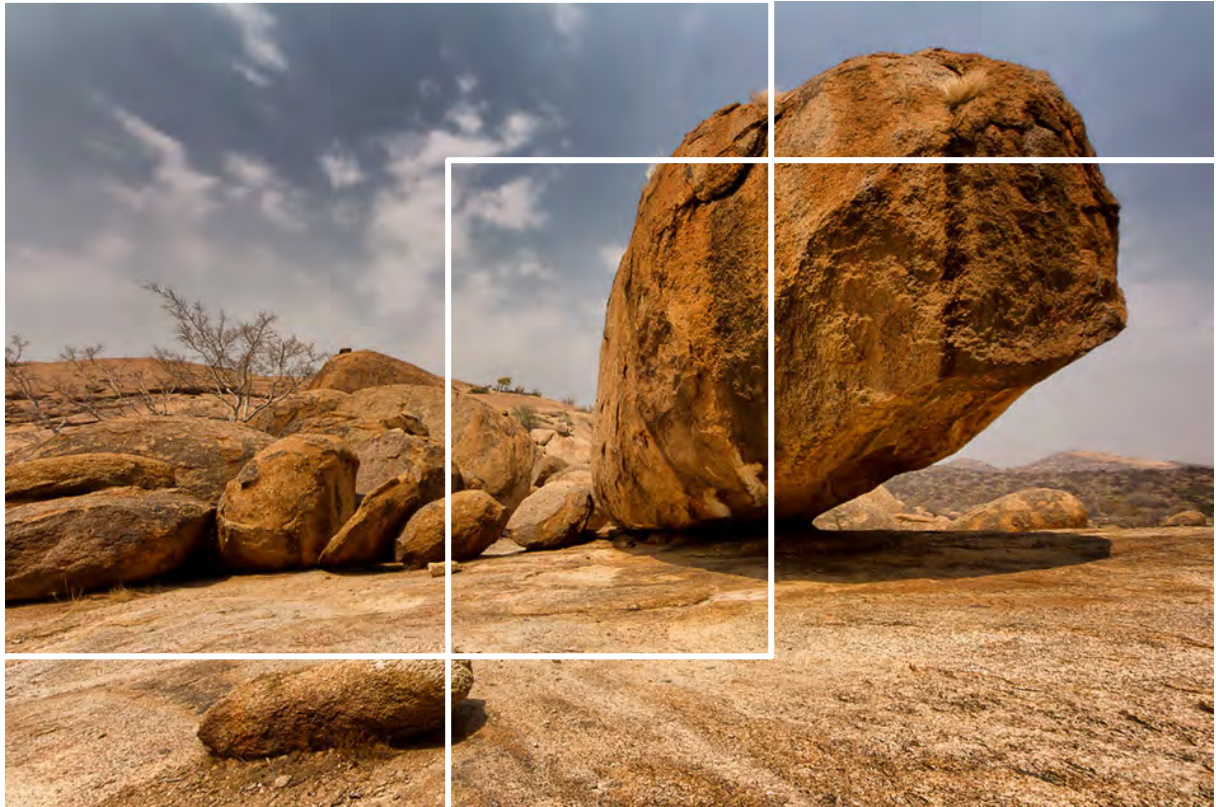




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REPORT:

KOKOSEB GOLD PROJECT ON EPL 4818, ERONGO REGION, NAMIBIA – FINAL SCOPING REPORT

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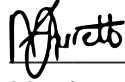
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EXECUTIVE SUMMARY

Environmental Compliance Consultancy (Pty) Ltd (ECC) has been engaged as the environmental assessment practitioner (EAP) by Damaran Exploration Namibia (Pty) Ltd. (referred hereafter as “the Proponent”), to conduct an environmental and social impact assessment (ESIA) for the proposed construction and operation of a gold mine on EPL 4818, situated approximately 15km from Okombahe and 30km from Uis in the Erongo Region of Namibia (referred hereafter as “the Project”). An ESIA has commenced in accordance with the requirements of the Environmental Management Act, 2007 and its regulations. This report presents the findings of the scoping study that forms part of the larger ESIA process.

SCREENING PHASE

The screening phase was conducted in accordance with the listed activities of the Environmental Management Act of 2007 and determined that the Project’s most likely potential environmental and social impacts would include:

- Surface and groundwater impacts;
- Social impacts during construction, operations, and post-closure;
- Habitat alteration and impacts on biodiversity;
- Visual impacts affecting the sense of place;
- Impacts on air quality;
- Impacts on baseline noise levels;
- Impacts on Heritage; and
- Impacts on the soil baseline characteristics.

Based on the above potential environmental and social impacts identified through the screening phase, several baseline and specialist study assessments have been proposed and are detailed in Chapter 7.

SCOPING PHASE

The scope of the assessment was established by conducting a preliminary evaluation of the proposed Project in relation to the receiving environment. This evaluation was based on a desktop review, available site-specific literature, field assessments, monitoring data, and site reports.

Public consultation for the Project began on 23 April 2024, with advertisements for a public consultation meeting placed in three national newspapers on 23 April 2024 and 30 April 2024. Public engagement meetings were held in Okombahe and Uis on 14 and 15 May respectively. During this period, feedback from registered interested and affected parties (I&APs) and affected stakeholders highlighted key concerns, including the need for specialist studies on

noise, air quality, visual impacts, hydrology and hydrogeology, flora and fauna, and blast and vibration effects.

PROJECT DESCRIPTION

The optimal site layout for the Kokoseb Gold Mine Project will be developed considering landform features like topography and sensitive areas while balancing mining operation efficiency. Waste rock dumps will likely be located in the footwall and hanging wall of the pits, subject to future drilling. The project will use conventional open-pit mining methods, with drilling, blasting, and hydraulic excavators for selective ore and waste loading. A contractor mining model will be employed, with a focus on training the largely unskilled local workforce.

The mine will operate 24/7, focusing on a safe start-up and efficient ramp-up, supported by globally experienced management. Tailings will be stored in a downstream-type facility built from waste rock. The orebody, an arcuate dome-shaped feature, will be mined using standard open-pit techniques. Blasting performance will be critical to maintain operational efficiency, including material flow to crushers and minimizing dilution. Slope stability will be vital to ensure safety and maximize ore recovery.

Ancillary and support equipment will play key roles in maintaining haul roads, suppressing dust, and supporting operations. Waste and ore dumps will be constructed during the first year, with progressive rehabilitation to reduce environmental impacts. Water management, particularly for dust suppression and pit dewatering, will also be integral to operations.

The pit design for the project will be developed during pre-feasibility and feasibility studies, focusing on ramp positioning, which affects the stripping ratio, equipment performance, and operating costs. Gold recovery will use conventional methods, including crushing, milling, gravity separation, and cyanide extraction via either carbon-in-leach (CIL) or carbon-in-pulp (CIP). The process plant will have infrastructure for security, administration, training, medical facilities, and waste management.

Run-of-mine material will be trucked to the primary crusher, with oversized rocks broken by a rock breaker. Crushed material will pass through secondary and tertiary crushers, screened, and transferred to conveyors. Dust extraction systems will control dust throughout the crushing process. Fine ore will be stored in a covered stockpile and fed into a ball mill for grinding. Lime will be added to control pH, and oversized material will be separated for further processing. The cyclone overflow will head to trash screens, while the underflow is sent for additional grinding or to a gravity concentration circuit.

The gravity circuit uses two centrifugal concentrators and scalping screens to process material from the cyclone underflow. Oversized material goes to the ball mill feed, while undersized material is sent to the concentrators. Gravity concentrate is collected in the Intensive Cyanidation Reactor (ICR) for cyanide leaching and gold recovery. The pregnant solution is

transferred to the gold room for electrowinning and smelting, producing gold Doré bars. Excess material is screened, with smaller particles directed to the pre-leach thickener. The denser residue is pumped to the CIL/CIP circuit. The carbon elution process uses the split AARL method, and after elution, carbon is transferred for regeneration.

ENVIRONMENTAL AND SOCIAL BASELINE

The Kokoseb Gold Project is located within the Okombahe reserve, an area historically significant to the ǀNūkhoen (Dama) people. The region is characterized by communal agriculture, with small livestock and donkeys being the dominant land use. Additionally, part of the project area overlaps with the Tsiseb Conservancy, a 7,914 km² wildlife and tourism zone registered in 2001. The conservancy is home to elephants, leopards, cheetahs, and mountain zebra, and it features tourist attractions such as ancient rock paintings, the famous Brandberg Mountain (the highest in Namibia), and the Messum Crater.

Geologically, the Kokoseb gold deposit lies within the Northern Central Zone of the Pan-African Damara Orogenic Belt. This area is composed of Neo-Proterozoic metasediments from the Arandis, Karibib, and Kuiseb Formations, which belong to the Swakop Group. The gold mineralization is hosted in the metasediments of the Kuiseb Formation, which have been intruded by late syn-tectonic and post-tectonic granites, along with minor mafic dykes. These dykes trend north-south to north-northeast-south-southwest. While the overall exposure across the project area is moderate to good, the Kuiseb Formation is frequently covered by thin layers of soil, colluvium, or pisolitic calcrete, typically up to 2 meters thick.

In the Kokoseb area, the Kuiseb schist forms a dome structure centered around a post-tectonic leucogranite known as the "Central Granite Pluton." This granite is composed primarily of medium-grained quartz, K-feldspar, and plagioclase, with smaller amounts of biotite, muscovite, magnetite, garnet, and tourmaline. Granite dykes, granitic veinlets, and pegmatites cutting through the Kuiseb schist are associated with this granite phase or later phases. Gold mineralization in the area forms an arc around the Central Granite Pluton, with a diameter of approximately 3 km. A pre-syn-tectonic porphyritic-feldspar granite surrounds the mineralized schists to the west, east, and northeast. These schist units include poorly foliated quartz/plagioclase/K-feldspar-rich biotite-bearing schists and better-foliated black biotite schists.

The elevation within the project area varies, with the highest points exceeding 1,200 meters above mean sea level (mamsl) and the lowest areas, primarily in the southeastern portion of the licence area, around 900 mamsl. Several drainage lines and rivers run through the project area.

In terms of demographics, the Kokoseb project falls within Namibia's Erongo Region, specifically in the Daures Constituency, bordering the Karibib Constituency. The population in this region is nearly evenly split between males and females. The Erongo region is expected

to experience the one of highest population growth rates in Namibia, with over one-third of the country's population projected to reside in these two regions.

Archaeologically, the Erongo Region is rich in heritage, with evidence of human occupation dating back thousands of years. Archaeological finds in the Brandberg, Erongo, and Spitzkoppe Mountains indicate human presence from the Early Stone Age through the Middle and Late Stone Ages, up until about 50 years ago when rock art traditions became less common. Some of these features, such as graves, are localized and can be easily defined, while others, like colonial battlefields, are more widespread and harder to demarcate.

Climatically, the Kokoseb area experiences hot daytime temperatures year-round, with mild to cool nights during the winter months. Average daytime temperatures range between 21°C and 22°C, with maximum temperatures reaching 32°C to 34°C during the hottest months from October to February. Minimum temperatures during the colder months, from May to August, range between 8°C and 10°C. Relative humidity in the area can reach up to 70% during the most humid summer months. The region receives between 150 and 250 mm of rainfall annually, mostly between November and March. Wind speeds in the area range from 0 to over 28 km/h, with the strongest winds occurring between April and August. The predominant wind directions are southwest (SW) and east-northeast (ENE). Climate data collected for the Project area indicates a rising trend in temperatures, with notable acceleration since 2016. In 2019, the area recorded the highest temperatures since 1979, averaging 23.5°C.

The Kokoseb Gold Project area is characterized by Regosols and rocky outcrops. Eutric Skeletic Regosols are nutrient-rich soils with high rock content, formed in unconsolidated sediments like alluvium or colluvium. These soils are shallow, with weak development, and have coarse textures, leading to good drainage but low moisture retention. Rocky outcrops have shallow soils (often less than 10 cm deep), poor water retention, and limited vegetation, supporting only drought-resistant plants like succulents and mosses. The region's soils are prone to erosion due to their coarse nature and minimal vegetation cover.

The project area is located within both the Erongo Groundwater Basin and a small part of the Kunene South Groundwater Basin, with variable groundwater potential. The northern part has a moderately productive aquifer, while the southern area has low potential. Effective water management is crucial due to the arid environment, limited rainfall (150-250 mm annually), and high evaporation rates.

