SSW (Figure 24).

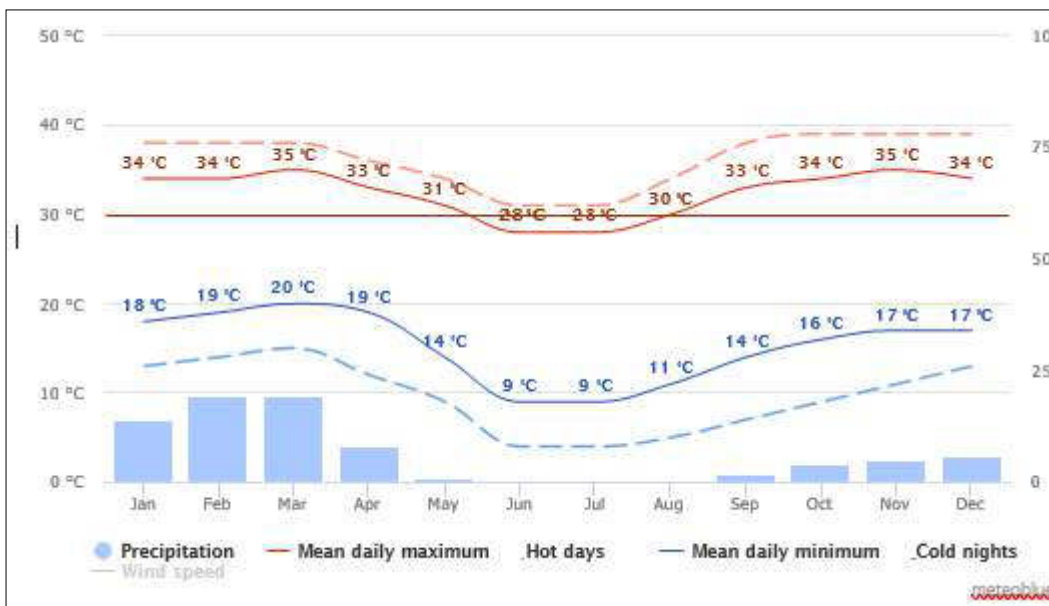


Figure 22 - Average temperatures and precipitation at Uis (source: Meteoblue)

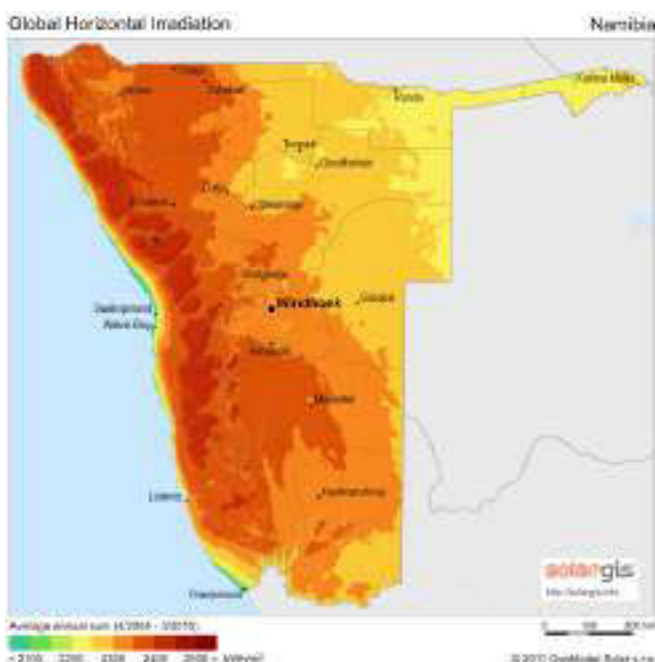


Figure 23 - Solar radiation Namibia (source: atlas of Namibia)