Vegetation is sparse, with low plant diversity in the project area (150-199 species), though the Erongo Mountains have more species (400-499). Plant endemism is high, and the vegetation structure consists of sparse shrubland and grassland typical of the Namib Desert biome.

The region's climate is hot and dry, with strong winds from April to August. Dust and erosion are potential concerns, requiring mitigation measures during mining activities. Overall, the

project must address soil conservation, ecosystem protection, and water management to mitigate environmental impacts.

IMPACT IDENTIFICATION AND EVALUATION

The Environmental and Social Impact Assessment (ESIA) is a process that involves predicting and evaluating impacts for the proposed Project. It includes several key components, beginning with the assessment guidance, which provides the framework used to evaluate impacts. Additionally, it addresses the limitations and assumptions of the assessment, particularly recognizing uncertainties in the methodology and the lack of topic-specific guidance in the Namibia regulations. As a result, the assessment relies on the International Finance Corporation (IFC) standards.

Furthermore, this involves determining which impacts are significant, scoping the data required, and establishing the overall assessment methodology. Furthermore, it discusses how mitigation strategies will be incorporated into the assessment and how additional measures will be identified. The cumulative impact assessment (CIA) method used in the evaluation is based on established global practices, ensuring that all significant impacts are adequately assessed.

The scope of the assessment was established through a preliminary review of the proposed Project against the surrounding environment, employing desktop studies, site-specific literature, and monitoring data. The principal documents guiding this assessment include IFC standards, particularly Performance Standard 1, and Namibia's Draft Procedures for Environmental Impact Assessment (EIA) and Environmental Management Plans (EMP).

The methodology developed by ECC merges international best practices with over 25 years of combined experience in ESIA. The significance of impacts is determined by evaluating the sensitivity of the affected environmental and social receptors, the nature of the impact, and the magnitude of the anticipated changes. These changes can range from negligible to very high and may be classified as temporary or permanent, as well as beneficial or adverse.

TERMS OF REFERENCE

The terms of reference (ToR) within the scoping report proposes the assessments that will be conducted to inform the assessment phase and will include the following:

- Soil impact assessment
- Geochemical assessment of ore and waste rock characterisation 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
- Climate change assessment

The draft scoping report was submitted for a public review for 14 days from 18 November 2024 to 2 December 2024, to the mining commissioner (MC) as the competent authority – Ministry of Mines and Energy (MME) – the environmental commissioner (EC) at the Ministry of Environment, Forestry and Tourism (MEFT), the Erongo Regional Council and registered I&APs for their review and comments.

Comments received from I&APs during the public review period, were compiled into a consolidated comments and responses addendum report, wherein the comments are recorded and addressed. This document now forms Appendix D to this final scoping report which is hereby submitted to the MC at MME as the competent authority and the EC at MEFT on 6 December 2024 for a record of decision.

Thereafter a detailed impact assessment will be conducted as the next phase of the ESIA process. The draft ESIA report and appendices will also be made available to all stakeholders and registered I&APs for review once finalised.

The ESIA report and appendices will be formally submitted to the MC at MME as the competent authority then to EC at MEFT as part of the application for an environmental clearance certificate for the Kokoseb Gold Project. The ESIA process and the current phase of the process is provided in Figure 1.

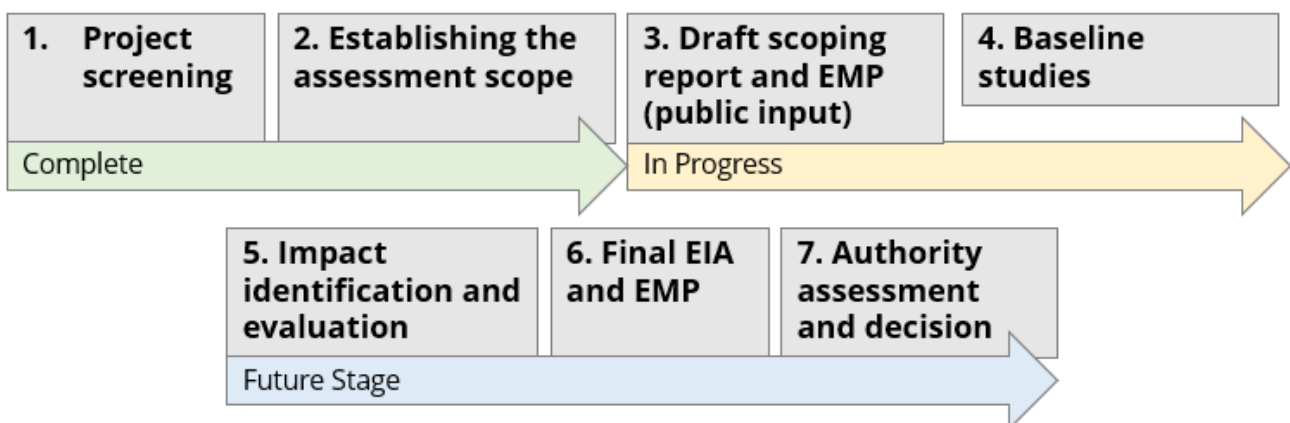


Figure 1 - Simplified Namibian ESIA process noting Kokoseb Gold Project ESIA progress

TABLE OF CONTENTS

1	Introduction	17
1.1	Company Background	17
1.2	The proponent of the proposed project	21
1.3	Purpose of the scoping report	21
1.4	Environmental requirements	22
2	Approach to the scoping phase	27
2.1	Purpose of the scoping phase of the assessment	27
2.2	The assessment process	27
2.3	The study area	30
2.4	Public consultation	30
2.5	Identification of key stakeholders and interested and affected parties	30
2.5.1	Summary of key concerns raised	31
3	Review of the legal environment	33
3.1	Relevant national legislation	33
3.2	National regulatory framework.....	34
4	Project description.....	43
4.1	Need for the Project	43
4.2	Employment	43
4.3	Background of the Project and exploration history	44
4.4	Geology and mineralisation.....	46
4.5	Site layout	47
4.6	Mining infrastructure and services.....	49
4.6.1	orebody	49
4.6.2	mining method and equipment	49
4.6.3	pit and haul design	53
4.6.4	metallurgy and processing.....	53
4.6.5	processing plant infrastructure	55
4.6.6	services and utilities.....	60
4.7	Utilities	63
4.7.1	power supply	63
4.7.2	water supply	63
4.8	Mineral and non-mineralised waste.....	63
4.8.1	waste rock	63
4.8.2	tailings storage facility	64
4.8.3	general waste	64

4.8.4	effluent and wastewater treatment.....	66
4.9	Alternatives considered	67
4.9.1	mine layout	67
4.9.2	energy supply	67
4.9.3	water supply	67
4.10	Rehabilitation and closure.....	67
5	Environmental and social baseline	68
5.1	Baseline data collection	68
5.1.1	desktop and field surveys	68
5.1.2	specialist studies	68
5.2	Location.....	70
5.3	Land use.....	70
5.4	Geological setting.....	70
5.5	Topography	73
5.6	Built environment and infrastructure	73
5.6.1	infrastructure and bulk services.....	73
5.6.2	traffic and transport	73
5.7	Socioeconomic baseline.....	74
5.7.1	governance	74
5.7.2	demographic profile	74
5.7.3	health.....	75
5.7.4	employment.....	76
5.7.5	crime	76
5.7.6	economic and business activities.....	77
5.8	Heritage and culture.....	77
5.9	Noise.....	78
5.10	Visual and sense of place.....	78
5.11	Lighting and visual markers	78
5.12	Biophysical environmental baseline	78
5.12.1	climate and meteorology.....	78
5.12.2	climate change	80
5.12.3	soil	81
5.12.4	air quality.....	83
5.13	Water	84
5.14	Biodiversity	85
5.14.1	flora	86
5.14.2	fauna	87
6	Impact identification and evaluation methodology	89
6.1	Introduction.....	89
6.2	Assessment guidance.....	89

6.3	Limitations, uncertainties and assumptions	90
6.4	Assessment methodology	90
6.5	Cumulative impacts	93
6.5.1	cumulative impacts assessment method.....	93
7	Terms of reference for the assessment phase	94
7.1	Biodiversity assessment.....	96
7.2	Groundwater and surface water assessment	97
7.3	Noise assessment	98
7.4	Heritage and culture assessment	99
7.5	Air quality assessment	99
7.6	Mine-induced blast and vibration	100
7.7	Geochemistry of ore and waste rock characterisation assessment.....	100
7.8	Traffic impact assessment	101
7.9	Soil baseline assessment	101
7.10	Climate change assessment.....	101
7.11	Socioeconomic assessment.....	102
8	Conclusion.....	103
	Bibliography	105

LIST OF TABLES

Table 1 - Proponent's details	21
Table 2 - Activities potentially triggered by the Kokoseb Gold Project.....	23
Table 3 - Details of the regulatory framework as it applied to the Kokoseb Gold Project.....	34
Table 4 - Namibian national policies and plans applicable to the Kokoseb Gold Project.....	39
Table 5 - Specific permits and licence requirements for the Kokoseb Gold Project	40
Table 6 - Waste specification, storage and end-use	64
Table 7 - Specialist studies conducted for the ESIA	68
Table 8 - Socioeconomic baseline study summary of key indicators as of the 2023 Census (Namibian Statistics Agency, 2023)	75
Table 9 - List of specialist studies to be commissioned to inform the assessment phase of the ESIA	94
Table 10 - Likely studies to be completed for the proposed Project assessment	103

LIST OF FIGURES

Figure 1 - Simplified Namibian ESIA process noting Kokoseb Gold Project ESIA progress.....	9
Figure 2 - The relationship between the parent company and its subsidiaries.....	17
Figure 3 - Project location and regions.....	19

Figure 4 - Conservancies that overlap with EPL 4818 and the nearby towns and settlements	20
Figure 5 - ESIA process	29
Figure 6 - Mineral resource estimate (MRE) block model and U\$1.800/oz pit shells, footprints and drill holes collars (WiaGold, 2024)	44
Figure 7 - Images of exploration drilling taking place on EPL 4818 (WiaGold, 2024).....	46
Figure 8 – Preliminary Kokoseb Gold Mine project site layout.....	48
Figure 9 - Metallurgical process flow	54
Figure 10 - Geological setting of the Project area	72
Figure 11 - Topography of the Project area	73
Figure 12 - Project area monthly temperature and precipitation averages (Source: meteoblue)	79
Figure 13 - Wind rose diagram showing the prevailing wind directions and speeds for the Project area.....	80
Figure 14 - Yearly average temperature change at Kokoseb Gold Project site (meteoblue, 2024)	80
Figure 15 - Soil profile of the Project area.....	83
Figure 16 - Air quality (dust fallout) monitoring locations on EPL 4818	84
Figure 17 - Surface water flow showing ephemeral rivers, drainage lines, groundwater boreholes and the Project area.....	85
Figure 18 - Vegetation profile of the Project area.....	87
Figure 19 - ECC ESIA methodology based on IFC standards.....	92

APPENDICES

Appendix A - Environmental and Social Management Plan	106
Appendix B - Public Consultation Records.....	107
Appendix C - EAP CVs	108
Appendix D – Addendum Report	109

ABBREVIATIONS

ABBREVIATION	DESCRIPTION
%	percentage
<	less than
°C	degrees Celsius
AARL	Anglo-American Research Laboratories
ADT	Articulated dump truck
AIDS	Acquired immunodeficiency syndrome
Airshed	Airshed Planning Professionals (Pty) Ltd
ARD	acid rock drainage
ASTM D1739-98	Standard Test Method for Collection and Measurement of dust fall
Au	gold
BID	background information document
CBNRM	Community Based Natural Resource Management
CIA	cumulative impact assessment
CIL	carbon-in-leach
CIP	carbon-in-pulp
cm	centimetre
COM	Namibian Chamber of Mines
CSR	corporate social responsibility
Damaran Exploration	Damaran Exploration Namibia (Pty) Ltd
dBA	decibels
DEA	Department of Environmental Affairs
EC	electric conductivity
EC&I	electrical, control and instrumentation
ECC	Environmental Compliance Consultancy
EIA	environmental impact assessment
EMA	Environmental Management Act No. 7 of 2007
EMP	environmental management plan
Epangelo	Epangelo Mining Company (Pty) Ltd
EPL	exclusive prospecting licence
ErongoRED	Erongo Regional Electricity Distributor Company (Pty) Ltd
ESIA	environmental and social impact assessment
g/t	grams per ton
GDP	gross domestic product
GHG	greenhouse gas
HCN	Hydrogen cyanide
HIV	human immunodeficiency virus
HME	heavy machinery equipment
HSE	health, safety and environment
I&APs	interested and affected parties
ICMM	International Council on Mining and Metals
ICR	intensive cyanidation reactor
IFC	International Finance Corporation

ABBREVIATION	DESCRIPTION
ITS	Innovative Traffic Solutions (Pty) Ltd
IUCN	International
JV	joint venture
KLCs	kinetic leach columns
km	kilometre
km/h	kilometre per hour
KRC	Kokoseb EPL reverse circulation core sample ID
kV	kilovolt
LoM	life of mine
Ltd	Limited
LV	light vehicle
m	meter
mamsl	meters above sea level
MAWLR	Ministry of Agriculture, Water and Land Reform
MCC	motor control centre
MEFT	Ministry of Environment, Forestry and Tourism
MHSS	Ministry of Health and Social Services
ML	mining licence
mm	millimetre
MME	Ministry of Mines and Energy
Moz	million ounces
MPI	multidimensional poverty index
MRE	Mineral Resource Estimate
MWT	Ministry of Works and Transport
N	north
N\$	Namibian Dollars
NaCN	sodium cyanide
NAG	Net Acid Generation
NamPower	Namibian Power Corporation (Pty) Ltd
NamWater	Namibian Water Corporation (Pty) Ltd
NaOH	sodium hydroxide
NDP	National Development Plan
NHC	National Heritage Council
NNE	North-Northeast
P80	Product size: P80 = 16mm
PAF	potentially acid forming
PCD	pollution control dam
pH	Potential of hydrogen
PM10/2.5	Inhalable Particulate Matter with a diameter of 10 or 2.5 microns or less
ppb	Parts per billion
Pty	Proprietary
PV	photovoltaic

ABBREVIATION	DESCRIPTION
Q	quarter
RH	relative humidity
ROM	run-of-mine
S	south
SANS	South African National Standards
SSW	South-Southwest
T	tonnes
ToR	terms of reference
TSF	tailings storage facility
Umvoto	Umvoto Africa (Pty) Ltd
US\$	United States Dollar
UTMC	Uis Tin Mining Company
w/w	Weight by weight
WIA Gold	WIA Gold Limited
WRD	waste rock dump
XRD	X-ray diffraction

1 INTRODUCTION

1.1 COMPANY BACKGROUND

Environmental Compliance Consultancy (ECC) has been engaged by Damaran Exploration Namibia (Pty) Ltd to conduct an environmental and social impact assessment and compile an environmental and social management plan for the proposed mining activities as part of the Kokoseb Gold Project on EPL 4818, Erongo Region, Namibia.

Mandarin Investments (Pty) Ltd (hereafter referred to as “The Proponent”), is a joint venture (JV) between Damaran Exploration Namibia (Pty) Ltd (hereafter referred to as “Damaran Exploration”), and Epangelo Mining Company (Pty) Ltd (hereafter referred to as “Epangelo”) and is the holder of licence EPL 4818. WIA Gold (Ltd) (hereafter referred to as “WIA Gold”), is the parent company of Damaran Exploration. The relationship between the parent company, its subsidiary, and the JV between Damaran Exploration and Epangelo is displayed in Figure 3.

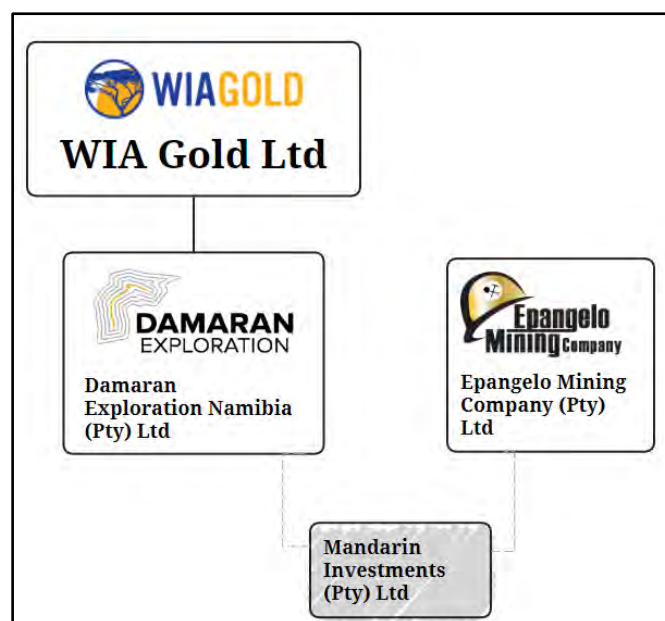


Figure 2 - The relationship between the parent company and its subsidiaries.

Epangelo was officially designated as a State-owned Enterprise under the PEGA (Act 2 of 2006) in 2013. The exclusive shareholder of the company was the Government of the Republic of Namibia.

The proposed Project is within exclusive prospecting licence (EPL) 4818, where the resource is located and where a mining licence (ML) will be applied for once the resource has been defined. EPL 4818 is situated approximately 15km from Okombahe and 30km from Uis in the Erongo Region (-21.19388, 15.277164). The EPL is bordered by the C36 main road as shown in Figure 3. The EPL falls within the Okombahe Reserve, with the western portion of the EPL falling within the Tsiseb Conservancy, this is illustrated in the map in Figure 4.

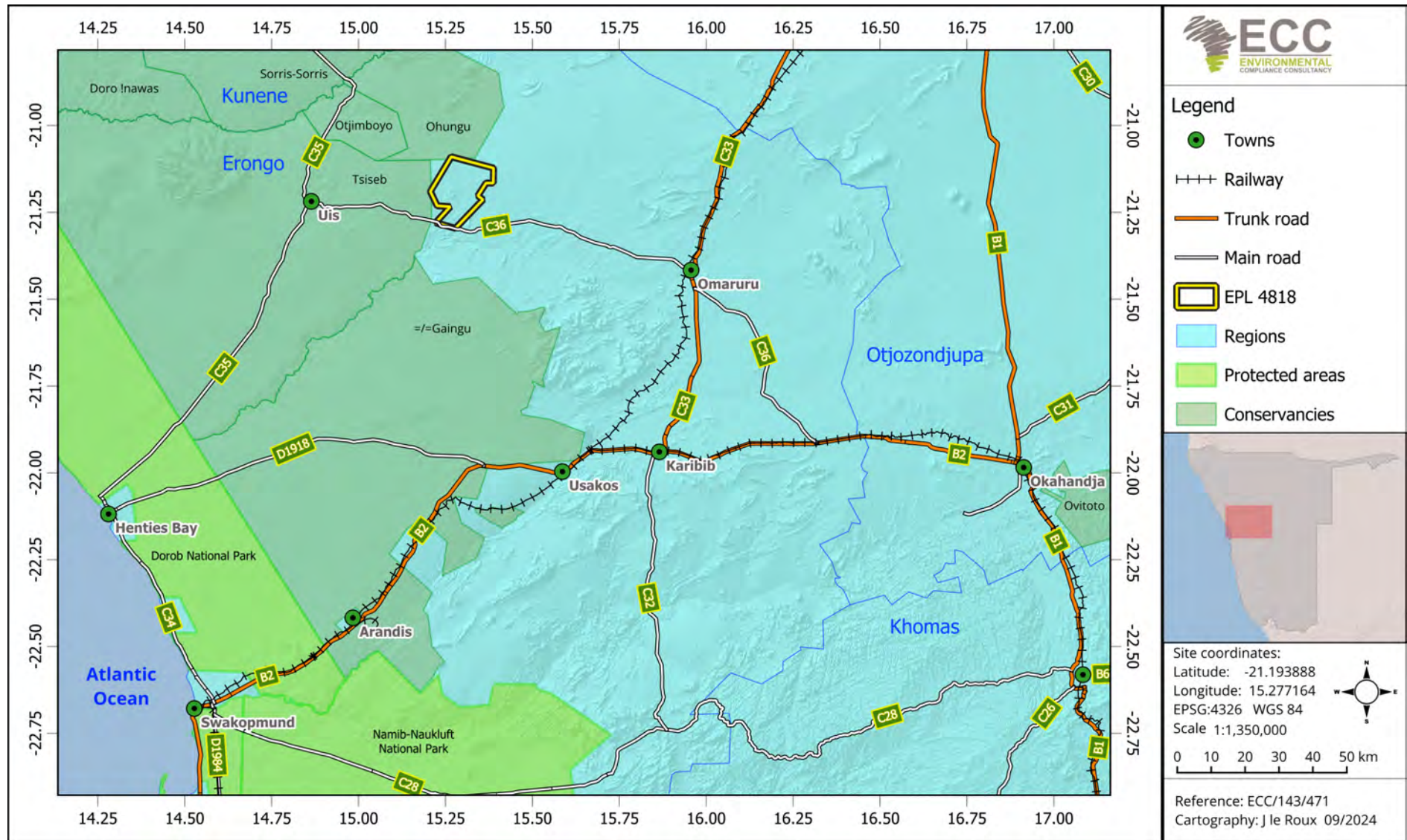


Figure 3 - Project location and regions

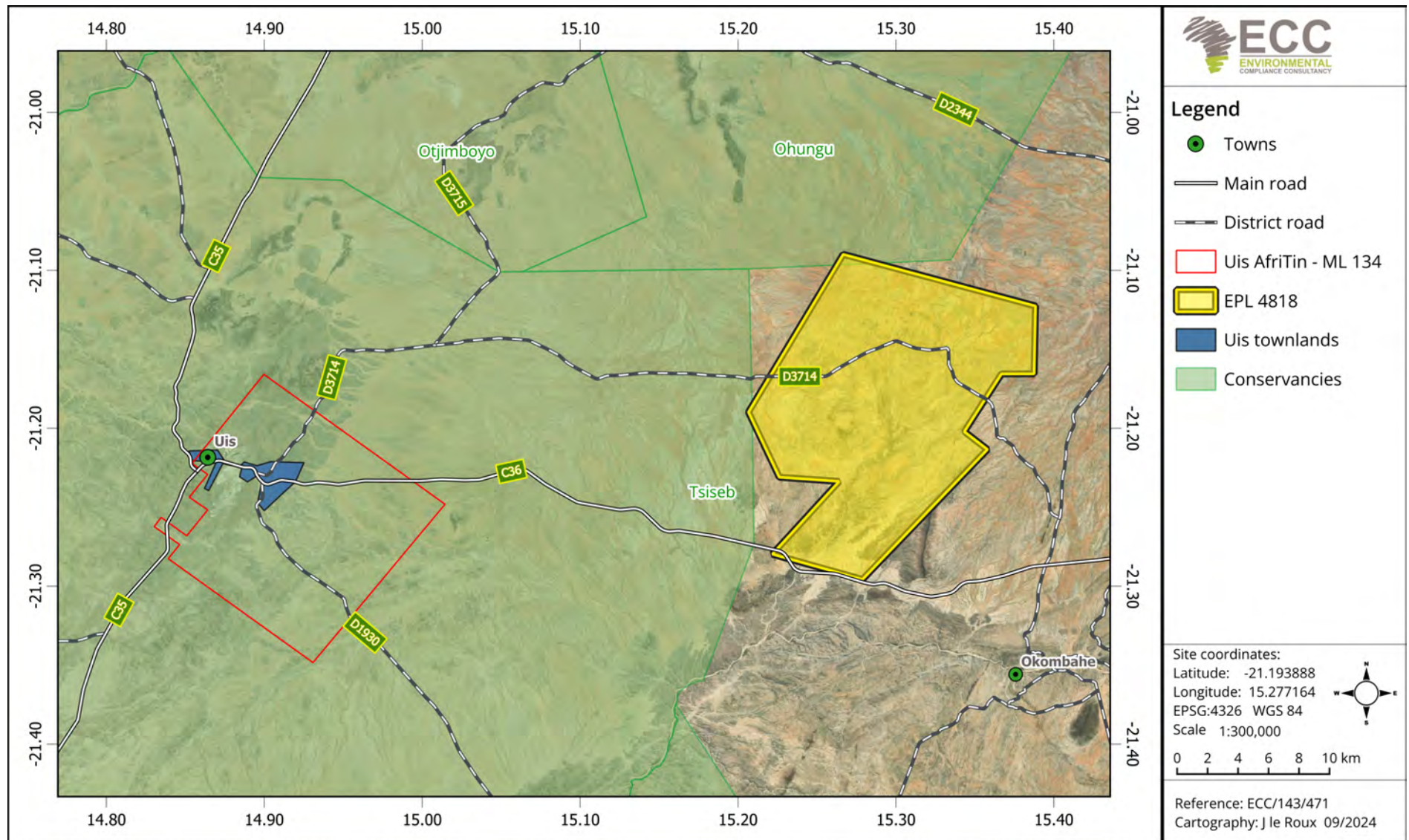


Figure 4 - Conservancies that overlap with EPL 4818 and the nearby towns and settlements

1.2 THE PROPONENT OF THE PROPOSED PROJECT

Damaran Exploration Namibia (Pty) Ltd is the proponent for the proposed Project. The Proponent details are provided in Table 1.