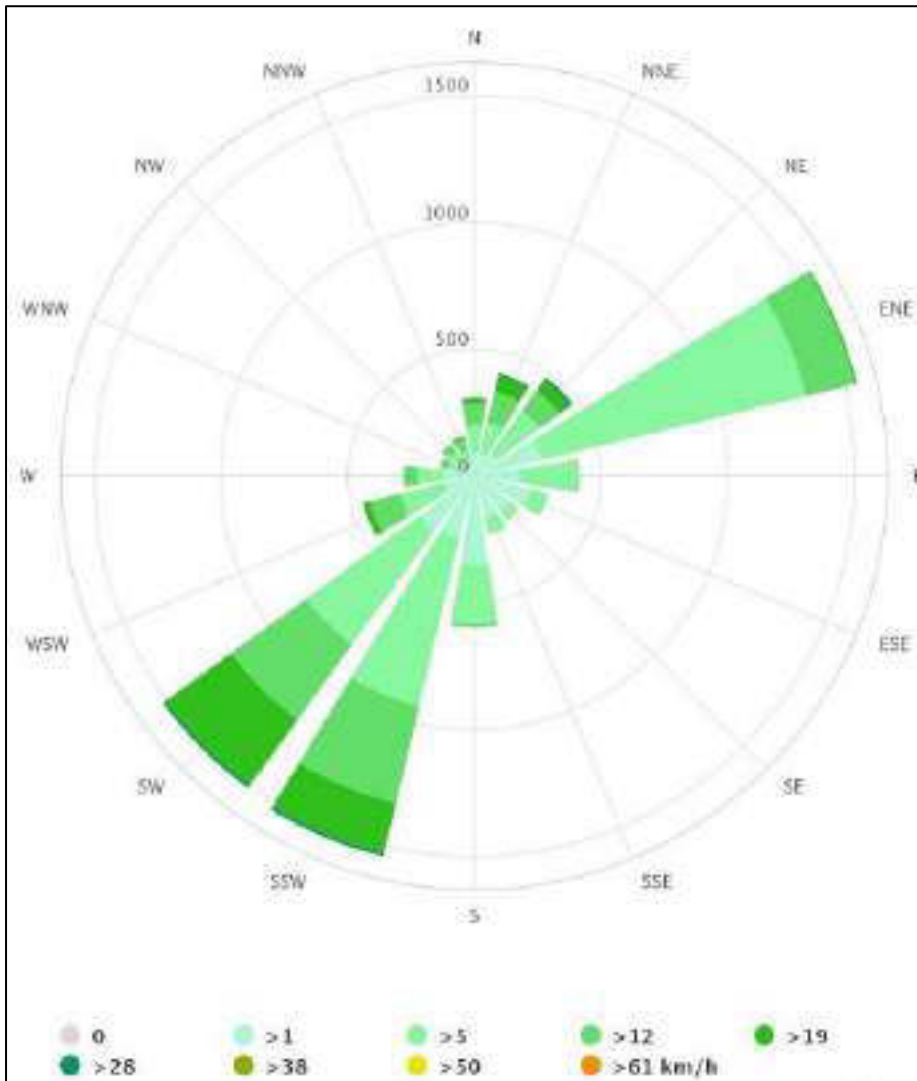


Figure 24 - Wind direction and speed for Uis, Erongo Region (source: Meteoblue, 2021)

5.28.2 AIR QUALITY

Since February 2019, Environmental Compliance Consultancy has been conducting environmental monitoring and assessments for UTMC, for the purpose of tracking depositional dust, at 14 dust monitoring stations located on the Project site. Air quality monitoring is crucial for determining the potential impacts that planned mining operations may have on an environment.

The potential expected sources of dust particulate matter resulting from the operational activities include but are not limited to: construction activities on settling ponds and return water dam (RWD); mineral material handling and processing; and mining activities such as drilling, blasting, and hauling. Therefore, depositional dust monitoring station locations were based on the proposed infrastructure locations likely to generate dust, considering prevailing wind. Figure 25 shows the locations of the 14 dustfall sampling locations. Initially 8 dust buckets were installed around the site in February of 2019, thereafter 6 buckets were added to the pool of dust monitoring buckets. Airshed undertook an air quality assessment for the project and the results of the assessment will be included in the environmental impact assessment report.

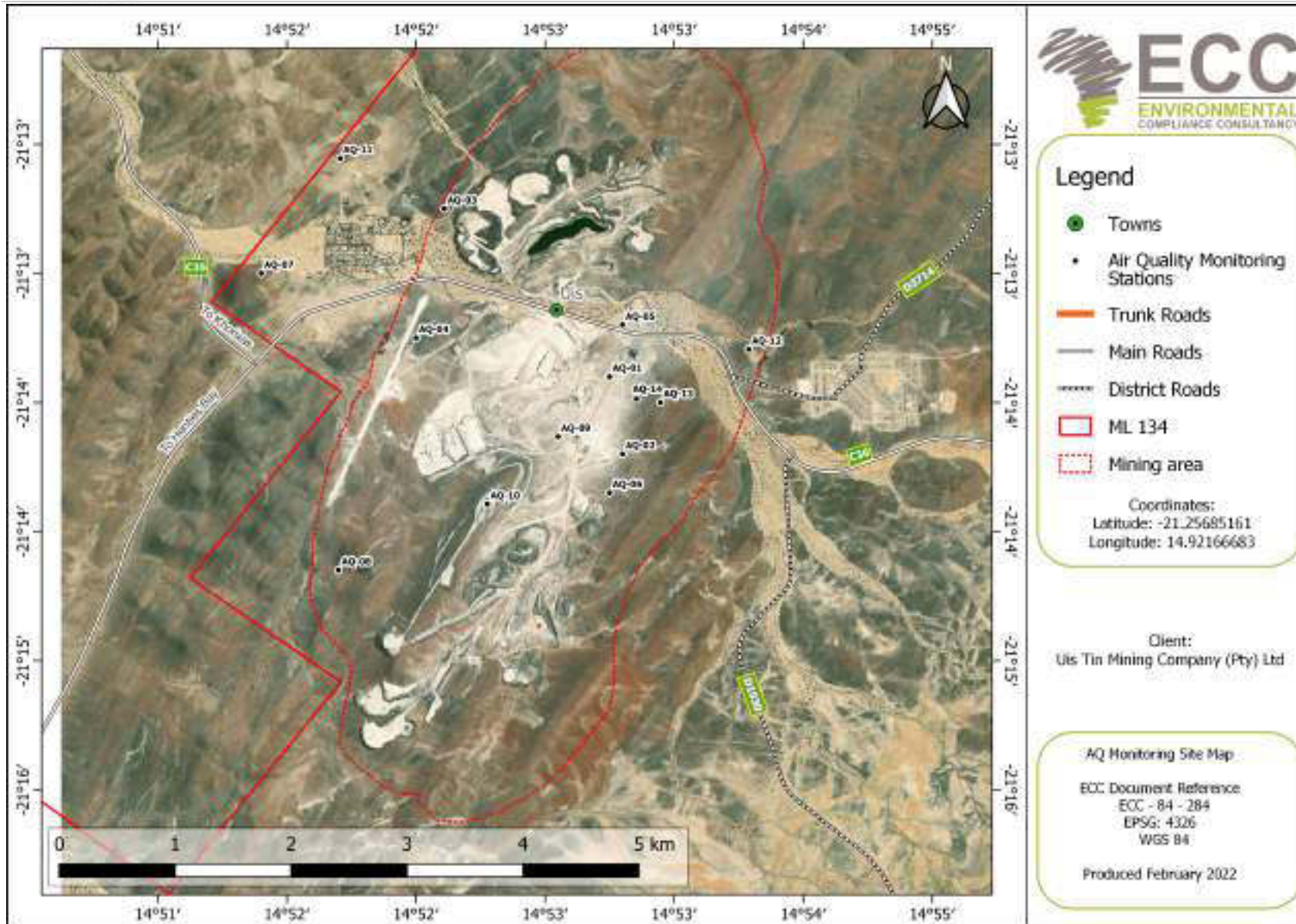


Figure 25 - A map showing the dust-fall monitoring locations

Natural environments are complex systems that can be affected by anthropogenic interference such as mining activities, including mineral exploration. To understand the confounding factors and interpret the findings based on the baseline of the receiving environment, deductive and inductive approaches are used. The wind vectors, topography (e.g., mountains and valleys), seasonal rainfall, and drought are identified as the potential factors that are likely to influence air quality. Dust particulate matter fallout can be correlated with wind direction and speed. Wind direction and speed are the primary factors determining the distance of travel of a dust particle and the distribution of particles falling out.

Moreover, as part of the ESIA for the proposed Stage II, an air quality specialist study was deemed necessary to determine the potential impacts of atmospheric pollution from the Project. Airshed Planning Professionals were engaged to model and provide a technical report for the air quality assessment. The baseline report is under development. The full air quality impact assessment will be completed, and the assessment outcomes will be reported on in the assessment report.

The ambient air quality guidelines of the IFC and EHS guidelines of 2007 shall be applied to the assessment. The findings, recommendations, and the way forward will be described in the assessment report.

5.28.3 STORMWATER CONTROL

Nurizon Consulting Engineers used the approach of Best Practice Guidelines G1 Stormwater Management as published by the South African Department of Water Affairs (DWA) to formulate the stormwater management plan strategy for the Stage II expansion Project. The strategy is to separate and channel dirty water from clean water. Dirty water will be channelled in a closed system into a pollution control dam (PCD) and clean water will be channelled from the site and discharged into the natural environment.

The facilities are delineated in dirty and clean stormwater run-off areas, with the dirty water collected and conveyed to the PCD for re-use. The mine will be operated as a closed system (in terms of the dirty stormwater run-off); with stormwater run-off within the dirty water areas being collected and conveyed to a silt trap and discharged into the PCD. The water from the PCDs will be transferred to the RWD re-used. No water from the PCDs will be released into the environment. Clean stormwater runoff is diverted away from the Project site into existing streams (Nurizon, 2020).

5.28.3.1 Stormwater management principles proposed

The following basic principles form an integral part of the development of the stormwater management strategy:

- Dirty and clean stormwater catchments shall be delineated and separated so that clean stormwater run-off is diverted around contaminated areas and to natural water courses
- Impacts on the existing groundwater resources, in terms of quality and quantity shall be minimised through the use of impermeable membranes in the design of dirty stormwater

infrastructure, i.e. High-density polyethylene (HDPE) liners for the pollution control and concrete linings for the dirty water drainage channels

- Prevention of erosion of the existing water courses, particularly at clean stormwater system discharge points
- Mitigation of flooding to neighbouring properties in the areas due to the proposed facility's footprint and activities
- The required capacity of the individual elements comprising the dirty water system considered the following:
 - Projected water balance, with the aim of retaining the contaminated (dirty) water within a closed system
 - Maximum estimated stormwater peak flow generated by a storm event with a 1 in 50-year recurrence interval
 - Maximum estimated 24-hour runoff volume with 1 in 50-year recurrence interval.

6 IMPACT IDENTIFICATION AND EVALUATION METHODOLOGY

6.1 INTRODUCTION

Chapter 2 provides an overview of the approach used in this ESIA process, and details each of the steps undertaken to date. Predication 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 of the assessment 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 with regards to 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
- The cumulative impact assessment (CIA) method that will be used.

The aims of this assessment will be 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.

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

6.2 ASSESSMENT GUIDANCE

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

- 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)
- Namibian Draft Procedures and Guidance for EIA and EMP (Republic of Namibia, 2008).

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 judgement
- Guidance for 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 26 and Figure 27.

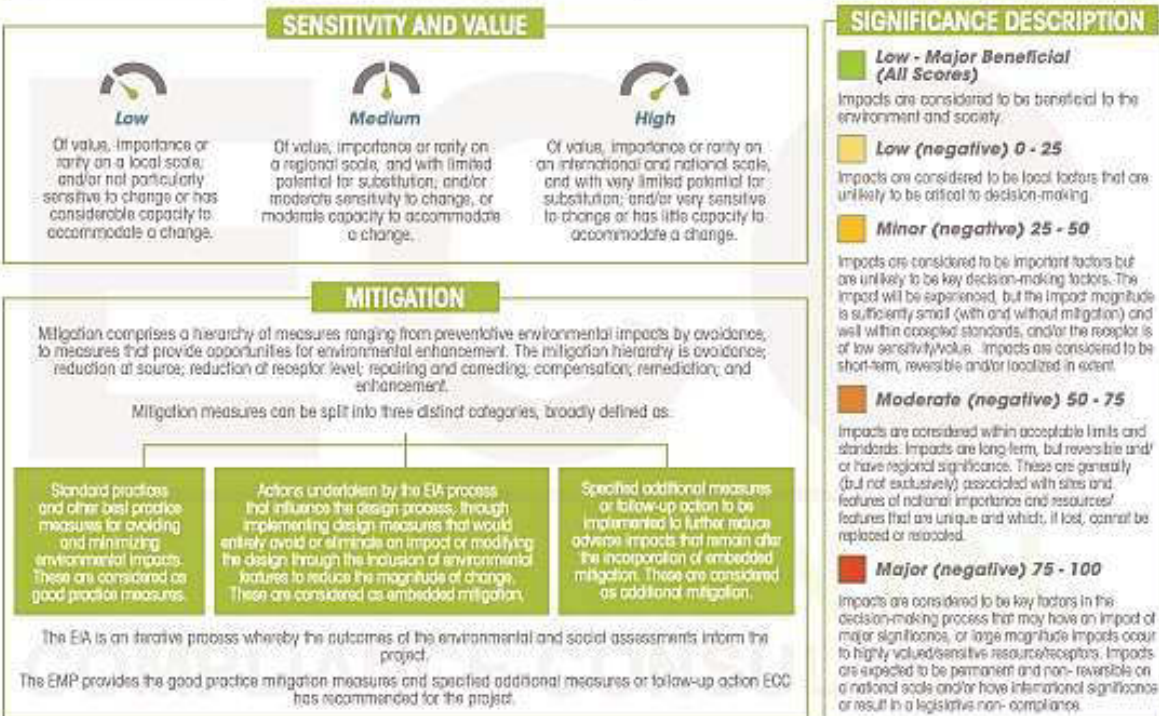
The evaluation and identification of the environmental and social impacts require the assessment of the Project characteristics against the baseline characteristics, ensuring that all potentially significant impacts are identified and assessed. The significance of an impact is determined by taking into 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, longterm or permanent; and either beneficial or adverse.