Table 1 - Proponent's details

Company Representative:	Contact Details:
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1.3 PURPOSE OF THE SCOPING REPORT

An environmental and social impact assessment (ESIA) has commenced in terms of the requirements of the Environmental Management Act, No. 7 of 2007, and its associated 2012 regulations. The purpose of this report is to review available data, scope out and identify any gaps that need to be filled, this enables us to determine the spatial and temporal scope; and to identify the assessment methodology that should be used.

The scoping report summarises the prescribed ESIA process followed; provides information on the baseline biophysical and socio-economic environments, project description and details; outlines the terms of reference for the assessment phase; and presents a preliminary environmental management plan (EMP), which is provided as Appendix A.

The scoping report and appendices will be submitted to the public for review and input on the impacts and the related ESIA terms of reference. The revised scoping report with public input is submitted to the Ministry of Mines and Energy (MME) as the competent authority for the Project, after which it will be submitted to the Ministry of Environment, Forestry and Tourism (MEFT) - Directorate of Environmental Affairs (DEA) for a record of decision.

Chapter 1 of the report is an introduction to the proposed Project and ESIA. Chapter 2 provides detail about the ESIA approach, including the roles of the public and specialists. Chapter 3 provides additional detail on the legal environment and requirements. Chapter 4 provides sufficient detail on the Project to identify and assess potential impacts. Chapter 5 provides an overview of the screening and scoping results and related baseline information identifying all relevant biophysical and social aspects. Chapter 6 provides an overview of the methodology for identifying and evaluating impacts. Chapters 7 and 8 cover the resultant Terms of Reference for the final assessment and the conclusions, respectively.

1.4 ENVIRONMENTAL REQUIREMENTS

The Environmental Management Act, 2007, and its regulations, stipulates 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 - Activities potentially triggered by the Kokoseb Gold Project

Source: Environmental Management Act, 2007, and its regulations

Listed activity	As defined by the regulations of Act	Relevance to the project
Energy generation, transmission, and storage activities	The construction of facilities for: (1a) The generation of electricity. (1b) The transmission and supply of electricity.	- The mine will connect to the NamPower grid. - There is a possibility that a solar power station will be constructed for the generation of electricity. - The electricity that is generated will be used to supply electricity to the mine, and potential surplus will be redirected into the grid power system. (Sections 4.7.1 and 4.9.2)
Waste management, treatment, handling, and disposal activities	2.1 The construction of facilities for waste sites, and the treatment and disposal of waste. 2.2 Any activity entailing a scheduled process referred to in the Atmospheric Pollution Prevention Ordinance Act, 1976. 2.3 The importing, processing, use and recycling, temporary storage, transit, or exporting, of waste.	- The Project will require waste sites for the disposal of mineralised and non-mineralised waste. - Hazardous waste may be generated by the operation. - Facilities for the disposal of mine and domestic waste will need to be constructed. - In terms of the Atmospheric Pollution Prevention Ordinance, the bulk storage and handling of mineralised or metallic ore on waste dumps designed to hold 100 000 metric tonnes or more, is defined as a scheduled process. (Section 4.8)
Mining and quarrying activities	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.	- This listed activity infers the provisions of the Minerals (Prospecting and Mining) Act 33 of 1992. The very nature of the Project is mining, which therefore triggers this listed activity. (Sections 4.6 and 4.9.1)

Listed activity	As defined by the regulations of Act	Relevance to the project
	3.2 Other forms of mining or extraction of any natural resources, whether regulated by law or not. 3.3 Resource extraction, manipulation, conservation, and related activities.	
Forestry activities	4. The clearance of forest areas, deforestation, afforestation, timber harvesting, or any other related activity that requires authorisation in terms of the Forest Act, 2001 (No. 12 of 2001) or any other law.	- Vegetation clearing will be required for site construction and infrastructure establishment. - During operations, vegetation clearing will be required as the Project develops. The necessary permits will be acquired as needed. (Section 4.5)
Water resource developments	8.1 The abstraction of ground or surface water for industrial or commercial purposes. 8.2 The abstraction of groundwater at a volume exceeding the threshold authorised in terms of the law relating to water resources. 8.4 Construction of canals and channels, including the diversion of the normal flow of water in a riverbed, and water transfer schemes between water catchments and impoundments. 8.5 Construction of dams, reservoirs, levees, and weirs. 8.6 Construction of industrial and domestic wastewater treatment plants and related pipeline systems.	- Ground and surface water may be abstracted or sourced for the operation. - Groundwater will be abstracted to support the operational activities through identified abstraction boreholes, with an approved abstraction permit, from the Department of Water Affairs, as required by the Water Act, No. 54 of 1956 and Water Resources Management Act. - Surface water may be abstracted for operational activities. - The mining area is within the Omaruru catchment area, and the Leeu River runs through a section of the planned pit and infrastructure. A diversion of the ephemeral Leeu tributary may be required, with a detailed design for a new channel and the occasional storm water flow. A dam may be constructed.

Listed activity	As defined by the regulations of Act	Relevance to the project
	8.8 Construction and other activities in watercourses within flood lines. 8.9 Construction and other activities within a catchment area.	- Process water ponds will be constructed to provide water for the process plant. - A pollution control dam (PCD) will be constructed to catch and contain dirty water on site, this is in the processing plant. - Pipeline systems will be used to transport water or slurry within the site. - A domestic wastewater treatment plant will be constructed for operational purposes. - Septic/conservancy tanks are to be constructed for remote areas (guard houses and airstrip). (Sections 4.7.2, 4.8.4 and 4.9.3)
Hazardous substance treatment, handling, and storage	9.1 The manufacturing, storage, handling, or processing of hazardous substance defined in the Hazardous Substances Ordinance, 1974. 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. 9.4 The storage and handling of dangerous goods, including petrol, diesel, liquid petroleum,	- The proposed mining operations and process plant triggers this activity, as both fuel and hazardous substances are required for mining and processing activities. - Bulk fuel may be required for onsite for refuelling the mining fleet. - Consumer installation certificates are required for bulk fuel storage and dispensing. - Hazardous reagents will be used within the extraction and processing plant. - A lined tailings storage facility will be constructed. - The storage, handling and processing of the hazardous substances including cyanide that will be required in the processing plant.

Listed activity	As defined by the regulations of Act	Relevance to the project
	gas, or paraffin, in containers with the combined capacity of more than 30 cubic meters at one location. 9.5 Construction of filling stations or any other facility for the underground and above ground storage of dangerous goods, including petrol, diesel, liquid, petroleum, gas, or paraffin.	- Licences will be obtained for all hazardous substances that will need to be stored on the site. - Additionally, there will be a laboratory on site that may generate hazardous waste. - (Sections Error! Reference source not found., 4.6.6.5, 4.6.6.6, 4.6.6.7 and 4.6.6.8)
Infrastructure	10.1 The construction of: (b) public roads. (j) masts of any material or type, and of any height, including those used for telecommunication broadcasting and radio transmission.	- The Proponent may possibly consider developing a telecommunication tower. - Towers for communication will need to be constructed, thus cables and telecommunication lines will be put in place. - Powerlines and telemetry for operational requirements, water and tailings slurry pumping will be required. - Radio and telecommunication towers will be required for the site. - Diversion of gravel road D3714. (Sections Error! Reference source not found. and 4.7.1)

2 APPROACH TO THE SCOPING PHASE

2.1 PURPOSE OF THE SCOPING PHASE OF THE ASSESSMENT

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

2.2 THE ASSESSMENT PROCESS

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

Furthermore, 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 reported so that the significance of potential impacts can be taken into account when considering a record of decision for the proposed Project as shown in Figure 5.

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

1. Project screening	2. Establishing the assessment scope	3. Draft scoping report and EMP
Complete	Complete	Complete
The first stage in the ESIA process is to undertake a screening exercise to determine whether the Project triggers listed activities under the Environmental Management Act, 2007, and its regulations. The screening phase of the Project is a preliminary analysis, to determine ways in which the Project might interact with the biophysical, social, and economic environments. Stakeholder engagement: - Registration of the project - Preparation of the BID	Where an ESIA is required, the second stage is to scope the assessment. The main aim of this stage is to determine which impacts are likely to be significant; to scope the available data and any gaps that need to be filled; to determine the spatial and temporal scope; and to identify the assessment methodology. The scope of this assessment was determined through undertaking a preliminary assessment of the proposed Project against the receiving environment. Feedback from consultation with the public and the Proponent informs this process. The following environmental and social topics were scoped into the assessment, as there was the potential for significant impacts to occur. Impacts that are identified as potentially significant during the screening and scoping phase are taken forward for further assessment in the ESIA process. These are: SOCIOECONOMIC ENVIRONMENT - Employment - Local businesses - Visual impacts on sense of place - Road Traffic BIOPHYSICAL ENVIRONMENT - Noise and air quality, including dust emissions - Surface and groundwater - Heritage and culture - Biodiversity and - Soil - Geochemical The following topics were scoped out of the ESIA, and they are therefore not discussed further in this report. - 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.	The scoping report documents the findings of the current process and provides stakeholders with an opportunity to comment and continue the consultation that forms part of the environmental assessment. The EMP provides measures to manage the environmental and social impacts of the proposed Project, and outlines the specific roles and responsibilities required to fulfil the plan. This scoping report focuses on describing the ESIA process, project description, baseline description and Terms of Reference for the assessment phase. This report will be issued to stakeholders and I&APs for consultation, for a period of 7 days, meeting the mandatory requirement as set out in the Environmental Management Act, 2007. The aim of this stage is to ensure that all stakeholders and I&APs have an opportunity to provide comments on the assessment process, and to register their concerns, if any.