ECC IMPACT PREDICATION AND EVALUATION METHODOLOGY



Figure 26 – ECC ESIA methodology based on IFC standards

		SIGNIFICANCE OF IMPACT					
		Significance of Impact	Low	Minor (2)	Moderate (3)	Major (4)	
SENSITIVITY	Biophysical A biophysical receptor that is protected under legislation or international convention (CITES) listed as rare, threatened or endangered (IUCN) species. Highly valued/ sensitive resources/ receptors.	Those 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.	Those 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)



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Figure 27 - ECC ESIA methodology based on IFC standards

6.5 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 at receptor level; repairing and correcting; compensation; remediation; and enhancement.

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

1. 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 as embedded mitigation
2. Standard practices and other best practice measures for avoiding and minimising environmental impacts. These are considered as good practice measures
3. Specified additional measures or follow-up action to be implemented, in order to further reduce adverse impacts that remain after the incorporation of embedded mitigation. These are considered as additional mitigation.

The ESIA is an iterative process whereby the outcomes of the environmental assessments inform the Project. Considerable mitigation has been built into the proposed Project, as potentially significant adverse environmental impacts have been identified and design changes have been identified to overcome or reduce them.

The EMP (Appendix A) provides the good practice measures and specified additional measures or follow-up action. The final assessment report will be accompanied by an updated EMP.

Embedded mitigation and good practice mitigation will be considered in the assessment. Additional mitigation measures will be identified when the significance of impact requires it and causes the impact to be further reduced. 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.

6.6 TERMS OF REFERENCE FOR THE ASSESSMENT

A full impact assessment will be completed with input from stakeholders during the public participation phase. Specialist studies that have been received, may be reviewed, or reassessed based on the findings from the public participation phase. A final EMP will be produced to manage residual impacts that cannot be mitigated through the Project evolution process.

A full environmental and social impact assessment (ESIA) is required for a large-scale mining operation like the proposed Project. The scoping phase progress to date has demonstrated that the following components should be included in the assessment phase.

These terms of reference (ToR) for the assessment phase were updated and finalised after the completion of the public review of the scoping report on the 9th of March 2022:

- Air quality impact assessment
- Biodiversity impact assessment
- Groundwater study and surface water impact assessment
- Heritage impact assessment
- Mine blast vibration assessment
- Noise impact assessment
- Socioeconomic impact assessment
- Soil impact assessment
- Traffic impact assessment
- Visual impact assessment.

7 CONCLUSION

This draft scoping report provides the baseline data for the assessment phase of the ESIA. The commissioned studies will fill in the data gaps. The following specialist studies have provided sufficient baseline data:

- Biodiversity (dry and wet seasons) baseline studies
- Heritage baseline study
- Stormwater management assessment
- Socioeconomic baseline study
- Traffic impact assessment
- Noise and air quality modelling and assessment based on Project specific parameters.
- Visual baseline study.

The other baseline information included in this scoping report was researched, analysed, and reported on by the ECC team and its partners. Some research is ongoing and will be included and assessed in the assessment phase by the ECC team, namely:

- Blast vibration impact assessment
- Groundwater dynamic source modelling and sustainability assessment as well as a contaminate plume modelling exercise

The finalised baseline studies and information have informed the scope of the terms of reference (ToR) for the assessment phase. Each study will highlight certain sensitivities that need to be assessed.

This draft scoping report with ToR for the assessment phase of the ESIA provides the basis needed, in order for the ESIA to be undertaken. This scoping report was finalised after the public review of the report. No comments were received from the public on the scoping report, therefore this version of the scoping report is deemed as final.

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APPENDIX A – DRAFT ENVIRONMENTAL MANAGEMENT PLAN

APPENDIX B – PUBLIC CONSULTATION RECORDS

PUBLIC NOTICE



LOGGING OF ANNUAL RETURNS AND PAYMENT OF ANNUAL DUTIES

The Business and Intellectual Property Authority (BIPA) hereby wish to bring to the attention of business owners of Close Corporations, Companies with share capital (PTY) and Companies incorporated under Section 21, that BIPA is commencing with a public awareness campaign on the submission of annual returns and payment of annual duties for the period 2012-2021. Kindly note the following information.

In terms of Section 181 of the Companies Act, 2004 (Act No. 28 of 2004) the lodging of annual returns is compulsory for all Companies with a share capital, and a lodging fee of N\$160,00 must accompany the annual return (CM23). The calculation of annual duties is prescribed in Regulation 40 of the Regulations made under the Companies Act, 2004 (Act 28 of 2004).

Failure to lodge annual returns and the non-payment of annual duties as prescribed by the Companies Act, renders businesses non-compliant with the relevant legislative requirements and may result in entities incurring penalties and/or being subject to deregistration.

Take note that Section 21 Companies are obliged to lodge their annual returns, but are not required to pay an annual duty. Close Corporation (CC) shall not later than one month after the financial year, pay the prescribed annual duty in terms of Section 13 (2) of the Close Corporations Act, 1988 (Act No. 26 of 1988) as amended, read together with Regulation 11(1) of the Regulations made thereunder. The Corporation must, on the prescribed form (i.e. form CG7) lodge proof of such payment to the Registrar not later than forty-two days after the end of every financial year. Failure to pay annual duties as prescribed by the Close Corporations Act renders businesses non-compliant with the following legislative requirements.

1. The annual duty payable by Close Corporations is fixed at N\$ 120,00 as prescribed in terms of Regulation 5 to the Regulations (see Schedule 1 thereto) made under the Close Corporations Act, 1988; and
2. Pay such annual duty subject to the payment of additional fees according to the scales prescribed under Regulation 11(3) of the Regulations made under the Close Corporations Act.