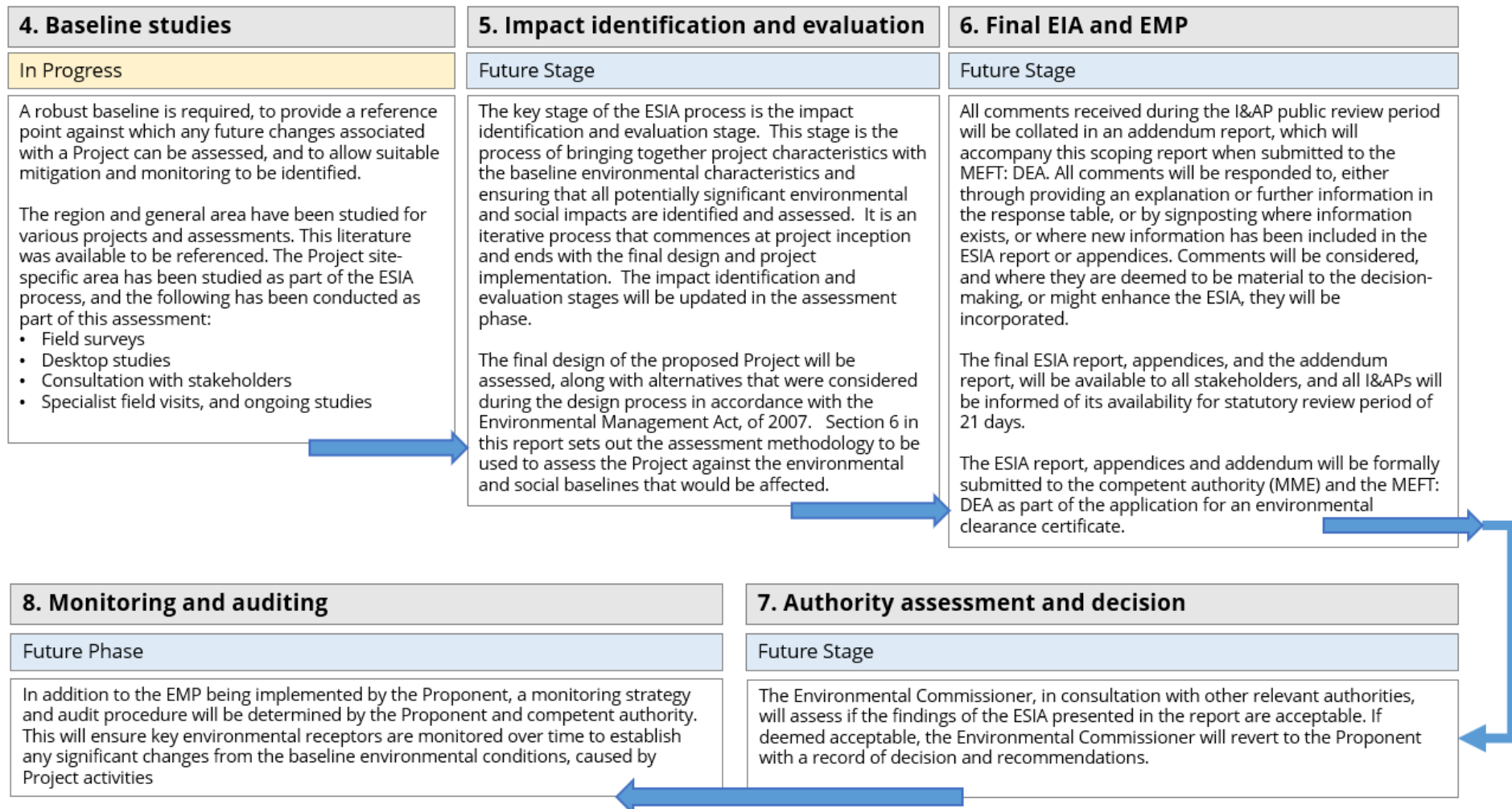


Figure 5 - ESIA process

2.3 THE 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 within that area. The receiving environment is a summary term for the biophysical and socioeconomic environment described in the baseline chapter. The study area extends beyond the mining licence boundary and includes the nearby receptors, such as neighbouring reserves including the Okombahe Reserve and the Tsiseb Conservancy, as well as the towns of Okombahe and Uis, shown in Figure 4.

2.4 PUBLIC CONSULTATION

Public participation and consultation are a requirement stipulated in Section 21 of the Environmental Management Act, 2007 and its regulations, for a project that requires an environmental clearance certificate. Consultation is a compulsory and critical component of the ESIA process for achieving transparent 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, and record concerns, and questions.
- Explain the process of the ESIA and the timeframes involved.
- Establish a platform for ongoing consultation.

Public consultation for the Project commenced on the 23rd of April 2024 when the Project was advertised in the local newspaper and the public was invited to register as interested and affected parties (I&APs).

Advertisements for public meetings held in Uis and Okombahe were placed in local newspapers, and the notification of the assessment in terms of Regulation 21 of the Act was placed in the following newspapers on the 23rd and 30th of April 2024:

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

2.5 IDENTIFICATION OF KEY STAKEHOLDERS AND INTERESTED AND AFFECTED PARTIES

A stakeholder mapping exercise was undertaken to identify individuals or groups of stakeholders and the method in which they will be engaged during the ESIA process. Stakeholders were approached through direct communication (letters and phone calls), the

national press, site notices, or directly by email. The list of stakeholders 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 Traditional Authorities
- Tsiseb Conservancy
- 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)
- National Heritage Council (NHC)
- Ministry of Works and Transport (MWT) and the Roads Authority
- Erongo Regional Council
- Roads Authority
- Uis and Okombahe Schools
- Town residents and business owners
- NamWater
- NamPower
- Cellular network providers

Appendix B provides a list of interested and affected parties, evidence of consultation, including notices of advertisements in national newspapers, minutes of public meetings, and a summary of the comments or questions raised by the public. A summary of the key concerns raised during the consultation process is provided in section 2.5.1.

2.5.1 SUMMARY OF KEY CONCERNS RAISED

Several public and stakeholder meetings were held for the Project from the 14th – 15th May 2024.

Meetings were held with the following stakeholders:

- Tsiseb Conservancy (focused meeting) in Uis.
- Okombahe Village Community (public meeting) in Okombahe.
- Daure Daman Traditional Authority (focus meeting) in Uis; and
- Uis Town Community (public meeting) in Uis.

From the meetings that were held, the following issues were the key concerns raised from the various meetings:

- Employment opportunities for the residents
- The water crisis of the local area (Okombahe and Uis) and the ability of the Proponent to assist in providing additional access to water for the community members.
- Corporate and social responsibilities of the Proponent.
- The relocation of the affected farmers and community groups.

Additional stakeholder meetings were requested by various attendees, including an onsite engagement meeting with residents of potentially affected farms, as well as an engagement meeting with the Oe#gan Traditional Authority based in Okombahe. These additional meetings were held from 17 – 18 September 2024, and the minutes of those meetings are included in Appendix B.

3 REVIEW OF THE LEGAL ENVIRONMENT

3.1 RELEVANT NATIONAL LEGISLATION

This chapter outlines the regulatory framework applicable to the proposed Project. As stated in Section 1, environmental clearance is required for any activity listed in the Government Notice No. 29 of 2012 of the EMA. The Proponent holds several current and valid environmental clearance certificates for the exploration phase of the Project.

The Project area is located within two conservancies and a reserve and is also part of a groundwater-controlled area. Namibia has been made a groundwater-controlled area, as regulated under the Water Resource Management Act of 2013 and the Water Resource Management Regulations of 2023.

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 plans, and Table 5 lists specific permits for the Project.

3.2 NATIONAL REGULATORY FRAMEWORK

Table 3 - Details of the regulatory framework as it applied to the Kokoseb Gold Project

National regulatory framework	Summary	Applicability to the project
Constitution of the Republic of Namibia (1990)	The constitution defines the country's position in relation to sustainable development and environmental management. The constitution refers that the state shall actively promote and maintain the welfare of the people by adopting policies aimed at the following: "Maintenance of ecosystems, essential ecological processes and biological diversity of Namibia, and the utilisation of living, natural resources on a sustainable basis for the benefit of all Namibians, both present, and future."	The 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).
Minerals (Prospecting and Mining) Act No. 33 of 1992	The Act provides for the granting of various licences related to mining and exploration. Section 50 (i) requires: "An environmental impact assessment indicating the extent of any pollution of the environment before any prospecting operations or mining operations are being carried out, and an estimate of any pollution, if any, likely to be caused by such prospecting operations or mining operations." The Act sets out the requirements associated with licence terms and conditions, such that the holder of a mineral licence shall comply with.	The proposed mining activity requires an ESIA to be carried out, as it triggers listed activities in the Environmental Management Act's regulations. Mining activities shall not commence until all conditions in the Act are met, which includes an agreement with the landowners and conditions of compensation, if applicable. The Project shall be compliant with Section 76 of the Act with regard to records, maps, plans and

National regulatory framework	Summary	Applicability to the project
	The Act also contains relevant provisions for pollution control related to mining activities and land access agreements and provides provisions that mineral licence holders are liable for any damage to land, water, plant, or animal life, caused by spilling or pollution, and must take all such steps as may be necessary to remedy such spilling, pollution, loss, or damage, at its own costs.	financial statements, information, reports, and returns submitted.
Environmental Management Act, 2007 (Act No. 7 of 2007) and its regulations, including the Environmental Impact Assessment Regulation, 2007 (No. 30 of 2011)	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. The Act states that an EIA should be undertaken and submitted as part of the environmental clearance certificate application process. The MEFT is responsible for the protection and management of Namibia's natural environment. The Department of Environmental Affairs, under the MEFT, is responsible for the administration of the EIA process.	This environmental scoping report documents the findings of the scoping phase of the environmental assessment undertaken for the proposed Project. The process has been undertaken in line with the requirements under the Act and its regulations.
Water Resources Management Act No. 11 of 2013 and the Water Resource Management Regulations of 2023	The Water Resources Management Act (No. 11 of 2013) and its regulations were promulgated in 2023. 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.	The Act stipulates obligations to prevent the pollution of water and measures to minimise potential surface and groundwater pollution are contained in the EMP. Since the promulgation of the new act and regulations, all of Namibia is now considered a water-controlled area. Therefore, the Project is

National regulatory framework	Summary	Applicability to the project
	The Department of Water Affairs, within the Ministry of Agriculture, Water and Land Reform (MAWLR), is responsible for the administration of the Act.	obliged to have all permits relevant to its operations under this Act. Furthermore, any abstraction of water from boreholes requires an abstraction permit to be obtained from the Ministry of Agriculture, Water and Land Reform.
Soil Conservation Act, No. 76 of 1969	This Act makes provision for the prevention and control of soil erosion, and for the protection, improvement, and conservation of soil and vegetation.	Land clearing is necessary for the proposed Project, as large areas will be cleared for mining infrastructure Measures will be included in the EMP to conserve soil and vegetation that will be 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 21 states that no person shall cut, destroy, or remove vegetation that is growing within 100 metres of a river, stream, or watercourse. Section 23 requires a permit from the Director for the clearance of vegetation on more than 15ha 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 one year.	The Project activities will require vegetation clearing. The Proponent will ensure that all required permits are in place before vegetation removal commences.

National regulatory framework	Summary	Applicability to the project
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 a consent, subject to any conditions that the Council deems necessary.	There is the potential for heritage-related objects to be found in the mining licence area. Therefore, the relevant stipulations in the Act will be taken into consideration and incorporated into the EMP. The 'chance find procedure' will be used when heritage sites are discovered.
Labour Act, No. 11 of 2007	The Labour Act, No. 11 of 2007 (Regulations relating to the Occupational Health & Safety provisions of Employees at Work, promulgated in terms of Section 101 of the Labour Act, No. 6 of 1992 - GN156, GG 1617 of 1 August 1997)	The Project shall adhere to all labour provisions and guidelines, as enshrined in the Labour Act. The Project shall also develop and implement a comprehensive occupational health and safety plan to 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, use, disposal, and dumping of hazardous substances, as well as their import and export.	The planned Project will involve the handling and storage of hazardous substances such as fuels, reagents, and industrial chemicals. The Proponent shall ensure safe handling, transfer, storage, and disposal protocols are developed,

National regulatory framework	Summary	Applicability to the project
		implemented, and audited throughout its operations. The Proponent is obliged to ensure that all permits under this Ordinance are obtained before Project commencement.
The Atmospheric Pollution Prevention Ordinance, No. 11 of 1976	The Ordinance pertains to the prevention of air pollution, with a particular focus on public health, and contains detailed provisions on air pollution matters, including the control of noxious or offensive gases, atmospheric pollution by smoke, dust control, motor vehicle emissions, and other general provisions.	The nature of mining activities generates 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 on air quality, and this will be included in the EMP.

National policies and plans

Table 4 - Namibian national policies and plans applicable to the Kokoseb Gold Project

Policy or plan	Description	Relevance to the Project
Vision 2030	Vision 2030 sets out the nation's development targets and strategies to achieve its national objectives. Vision 2030 states that the overall goal is to improve the quality of life of the Namibian people aligned with the developed world.	The proposed Project shall aim to meet the objectives of Vision 2030 and shall contribute to the overall development of the country through continued employment opportunities and ongoing contributions to the gross domestic product (GDP).
Fifth National Development Plan (NDP5)	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. The NDP5 pillars are economic progression, social transformation, environmental sustainability, and good governance.	The planned Project supports meeting the objectives of the NDP5 through creating opportunities for continued employment.
The Harambee Prosperity Plan ii (2021 – 2025)	Second Pillar: Economic advancement – ensuring increasing productivity of priority key sectors (including mining) and the development of additional engines of growth, such as new employment opportunities.	The Project will contribute to the continued advancement of the mining industry and create an additional employment generation engine within the regional and national landscape.
Minerals Policy	The Minerals Policy was adopted in 2002 and sets guiding principles and direction for the development of the Namibian mining sector, while communicating the values of the Namibian people. The policy strives to create an enabling environment for local and foreign investments in the mining sector and seeks to	The planned Project conforms to the Policy, which has been considered through the ESIA process and the production of this report. The Proponent intends to continue to support local spending and procurement.

Policy or plan	Description	Relevance to the Project
	maximise the benefits for the Namibian people from the mining sector, while encouraging local participation. The objectives of the Minerals Policy are in line with the objectives of the Fifth National Development Plan that include reduction of poverty, employment creation, and economic empowerment in Namibia.	The Project will comply with the general guidelines of the Policy through the adoption of various legal mechanisms to manage all aspects of the environment effectively and sustainably from the start. The ESIA is one such mechanism to ensure environmental integrity throughout the planned Project's lifecycle.