The period for which BIPA is requesting the lodging of annual returns and the payment of annual duties are 2012 – 2021. In order to remain compliant with the relevant legislation and avoid punitive measures, business owners are encouraged to visit the BIPA offices and enquire about outstanding returns and fees.

Businesses that have already paid their annual duties for the period 2012-2021 are requested to assist BIPA in updating its records by submitting proof of payment for the respective years. Any entity with outstanding annual duties WILL NOT be allowed to make any amendments to their entity or be allowed to receive a good standing certificate from BIPA. For more information, kindly contact +264 61 299 4484/64/21 or send an email to debtors@bipa.na.

VIVIENNE KATJUNGUWA
REGISTRAR OF BUSINESS REGISTRATION AND INTELLECTUAL PROPERTY

Good Standing makes for Good Business –
Submit your annual returns TODAY!



The Ministry of Environment, Forestry and Tourism (MEFT), in partnership with the United Nations Development Programme (UNDP) and Environmental Investment Fund of Namibia (EIF), wishes to invite proposals through the Namibia Integrated Landscape Approach for Enhancing Livelihoods and Environmental Governance to Eradicate Poverty (NILALEG) Project Small Grants Facility.

Registered communal conservancies, gazetted community forests, community groups, farmer's associations, women's groups, youth groups and informal community groups (subject certain conditions) are all eligible to apply for a grant under this facility. The grant facility remains limited to the pre-determined landscapes of Omaipanga (Kunene Region), Ruacana (Omusati Region), Okongo (Oshana Region), Nkulivera (Kavango West Region) and Zambezi (Zambezi Region) while the anticipated proposals remain limited to the investment themes of agroforestry, sustainable rangeland/crop management and nature-based enterprises.

Grant proposals should be submitted on the EIF prescribed templates available at the EIF website, www.eif.org.na, or at EIF offices including grant application guidelines, the maps of the focal landscapes and other related forms.

Grant proposals should be addressed to:
Environmental Investment Fund of Namibia
NILALEG Project Grant Facility
Heinitzburg Heights
c/o Heinitzburg and Dr. Theo-Ben Gurirab Streets
Klein Windhoek, Windhoek

Proposals should be submitted to the EIF not later than 12 November 2021 at 17h00.
Both hardcopies and emails will be accepted.
For further queries, kindly contact:

Ms. Philadelphia Buys
EIF: NILALEG Project Coordinator
PBuys@EIF.ORG.NA or
Tel: 061 – 4317705

Ms. Kredula Shimwandi
EIF: Gender Intern
KShimwandi@EIF.ORG.NA or
Tel: 061 – 4317736



RE-ADVERTISEMENT
TENDER

MTC hereby invites appropriately qualified companies to apply for the following tender:

- MTC48-21-0:
REQUESTING PROPOSALS FOR SUPPLY, DELIVERY, INSTALLATION, COMMISSIONING AND MAINTENANCE OF SPECIALISED AIR CONDITIONING SYSTEMS AT THE MTC HEAD OFFICE IN OLYMPIA, WINDHOEK AND MTC OSHAKATI

BRIEFING MEETING: 24th September 2021 @ 10H00

BRIEFING MEETING VENUE: Microsoft Teams, the link will be on MTC's website.

CLOSING DATE:
Friday, 01st October, 2021 by 14H30

The Terms of Reference documents are available at: www.mtc.com.na


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mtc

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NOTICE OF AN ENVIRONMENTAL ASSESSMENT & PUBLIC PARTICIPATION PROCESS FOR THE PROPOSED STAGE 2 EXPANSION OF THE PILOT TIN PROCESSING PLANT ON ML 134, ERONGO REGION, NAMIBIA.

Environmental Compliance Consultancy CC (ECC) hereby gives notice to the public that an application for an environmental clearance certificate in terms of the Environmental Management Act, No. 7 of 2007 will be made as per the following:

Applicant: Uis Tin Mining Company (Pty) Ltd
Environmental Assessment Practitioner (EAP): Environmental Compliance Consultancy
Location: Uis, Erongo Region, Namibia



Project: The proposed project involves the stage 2 expansion of the pilot tin processing plant and upgrades to the stormwater and effluent collection and treatment infrastructure around the pilot plant.

Location: All activities will take place on Mining Licence (ML) 134, held by Afrifin Mining Namibia (Pty) Ltd, Erongo Region.

Proposed Activities: Uis Tin Mining Company (Pty) Ltd proposes several mechanical and process flow upgrades to components of the current pilot plant's processing and supporting infrastructure and therefore an expected increase in the production rate from the current 60 tons Per Hour (TPH) in stage 1 to 120 TPH in stage 2. This equates to a life of Operations of 2 years.


Purpose of the review and registration period: The purpose of the review and registration period is to introduce the proposed project and to afford registered Interested and Affected Parties (I&APs) an opportunity to comment on the Background Information Document (BID) to ensure that all issues, and concerns are brought forward, captured and considered further in the assessment.

The registration period is effective from the 9th of September 2021 to 22nd of September 2021. I&APs and stakeholders are required to register for the project at: www.eccenvironmental.com/projects/ or email ECC to register.

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

Environmental Compliance Consultancy
Registration Number: CC/2013/11404
Members: Mr JS Bezuidenhout or Mrs J Mooney
PO Box: 91153, Klein Windhoek
Tel: +264 81 669 7608
E-mail: info@eccenvironmental.com

website: <http://www.eccenvironmental.com>
Project ID: ECC-128-355-ADT-05-D





AL-ANON Family groups offer help for friends and relatives of alcoholics.

They provide assistance for people who live with alcoholics.