Table 5 - Specific permits and licence requirements for the Kokoseb Gold Project

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	Included in the mining license application. 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 or licence	Act / Regulation	Related activities requiring permits	Relevant authority
Permit for boreholes (exploration and water boreholes)	A permit is issued under the Water Act, No. 11 Of 2013 and the Water Resource Management Regulations of 2023	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. 11 Of 2013 and the Water Resource Management Regulations of 2023	Required for the disposal of tailings.	Ministry of Agriculture, Water and Land Reform (MAWLR)
Wastewater discharge permit	A permit is issued under the Water Act, No. 11 Of 2013 and the Water Resource Management Regulations of 2023	Required for discharge of sewage and/or excess industrial or mine wastewater	Ministry of Agriculture, Water and Land Reform (MAWLR)
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)
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 15ha of woody vegetation, or the removal of any protected plant species.	Ministry of Agriculture, Water and Land Reform (MAWLR)
Permit for the destruction 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	Permit for the destruction of heritage objects and artefacts.

Permit or licence	Act / Regulation	Related activities requiring permits	Relevant authority
		footprint, or along proposed pipeline or powerline routes.	
Application for power connection	Electricity Act 4 of 2007	The mine will require power to be supplied to them by NamPower.	Namibian Power Corporation (NamPower)
Consumer installation certificate for bulk fuel storage	Petroleum Products Regulations	A consumer installation certificate is required for bulk fuel storage and dispensing.	Ministry of Mines and Energy (MME)

4 PROJECT DESCRIPTION

4.1 NEED FOR THE PROJECT

New mining activities could contribute to the national and local economies and may have a positive impact on the country's economy. Namibia's economy depends largely on mining. Should the Kokoseb Gold Project prove economically viable, the Namibian economy can expect benefits from revenues during the construction phase, royalties and taxes during the life of mine (LoM), and a positive contribution towards employment. Based on current mine plans, between 1100 and 1500 people will be employed during construction, and approximately 800 – 900 people for the operational phase, providing jobs and livelihoods for workers and their families, for a minimum of 10 years.

4.2 EMPLOYMENT

The labour requirement for a typical gold mine the size and scale of the proposed Project is expected to be approximately 1100 – 1500 people during the construction phase, and approximately 800 - 900 people during the operational phase. During operations, it is expected that the split for the labour requirement will be processing plant approximately 120 people, technical, administration, safety, health and environment and management 200, maintenance personnel 100 people, mining approximately 450 people. A detailed labour plan covering all operation components will be developed as the project evolves. The labour complement for the mining component at this stage comprises of the following:

- Management team
- Mine technical service team
- Mine support services team
- Production crew – drill and blast
- Production crew – load and haul
- Mine maintenance crew

The preferred mining contractor labour requirement for mining operations over the LoM is 800-900 people at maximum production.

4.3 BACKGROUND OF THE PROJECT AND EXPLORATION HISTORY

As stated on their website, WiaGold (2024) started in late 2021 with preliminary soil sampling and trenching which revealed a significant, continuous gold anomaly (+100ppb) at the Kokoseb exploration site. A small-scale reconnaissance diamond drilling program in Q2 2022, involving 12 holes totalling 1,747 meters, confirmed the potential for a major gold deposit through multiple thick, shallow and high-grade intercepts. Over the past two years, ongoing reverse circulation and diamond drilling programs have steadily expanded the known extent of the Kokoseb deposit, shown in Figure 6.

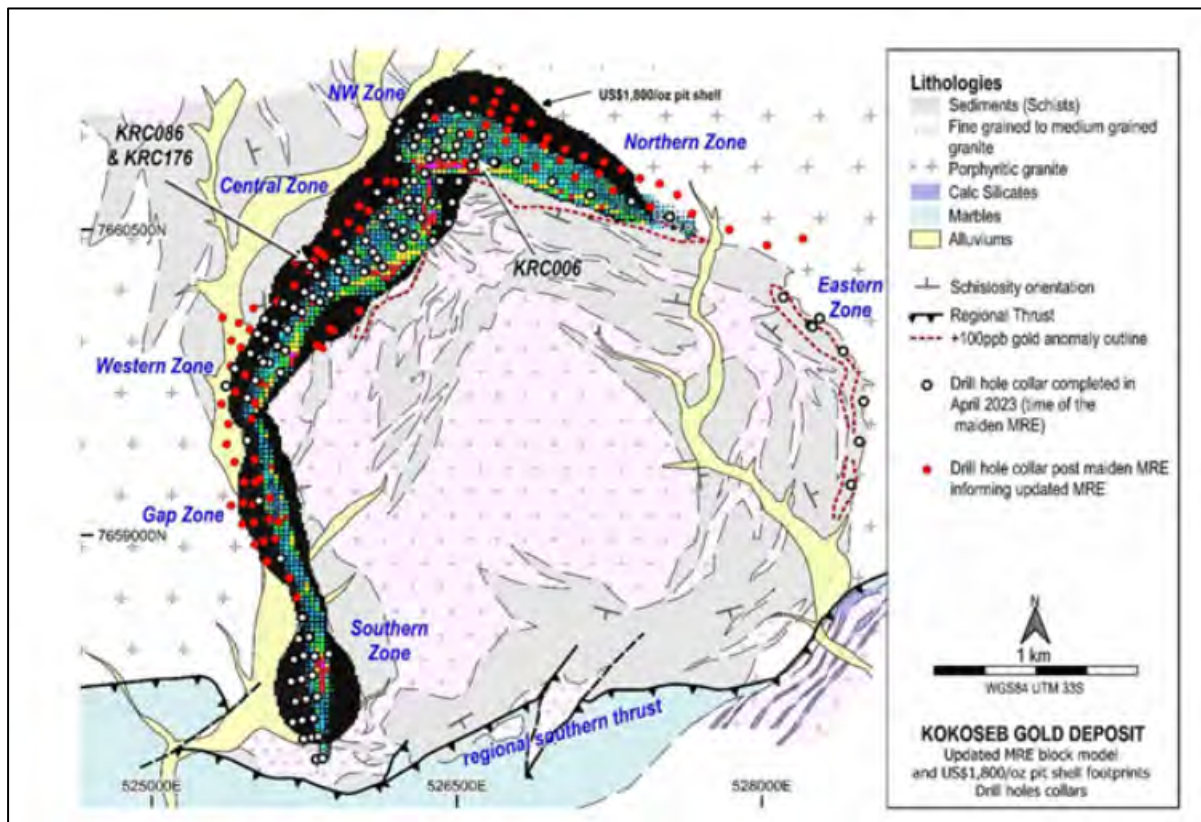


Figure 6 - Mineral resource estimate (MRE) block model and US\$1.800/oz pit shells, footprints and drill holes collars (WiaGold, 2024)

In May 2023, WiaGold, (2024) announced the maiden Inferred Mineral Resource Estimate (MRE) for the Kokoseb deposit, totalling 1.3 Moz at 1.0 g/t Au with a cut-off grade of 0.5 g/t Au. This estimate included a higher-grade component of 0.72 Moz at 1.5 g/t Au with a 1.0 g/t Au cut-off. Remarkably, this MRE was delivered within 12 months of the initial discovery holes.

By April 2024, WiaGold (2024) released an updated Inferred MRE for Kokoseb, increasing the resource to 2.1 Moz at 1.0 g/t Au (0.5 g/t Au cut-off), a 63% increase. This updated estimate also contained a higher-grade portion of 1.53 Moz at 1.4 g/t Au (0.8 g/t Au cut-off).

Kokoseb stands out with one of the world's lowest discovery costs, under US\$3/oz of gold in the MRE. Preliminary metallurgical testing showed excellent gold recoveries of over 91% via gravity and direct leach processes, highlighting the deposit's development potential. The mineralization remains open in all directions and at depth.

The optimised MRE pit covers a 4.8km strike of a total 6.5km geological model. There is significant potential for expansion through:

- Depth extensions: The high-grade Central plunging shoot, seen in KRC086 (37m at 9.46 g/t Au), is interpreted to plunge south, connecting with results from KRC176 (12m at 5.15 g/t Au and 10m at 5.51 g/t Au).
- New sub-parallel zones: Some results, like deeper intercepts in KRC006, were not included in the MRE and may represent additional mineralized zones needing further drilling.
- Extensional drilling along strike: The Eastern Zone remains underexplored but has shown gold in every drill hole.
- Hidden mineralization potential under the regional southern thrust, which is currently being drill-tested.

Ongoing drilling on EPL 4818 aims to expand the MRE and improve resource classification as shown in Figure 7.



Figure 7 - Images of exploration drilling taking place on EPL 4818 (WiaGold, 2024)

4.4 GEOLOGY AND MINERALISATION

The Kokoseb gold deposit is situated within the Northern Central Zone of the Pan-African Damara Orogenic Belt. The area consists of Neo-Proterozoic metasediments belonging to the Arandis, Karibib, and Kuiseb Formations of the Swakop Group. Gold mineralization occurs in the metasediments of the Kuiseb Formation, which are significantly intruded by late syn-tectonic and post-tectonic granites, along with minor mafic dykes trending N-S to NNE-SSW. While exposure

across the licence area is moderate to good, the Kuiseb Formation is often only sub-outcropping and is typically covered by thin layers of soil, colluvium, or pisolitic calcrete up to 2 m thick.

In the Kokoseb area, the Kuiseb schist forms a dome structure, centered by a post-tectonic leucogranite referred to as the "Central Granite Pluton." This pluton is primarily composed of medium-grained quartz, K-feldspar, and plagioclase, with smaller amounts of biotite, muscovite, magnetite, garnet, and tourmaline.

Granite dykes, granitic veinlets, and pegmatites cutting through the Kuiseb schist are linked to this granite phase or later ones. Gold mineralization forms an arc around this pluton, spanning approximately 3 km in diameter. A coarse-grained, pre-syn-tectonic porphyritic-feldspar granite encloses the mineralized schists to the west, east, and northeast. The schist units are composed of dark grey, poorly foliated, quartz/plagioclase/K-feldspar-rich, biotite-bearing schists, as well as better-foliated black biotite schists.

Gold occurs as native gold grains and, to a lesser extent, silver-bearing gold grains, and is spatially associated with sulphides dominated by pyrrhotite, löllingite, and arsenopyrite.

4.5 SITE LAYOUT

An optimal site layout will be developed 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 assessment will be carried out in accordance with indicative plans received from the Proponent. After completing the assessment, some aspects of the proponent's plans may need to change in order to comply with the stated recommended mitigations.

Potential waste rock dump (WRD) locations are likely to be placed in the footwall and hanging wall of the proposed pits, providing a flexible waste rock dumping strategy through the course of the mine life. However, this is subject to condemnation drilling which is still to be conducted.

The tailings storage facility (TSF) will most likely comprise a downstream-type facility, constructed from the waste rock excavated from the open pit. It is envisaged that the tailings facility will accommodate filtered tailings inside the waste rock embankments, with the transportation of tailings undertaken by either haulage or conveyors.