Dawnnam@gmail.com

VENUE: cnr Lüderitz and Kasino Street
DATE AND TIME: Thursdays at 19H00

info@environmentalclearance.com
 www.environmentalclearance.com
 +264812627872
 +264816531211



Meeting Attendance Register

Meeting subject: Public Meeting for the Affin UTM ESIT

Venue: Uis Settlement office Boardroom

Date: 17/10/2021

NAME	ORGANIZATION	EMAIL ADDRESS	CONTACT NUMBER	SIGNATURE
1. MR. I. Kamanda	FRANCIS EICARS		0817397146	
2. Ranga Tshobu	Elfed - Uis Settlement Boardroom	thobu@elfed.com	0812395976	Ranga
3. Julia Sparrow	Tobacco for Uis		0812464457	Julia
4. ARIE SCHAMBERG	UIS TIN MINE	arie.schamberg@uis-tin.com	081267395	
5. Amingo Bond	UIS-CRC	amingo@uis-crc.com	081254970	
6. Toffinwe Gakisa	Hubberys	toffinwe.gakisa@hubberys.com	0813072092	
7. Helen Gerngts	Paulberg's	helen.gerngts@paulbergs.com	081357133	Helen
8.				
9.				
10.				
11.				



info@ecoclear.com
 www.ecoclear.com
 +26411 5027872
 +26411 6031714



Meeting Attendance Register Date: _____

Meeting Subject: Focus Meeting For the Affin UTM ESIA

Venue: Uis Settlement Office Boardroom

	NAME	ORGANIZATION	EMAIL ADDRESS	CONTACT NUMBER	SIGNATURE
1	IGN PABUKA	ECC-Uis	ignpabuka@gmail.com	0813735391	
2	ETIM TAVON	UTM	etavon@utmm.com	081009822	
3					
4					
5					
6					
7					
8					
9					
10					
11					



APPENDIX C – EAP CV'S



APPENDIX D – TAXA LIST OF SPECIES FROM NBRI



REPUBLIC OF NAMIBIA

MINISTRY OF AGRICULTURE, WATER AND LAND REFORM

Telephone: (061) 2087229
Fax: (061) 2087697
Enquiries: M Nickel
Reference: PC General

Department of Water Affairs
Private Bag 13193
Windhoek
9000

The Director
Afritin Namibia (Pty) Ltd
P. O. Box 90757
Windhoek
Namibia

RE: APPLICATION FOR THE LEGALIZATION OF ONE (1) EXISTING BOREHOLE WITH REGARDS TO THE AMENDMENT OF THE WATER ABSTRACTION PERMIT NO.11 429, AT UIS SETTLEMENT, OMARURU DISTRICT

1. Your application dated 04 August 2021 requesting amendment to your current abstraction permit, No. 11 429, bears reference.
2. The above request is hereby approved by this Ministry for the legalization of borehole number 6 (WW 206113): to be included in permit No. 11 429.
3. Kindly note that all permit conditions as stipulated in abstraction Permit No.11 429 are applicable.
4. You are kindly requested to send page 1 of the permit back to this Ministry for cancellation and to be replaced with the attached page of the permit concerned.
5. This letter now forms part of the permit and must be filed therewith
6. Your co-operation is appreciated.

7 PERCY W. MISIKA
EXECUTIVE DIRECTOR





REPUBLIC OF NAMIBIA

MINISTRY OF AGRICULTURE, WATER AND LAND REFORM

Telephone: (061) 2087111
Fax: (061) 2087697
Enquiries: M Nickel
Reference: PC General