A preliminary Kokoseb mine site layout showing the potential locations for the TSF, WRDs, resource pits and mining plant area are displayed in Figure TK below:

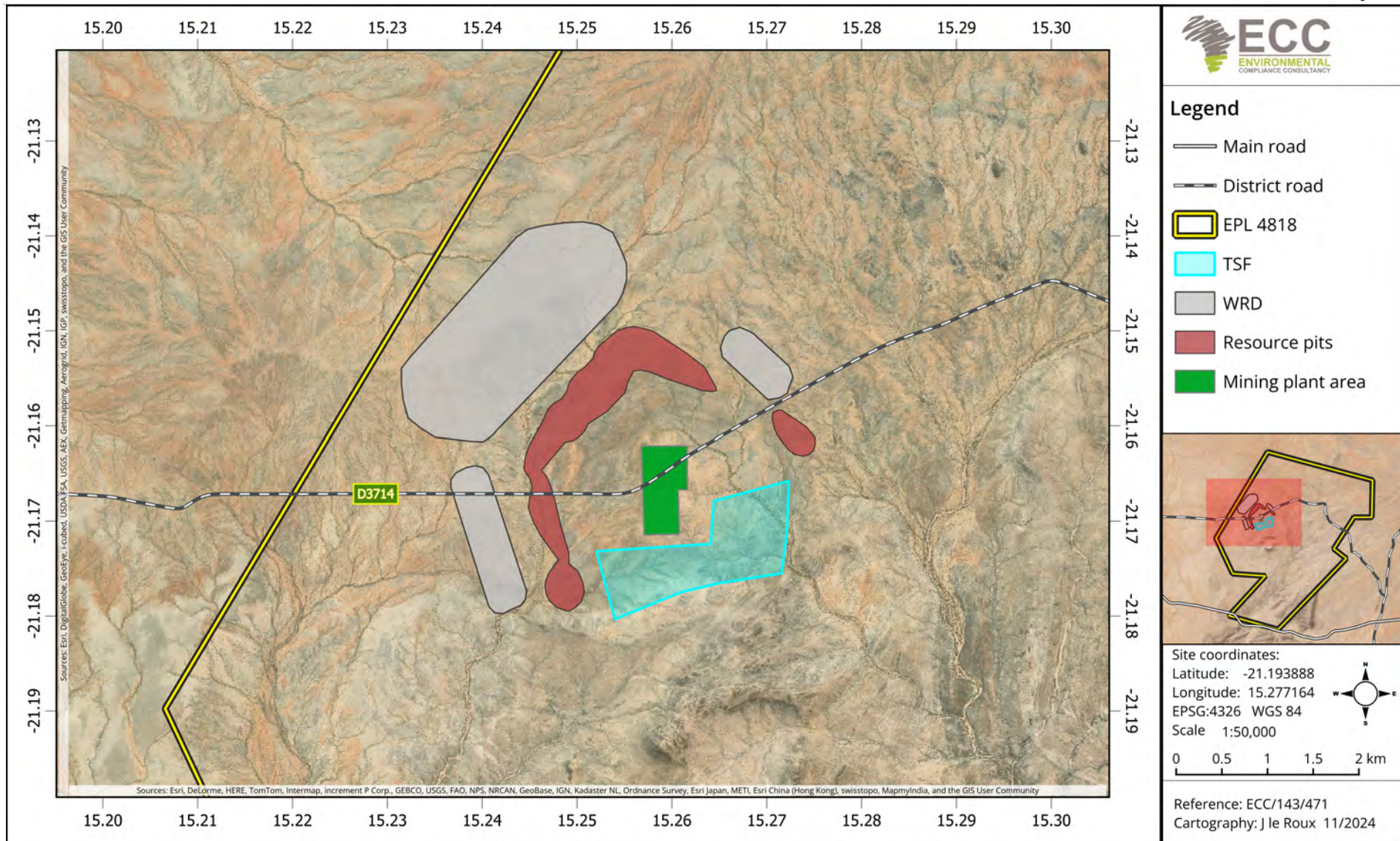


Figure 8 – Preliminary Kokoseb Gold Mine project site layout

4.6 MINING INFRASTRUCTURE AND SERVICES

4.6.1 OREBODY

The gold mineralized metasediments of the Kuiseb Formation are heavily intruded by late syn-tectonic and post-tectonic granites, as well as minor mafic dykes trending from N-S to NNE-SSW. The licence area generally shows moderate to good exposure, though the orebody is mostly sub-outcropping and often covered by thin layers of soil, colluvium, or pisolitic calcrete up to 2 m thick. Mineralisation is developed from surface to depths in excess of 350m.

The orebody forms an arcuate dome-shaped feature, approximately 3Km across, wrapped round a central core of post-tectonic leucogranite, and truncated in the south by a major thrust zone. Granite dykes, granitic veinlets, and pegmatites that cut through the orebody are related to the central granite core or later phases of intrusion. The mineralized schists to the west, east, and northeast are enclosed by coarse-grained, pre-syn-tectonic porphyritic-feldspar granite.

Gold mineralisation, present as native gold grains and lesser silver bearing gold grains, is spatially associated with sulphides dominated by pyrrhotite, löllingite and arsenopyrite in order of abundance. Sulphides manifest as foliation-controlled blebs, stringers and disseminations and löllingite is always spatially associated with arsenopyrite and pyrrhotite where a retrograde reaction rim of arsenopyrite is always developed at the contact between pyrrhotite and löllingite. This contact zone between löllingite and arsenopyrite is typically where gold grains are developed though they can also occur as partial inclusions within löllingite and rarely within pyrrhotite. Gold is also sometimes associated with bismuthinite and native Bi mineralization and is also identified within altered quartz/diopside veins and veinlets.

The degree of stability for slopes in an open pit mine is critically important to minimise the risks related to the safety of operating personnel and equipment, as well as the economic risk to the resource. Ore recovery must be maximised, and waste stripping kept to a minimum throughout the productive life of the operation. The resulting compromise is typically a balance between formulating designs that can be safely and practically implemented in the operating environment and establishing slope angles that are as steep as possible and consistent with the ore body geometry and rock conditions.

Basic Geotech logging is being undertaken but detailed geotechnical investigations are yet to be completed.

4.6.2 MINING METHOD AND EQUIPMENT

The Kokoseb Gold Project will make use of conventional open pit mining methods, with the selective ore zone and waste zone being drilled and blasted at 5m benches, and the broad

continuous areas of waste material being 10m benches that will be loaded in two 5m flitches. Ore and waste will be loaded with hydraulic excavators and hauled by diesel-powered trucks to the primary crusher, Run of Mine (ROM) pad stockpile, low-grade stockpile, or waste dump. At this stage, it is assumed that the whole mining operation, except for the mine technical services function, will be outsourced to a reputable mining contractor company. All other mine technical services that include management, planning and grade control will be the responsibility of the Proponent.

It is assumed that a contractor mining model will deploy a 130 t hydraulic backhoe excavator to be employed for selective loading purposes, and a fleet of 200-t hydraulic backhoe excavators will be employed for selective ore and waste loading, including bulk loading for entire waste benches. 100-t capacity, off-highway rigid haul trucks will be used, and standard open-pit drilling equipment will be required. The medium-sized equipment gives increased flexibility and allows better loading selectivity, which will limit dilution. The primary equipment will be supported by an array of secondary and support equipment.

The initial management team will include a globally experienced contingent, to ensure that operation start-up is safe and efficient, and that ramp-up targets are met. An approved localisation plan will be established to train and equip the local workforce sufficiently, to enable and ensure a seamless transition of responsibilities over time. The bulk of the equipment operators are expected to be unskilled (approximately 80 %) and will require training from a basic level. The start-up strategy for mining operations takes account of this requirement.

The mine will operate 361 days per annum (allowing for lost days, public holidays and weather delays) on a 24-hour basis with three shifts rotating on an 8-hour duration.

4.6.2.1 Blast operations

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

Blasting can substantially modify and control material flow within the mining operation, including the feed size to the primary crusher. Blast performance must be assessed in terms of the following outcomes:

- Fragmentation, relating to the feed size supplied to the primary crusher, as well as oversized material and the requirement for rehandling of material, and secondary breakage.
- Shovel productivity, including wear and maintenance costs.
- Use of track dozers to condition the bench floor and rip high bottoms.
- Grade control.

-
- Primary crusher power consumption, throughput, and maintenance costs.
 - Disruption to material flow during digging and crushing that affects truck efficiency.

The pit configuration bench height is expected to be 5 m for ore and selective waste benches, and 10 m for bulk waste benches. The material type at the Project is suitable for a drill rig capable of drilling holes with a diameter of up to 171 mm. Drill burden, spacing and sub-drill design will be functions of the selected powder factor, which is based on the unconfined compressive strength measurement results from the geotechnical study.

A lower relative energy factor was assigned to the waste rock because the waste material needs to be efficiently and economically excavated, hauled and placed on the waste rock dump. On the other hand, with the ore material's higher relative energy factor, any finer fragmentation could benefit the downstream crushing and milling costs of the Project.

In areas where mining slopes remain intact for extended periods, it is good practice to minimise the fracturing of the high walls during blasting. In such identified areas, wall control blasting, also known as pre-splitting, can be considered. Pre-splitting was provided within the final pit boundary along the high wall, to create safe working conditions in the lower areas.

4.6.2.2 Drilling

Drilling is the first operation performed at most open-pit mining operations. Rotary drills are predominantly used, although for smaller holes (<200 mm) down, down hole hammer drills have often been employed, and would be well suited for smaller surface operations.

4.6.2.3 Load and haul operations

The overall scale of mining envisaged for the Project is a medium to large-sized mine. As a result of the limited extent of mineralisation, selective mining practices have been incorporated into the ore mining methodology.

Waste and ore mining operations will use a 130-ton hydraulic backhoe excavator designated for selective loading tasks. A fleet of 200-ton hydraulic backhoe excavators will be used for selective ore and waste loading, as well as bulk loading across complete waste benches. Off-highway rigid haul trucks with a 100-ton capacity will be employed, along with standard open-pit drilling equipment.

4.6.2.4 Ancillary equipment

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

- Keeping the loading, tipping and haul road areas clean, thus prolonging tyre life and making the operation safe

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

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

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

4.6.2.5 other mining activities and infrastructure

Most surface haul roads, dumps and stockpiles required for the LoM will have to be constructed during the first year of mining. The waste dump will progress by the haul truck tipping on the top elevation of the dump, with the dozer pushing the waste down. These actions will cause the waste dump to progress horizontally over time. Waste dumps should be progressively rehabilitated with suitable rehabilitation materials, subsoil, and topsoil where possible. Rehabilitation must be performed as soon as possible on the external faces of the waste dump, to reduce visual and air quality impacts. Ore stockpile dumps will be constructed in close vicinity to the primary crusher tipping point, to minimise the reclamation costs and meet the environmental management requirements.

Waste rock will be required for the construction of mine infrastructure such as run-of-mine (ROM) pad and tailings storage dam walls. During normal operations, the ore feed will be achieved by a combination of ore tipped directly into the RoM bin by the haul trucks from the pit with the RoM loader adding other appropriate ore material from RoM grade control stockpiles.

In-pit water management will mainly consist of run-off control around the pit perimeter and temporary sumps at the lowest elevation in the pit. Pit dewatering pumps will pump excess water to a suitable holding dam ready for use as dust suppression and plant make-up water.

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

4.6.3 PIT AND HAUL DESIGN

The pit design will be developed during the pre-feasibility and feasibility studies to produce a practical pit with ramps, bench and berm configurations. The ramp positioning within the overall pit design is an integral component of mine design because it influences the stripping ratio of the overall design, the performance of the equipment, as well as the operating costs. The exit positions of the ramps will be determined taking into consideration the proposed positions of the primary crusher and the waste rock dumps.

4.6.4 METALLURGY AND PROCESSING

Gold recovery will be achieved using a conventional crushing, milling, gravity, and either carbon-in-leach (CIL) or carbon-in-pulp (CIP) (still to be decided) with cyanide extraction and detoxification. The process plant design is based on a robust metallurgical flowsheet developed for optimum recovery while minimising initial capital expenditure and operating costs. The metallurgical flowsheet is based on unit operations proven in the industry, as shown in Figure 9.