Department of Water Affairs
Private Bag 13193
Windhoek
9000

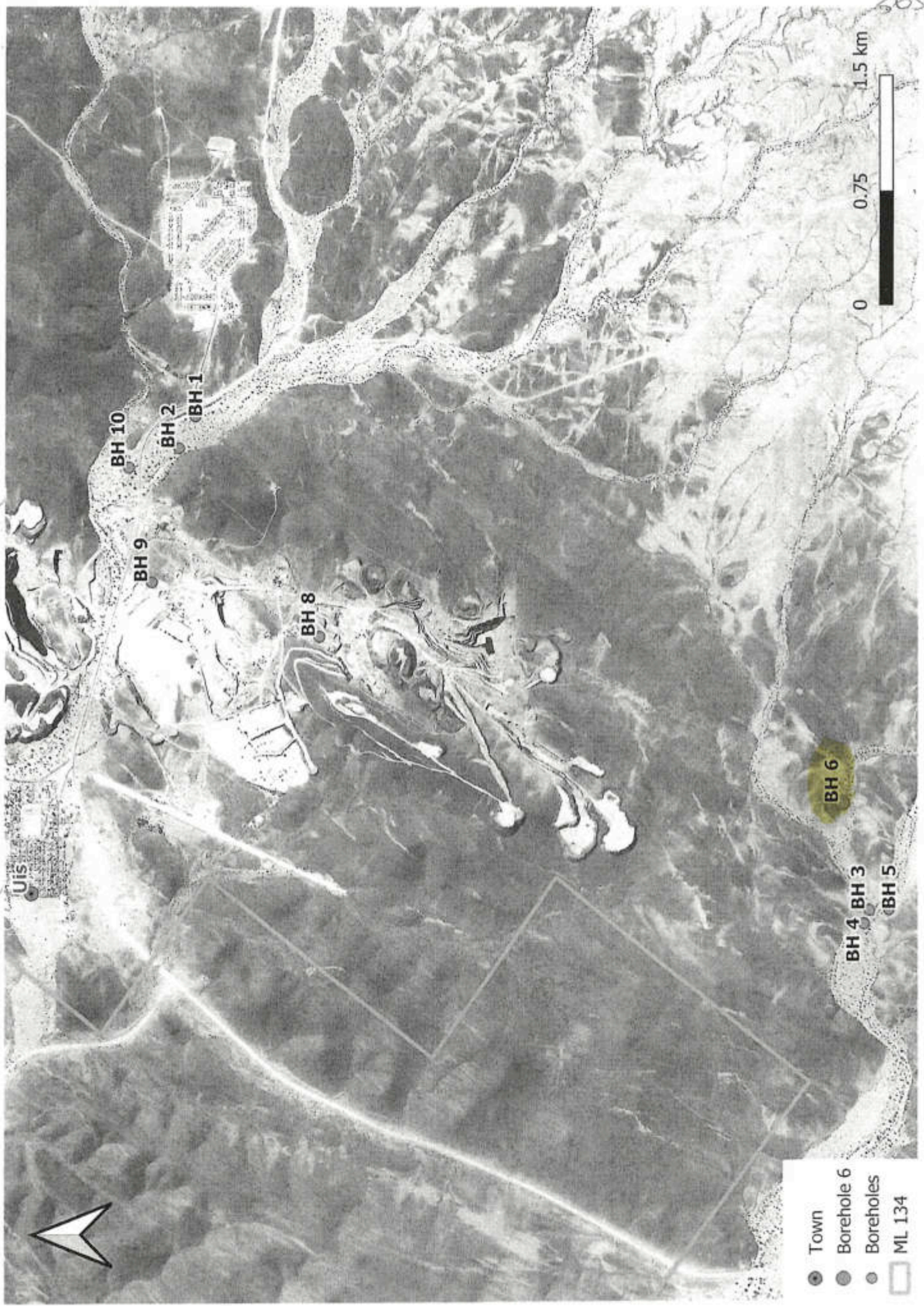
PERMIT NUMBER: 11 429

DATE: 15 September 2021

PERMIT ISSUED IN TERMS OF REGULATIONS 5 AND 9 OF GOVERNMENT NOTICE R1278 OF 23 JULY 1971 AS PROMULGATED UNDER SECTION 30(2) OF THE WATER ACT, 1956 (ACT 54 OF 1956), AS AMENDED

NAME OF PERMIT HOLDER	:	Afritin Namibia (Pty) Ltd
ADDRESS	:	P O Box 90757, Windhoek
REGISTERED PROPERTIES	:	Uis Settlement
DISTRICT	:	Omaruru
CONTROL AREA	:	Omaruru Subterranean Water Control Area
VALIDITY PERIOD	:	Two (2) years
BOREHOLES TO BE USED	:	Serial numbers WW 205110, WW 205111, WW 205112, WW 205113, WW 205114, WW 205115, WW 205116, WW 205117 and WW 206113
PURPOSE FOR WHICH WATER MAY BE USED	:	Industrial purposes
ABSTRACTION PER YEAR	:	75 000m ³ maximum

This permit authorizes the holder (or his successors in title) to further abstract and use water for the purpose as stated above, from the existing boreholes identified as WW 205110, WW 205111, WW 205112, WW 205113, WW 205114, WW 205115, WW 205116, WW 205117 and WW 206113, as identified on the mine planning map, attached as Annexure A, subject to the following conditions:



- Town
- Borehole 6
- Boreholes
- ML 134

SPECIES	ENDEMISM	PROTECTED	IUCN1	IUCN2
<i>Lophiocarpus dinteri</i> Engl.				
<i>Maerua juncea</i> Pax subsp. <i>juncea</i>				
<i>Maerua parvifolia</i> Pax				
<i>Maerua schinzii</i> Pax		Forestry Protected		
<i>Merremia bipinnatifida</i> (Engl.) Hallier f.	Endemic			
<i>Merremia guerichii</i> A. Meeuse	Endemic			
<i>Microcharis disjuncta</i> (J. B. Gillett) Schrire var. <i>disjuncta</i>				
<i>Monechma cleomoides</i> (S. Moore) C. B. Clarke				
<i>Monechma desertorum</i> (Engl.) C. B. Clarke	Endemic			
<i>Monechma genistifolium</i> (Engl.) C. B. Clarke subsp. <i>genistifolium</i>	Endemic			
<i>Monsonia senegalensis</i> Guill. & Perr.				
<i>Monsonia umbellata</i> Harv.	Near Endemic			
<i>Moringa ovalifolia</i> Dinter & A. Berger	Near Endemic	Protected		
<i>Orphanthera albida</i> Schinz				
<i>Petalidium coccineum</i> S. Moore				
<i>Petalidium englerianum</i> (Schinz) C. B. Clarke				
<i>Petalidium luteo-album</i> A. Meeuse	Endemic			
<i>Petalidium variabile</i> (Engl.) C. B. Clarke var. <i>spectabile</i> Mildbr.	Endemic			
<i>Phaeoptilum spinosum</i> Radlk.				
<i>Phyllanthus maderaspatensis</i> L.				
<i>Polygala guerichiana</i> Engl.				
<i>Ptychlobium biflorum</i> (E. Mey.) Brummitt subsp. <i>angolensis</i> (Baker) Brummitt				
<i>Salvadora persica</i> L. var. <i>persica</i>				
<i>Sesamum capense</i> Burm. f.				
<i>Sesamum marlothii</i> Engl.	Endemic			
<i>Sesbania pachycarpa</i> DC. subsp. <i>dinterana</i> J. B. Gillett	Near Endemic			
<i>Sesbania sphaerosperma</i> Welw.				
<i>Sesuvium sesuvioides</i> (Fenzl) Verdc. var. <i>angustifolium</i> (Schinz) Gonç.				
<i>Setaria appendiculata</i> (Hack.) Stapf				
<i>Solanum capense</i> L.				
<i>Solanum dinteri</i> Bitter	Endemic			
<i>Sporobolus nebulosus</i> Hack.	Near Endemic			
<i>Stipagrostis damarensis</i> (Mez) De Winter	Near Endemic			
<i>Stipagrostis giessii</i> Kers				
<i>Stipagrostis hirtigluma</i> (Steud. ex Trin. & Rupr.) De Winter subsp. <i>pearsonii</i> (Henrard) De Winter				
<i>Stipagrostis hochstetteriana</i> (Beck ex Hack.) De Winter var. <i>hochstetteriana</i>				
<i>Stipagrostis subacaulis</i> (Nees) De Winter				
<i>Tapinanthus guerichii</i> (Engl.) Danser				
<i>Terminalia prunioides</i> M. A. Lawson				
<i>Tribulus zeyheri</i> Sond. subsp. <i>zeyheri</i>				
<i>Trichoneura eleusinoides</i> (Rendle) Ekman				
<i>Triraphis purpurea</i> Hack.				
<i>Vangueria infausta</i> Burch. subsp. <i>infausta</i>				
<i>Viscum verrucosum</i> Harv.				
<i>Zygophyllum cylindrifolium</i> Schinz	Near Endemic			

SPECIES	ENDEMISM	PROTECTED	IUCN1	IUCN2
<i>Abutilon pycnodon</i> Hochr.				
<i>Acacia erubescens</i> Welw. ex Oliv.				
<i>Acacia mellifera</i> (Vahl) Benth. subsp. <i>detinens</i> (Burch.) Brenan				
<i>Acacia montis-usti</i> Merxm. & A.Schreib.				
<i>Acacia reficiens</i> Wawra subsp. <i>reficiens</i>	Endemic	Forestry Protected	Near Threatened	
<i>Adenolobus garipensis</i> (E.Mey.) Torre & Hillc.				
<i>Aizoanthemum dinteri</i> (Schinz) Friedrich	Endemic			
<i>Amaranthus praetermissus</i> Brenan				
<i>Amphiasma merenskyanum</i> Bremek.	Near Endemic			
<i>Anticharis imbricata</i> Schinz	Endemic			
<i>Anticharis kaokoensis</i> B.Nord.	Endemic			
<i>Aponogeton desertorum</i> Zeyh. ex A.Spreng.				
<i>Aptosimum arenarium</i> Engl.	Endemic			
<i>Aptosimum glandulosum</i> F.E.Weber & Schinz				
<i>Aptosimum lineare</i> Marloth & Engl. var. <i>lineare</i>				
<i>Aristida parvula</i> (Nees) De Winter				
<i>Barleria lancifolia</i> T.Anderson subsp. <i>lancifolia</i>				
<i>Blepharis gigantea</i> Oberm.	Endemic			
<i>Blepharis grossa</i> (Nees) T.Anderson	Near Endemic			
<i>Blepharis pruinosa</i> Engl.	Endemic			
<i>Boscia albitrunca</i> (Burch.) Gilg & Gilg-Ben.				
<i>Boscia foetida</i> Schinz subsp. <i>foetida</i>		Forestry Protected		
<i>Brachiaria glomerata</i> (Hack.) A.Camus				
<i>Caesalpinia rubra</i> (Engl.) Brenan				
<i>Calicorema capitata</i> (Moq.) Hook.f.				
<i>Centropodia mossamedensis</i> (Rendle) Cope				
<i>Chascanum garipense</i> E.Mey.				
<i>Chascanum pinnatifidum</i> (L.f.) E.Mey. var. <i>pinnatifidum</i>				
<i>Citrullus ecirrhosus</i> Cogn.				
<i>Cleome elegantissima</i> Briq.	Near Endemic			
<i>Cleome foliosa</i> Hook.f. var. <i>foliosa</i>				
<i>Codon schenckii</i> Schinz				
<i>Commiphora namaensis</i> Schinz	Near Endemic			
<i>Commiphora pyracanthoides</i> Engl.				
<i>Commiphora saxicola</i> Engl.	Endemic			
<i>Commiphora tenuipetiolata</i> Engl.				
<i>Commiphora virgata</i> Engl.				
<i>Commiphora wildii</i> Merxm.				
<i>Corchorus merxmuelleri</i> Wild	Endemic			
<i>Cordia monoica</i> Roxb.				
<i>Cordia sinensis</i> Lam.				
<i>Cucumis sagittatus</i> Peyr.				
<i>Cuscuta hyalina</i> Roth				
<i>Cyamopsis senegalensis</i> Guill. & Perr.				
<i>Cyperus fulgens</i> C.B.Clarke var. <i>fulgens</i>				
<i>Cyperus marginatus</i> Thunb.				
<i>Cyphostemma omburense</i> (Gilg & M.Brandt) Desc.				
<i>Dactyliandra welwitschii</i> Hook.f.				
<i>Danthoniopsis ramosa</i> (Stapf) Clayton				
<i>Dicoma capensis</i> Less.				
<i>Elephantorrhiza elephantina</i> (Burch.) Skeels				
<i>Elephantorrhiza suffruticosa</i> Schinz				
<i>Eragrostis annulata</i> Rendle ex Scott-Elliott				
<i>Eragrostis bicolor</i> Nees				
<i>Euclea pseudebenus</i> E.Mey. ex A.DC.				
<i>Euphorbia damarana</i> L.C.Leach	Near Endemic			
<i>Euphorbia phylloclada</i> Boiss.				
<i>Fagonia minutistipula</i> Engl.				
<i>Felicia smaragdina</i> (S.Moore) Merxm.	Endemic			
<i>Geigeria alata</i> (Hochst. & Steud.) Benth & Hook.f. ex Oliv. & Hiern				
<i>Geigeria rigida</i> O.Hoffm.	Endemic			
<i>Gisekia africana</i> (Lour.) Kuntze var. <i>africana</i>				
<i>Gossypium anomalum</i> Wawra ex Wawra & Peyr. subsp. <i>anomalum</i>				
<i>Grielum sinuatum</i> Licht. ex Burch.				
<i>Heliotropium tubulosum</i> E.Mey. ex DC.				
<i>Hermannia helianthemum</i> K.Schum.				
<i>Hermannia modesta</i> (Ehrenb.) Mast.				
<i>Hermannia rautanenii</i> Schinz ex K.Schum.				
<i>Hermbstaedia spathulifolia</i> (Engl.) Baker	Endemic			
<i>Hibiscus eliottiae</i> Harv.				
<i>Hoodia currorii</i> (Hook.) Decne. subsp. <i>currorii</i>		Protected		
<i>Indigofera auricoma</i> E.Mey.				
<i>Indigofera heterotricha</i> DC. subsp. <i>heterotricha</i>				
<i>Indigofera heterotricha</i> DC. subsp. <i>pechuelli</i> (Kuntze) Schrire				
<i>Juncus rigidus</i> Desf.				
<i>Kissenia capensis</i> Endl.				
<i>Lantana dinteri</i> Moldenke				
<i>Leucosphaera bainesii</i> (Hook.f.) Gilg				
<i>Limbeum myosotis</i> H.Walter var. <i>confusum</i> Friedrich				