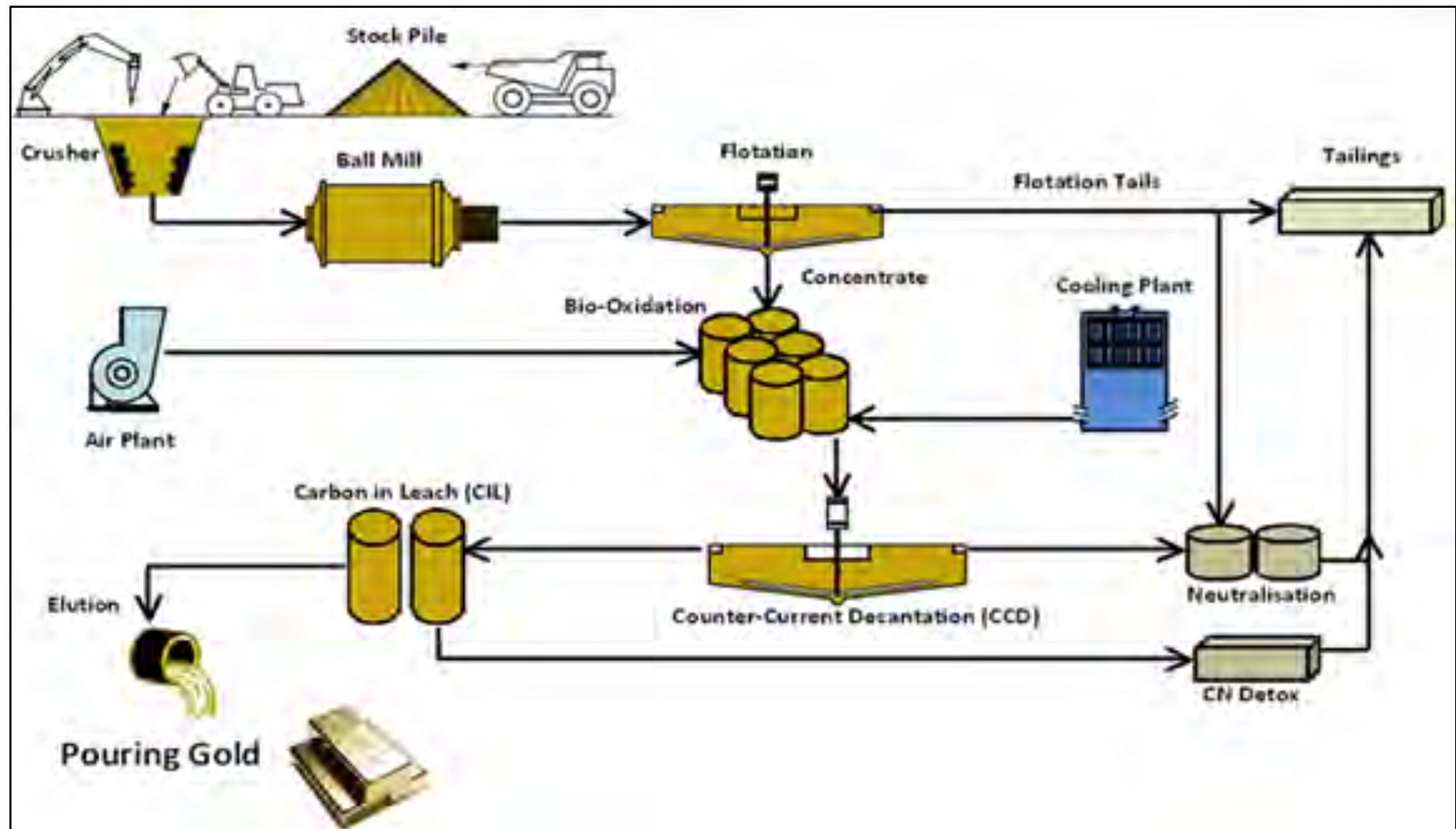


Figure 9 - Metallurgical process flow

4.6.5 PROCESSING PLANT INFRASTRUCTURE

The processing plant infrastructure will include the following: site security and access control, change house facilities, training and induction facilities, canteen facility, administrative offices, medical and emergency response facilities, warehousing facilities including open air laydown areas, workshop facilities, ablution facilities, emergency backup generation facilities, waste management and recycling facility, reagents stores and laboratories.

4.6.5.1 *Primary crusher*

Run of mine (ROM) material will be trucked from the pits to the primary crusher, where a rock breaker will break oversized rocks at the top of the dump pocket. The crushed rock will then be removed from the primary crusher and be transferred by a discharge conveyor to a stockpile feed conveyor and onto a coarse ore stockpile. The primary crushing circuit includes the following:

- Gyratory crusher
- Primary crusher discharge bin
- Rock breaker
- Wide primary crusher discharge conveyors and coarse ore stockpile feed conveyors
- Coarse ore stockpile
- Primary crushing area sump pump

4.6.5.2 *Secondary and tertiary crushers*

The coarse ore is then directed to the secondary crusher screen feed conveyor. A dry dust extraction system is used to remove dust from the secondary crusher screen feed conveyor. This conveyor is equipped with a weight meter to control throughput for secondary and tertiary crushing, as well as a metal detector to safeguard downstream cone crushers. The discharge from the secondary crusher is then sent to the tertiary crusher screen feed conveyor, where it combines with the undersized material from the secondary crusher screen and is conveyed to the tertiary crusher screen feed bin. In the crushing area, a dry dust extraction baghouse system is employed to extract dust from the extraction hoods of the tertiary crusher feed conveyor, secondary crusher screen, and tertiary crusher screen, and deposit it onto the tertiary crusher screen feed conveyor.

The combined products from the secondary and tertiary crushers, along with the undersized material from the secondary crusher screen, are conveyed by a belt feeder to a double-deck tertiary crusher screen. The oversize material from the top deck (25 mm) and the bottom deck (14 mm) is then directed onto a tertiary crusher feed conveyor. This conveyor feeds a twin tertiary crusher feed bin with double conical bottoms, each of which discharges to separate belt feeders. Variable speed belt feeders retrieve the ore and provide a controlled feed rate to the two duty tertiary crushers. The product from the tertiary crushers is discharged onto the tertiary screen feed conveyor. A dry dust extraction baghouse system is used to extract dust from the extraction hoods of the tertiary crusher screen feed bin, the tertiary crusher screen, and the extraction hood of the fine ore stockpile feed conveyor, and deposit it onto

the fine ore stockpile feed conveyor. The undersized material from the tertiary crusher screen, with a P80 size of 9 mm, is discharged onto the fine ore stockpile feed conveyor, which in turn discharges onto the covered fine ore stockpile with a storage capacity of 12 hours.

The secondary and tertiary crushing circuits include the following:

- Two coarse reclaim apron feeders
- Secondary crusher screen feed conveyor
- Double deck secondary crusher screen
- Secondary crusher
- Tertiary crusher screen feed conveyor
- Tertiary crusher screed feed bin
- Tertiary crusher belt feeder
- Double deck tertiary crusher screen
- Twin tertiary crusher feeder bin
- Two tertiary crusher belt feeders
- Two tertiary crushers
- Fine ore covered stockpile
- Dust extraction and suppression
- Coarse ore reclaim, secondary and tertiary crushing area sump pumps

4.6.5.3 Fine ore reclaiming and conveying

The reclaim tunnel is a structure beneath the covered stockpile where fine ore is stored, and the ore is withdrawn from this tunnel. There is then a fine ore reclaims belt feed which are two variable speed belt feeders responsible for withdrawing the fine ore from the reclaim tunnel. These feeders control the flow of the ore onto the mill feed conveyor. This conveyor then transports the fine ore from the reclaim tunnel to the ball mill feed box. A weight meter is fitted to the mill feed conveyor that measures the weight of the material being conveyed and controls the speed of the belt feeders which regulates the feed rate to the grinding circuit.

The dry dust extraction system is used to extract dust from the discharge points of the belt feeders, preventing dust pollution. The fine ore reclaim tunnel ventilation fan is then responsible for displacing the air in the fine ore reclaim tunnel, helping to maintain a well-ventilated environment. The fine ore, grinding media or ball mill pebbles are stored in the fines reclaim hopper and fed into the circuit as needed. Quick lime is added directly to the mill feed conveyor via a lime silo using a rotary valve. Lime addition will be adjusted by a pH meter in the CIL circuit and by the mill feed rate as measured by the mill feed conveyor weightometer.

The fine ore reclaim circuit includes the following:

- Two fine ore reclaim belt feeders
- Mill feed conveyor
- Fines reclaim hopper and belt feeder
- Lime system

- Fine ore reclaim area sump pump

4.6.5.4 Grinding and classification circuit

The material that is too large to pass through the ball mill trommel is sent to a pebble bunker, while the smaller material moves towards the mill discharge hopper, from where it is pumped to the classifying cyclones. The overflow from the cyclones flows towards two dedicated trash screens through a distribution box, positioned before the pre-leach thickener. Meanwhile, the underflow from the cyclones moves towards the ball mill feed box via a splitter box for further grinding. Additionally, a portion of the cyclone underflow is directed to the gravity concentration circuit.

The grinding and classification circuit includes the following:

- Ball mill
- Classification cyclones
- Mill discharge hopper and pumps
- Milling feed and discharge area sump pumps

4.6.5.5 Gravity recovery circuit

The gravity circuit consists of two centrifugal concentrators along with two gravity scalping screens. The circuit is fed by a bleed stream from the classification cyclone underflow splitter box, which flows naturally to the gravity scalping screens. Any oversize material (+2 mm) from the gravity scalping screens moves towards the ball mill feed box. The undersized material from each scalping screen gravitates to its respective dedicated gravity concentrator. The tails from the gravity concentrator then flow to the mill discharge hopper.

During batch cycles, the undersized material from the scalping screens occasionally bypasses the concentrators and is directed to the mill discharge hopper. The gravity concentrator will operate in a semi-batch mode, and the resulting gravity concentrate will be gathered in the intensive cyanidation reactor (ICR) feed storage hopper, where it will undergo leaching by the ICR circuit.

The gravity recovery circuit includes the following:

- Two gravity scalping screens
- Two gravity concentrators

4.6.5.6 Intensive cyanidation reactor (ICR)

The gravity concentrator channels its concentrate to the ICR for gold recovery through cyanide leaching. This concentrate is directed to the ICR gravity concentrate storage hopper and subsequently moved to the ICR drum once it reaches a specified weight in the storage hopper. This triggers batch processing. Water is introduced into the ICR drum. The ICR leach solution, consisting of approximately 1.2% Sodium cyanide (NaCN) and 2.0% Sodium Hydroxide (NaOH), is kept in the ICR solution storage hopper and then conveyed to the ICR drum. Caustic

soda solution is included to maintain the pH level above 10.5. The ICR circulating pump divides the solution between the ICR solution hopper and the ICR drum. Oxygen is infused into the circulation line through a sparger during leaching for a set duration. Flocculant is introduced into the ICR pump hopper and circulates through the ICR solution storage hopper and ICR drum. This facilitates the settling of fine flocculated solids in the ICR reactor drum. Following leaching, the ICR drum is halted, and the solution is transferred to the ICR solution storage hopper for solids to settle. Sodium hydroxide is then added to the solution storage hopper, and the clarified solution is drained to the ICR pump hopper and pumped to the ICR electrowinning feed tank in the gold room as a pregnant solution for gold sludge recovery through a dedicated electrowinning cell. The sludge can be combined with the sludge from the carbon electrowinning cells and either smelted together or separately for metallurgical accounting purposes. Once the transfer of the pregnant solution is finished, the ICR drum and ICR solution storage hopper are rinsed, and the resulting slurry is collected in the ICR pump hopper before being pumped to the mill discharge hopper.

The ICR circuit includes the following:

- ICR feed storage tank
- ICR drum
- ICR pump hopper
- ICR solution storage hopper
- ICR circulating pump
- ICR area sump pump with imbedded gold trap

4.6.5.7 Pre-leach thickening

The excess material from the cyclone is divided between two screens designed to remove foreign substances before the leaching process. The removed material goes to a designated bin which will be emptied regularly. The smaller particles from the screens are directed to the pre-leach thickener to increase the concentration of solids in the leach mixture to 50%. A substance called flocculant is mixed in the static mixer of the pre-leach thickener and then added to it. The overflow from the thickener flows into a designated tank and is combined with the overflow from the tailings thickener, then circulated back as part of the plant's water processing. The thickener's denser residue is pumped into the CIL/CIP circuit through a sampling system. A self-operating slurry sampler, placed at the input of the pre-oxidation feed box distributor, collects a representative sample of the thickener's denser residue for plant monitoring and metallurgical record-keeping purposes.

The pre-leach circuit includes the following:

- Two trash screens
- Pre-leach thickener and CIL/CIP feed pumps
- Pre-leach thickener flocculant static mixer
- Leach feed automatic sampler
- Pre-leach area sump pump

4.6.5.8 *Carbon stripping*

The carbon elution process will employ the split AARL technique. To start the elution sequence, a specified volume of stripping solution containing 2.0% w/w NaOH and 2.0% w/w NaCN will be injected into the lower section of the elution column. Following an initial preheating at 95°C and a soaking period, the strip solution will be circulated through the strip solution heater to raise its temperature to 130°C before entering the elution column. The eluate exiting the elution column will pass through the recovery heat exchanger, ultimately reaching either the strip solution tank, lean eluate tank, or one of the two pregnant solution tanks, depending on the step in the sequence. The solution in the lean eluate tank will be utilized during the elution step and replenished during the rinsing and cooling steps in preparation for the next elution. Once the cooling sequence is finished, the carbon will be hydraulically transferred to the feed hopper of the carbon regeneration kiln via a dewatering screen. An option is available for bypassing the carbon regeneration if necessary. Additionally, systems for antiscalant dosing and sulphamic acid cleaning are included in the stripping circuit. The main equipment in the stripping circuit consists of the elution column, strip solution heater with heat input and heat recovery heat exchangers, strip solution tank, lean eluate tank, and elution area sump pump.

4.6.5.9 *Electrowinning and gold room*

Gold is extracted from the pregnant eluate through the processes of electrowinning and smelting, resulting in the production of Doré bars. The elution circuit transfers pregnant eluate to one of two tanks, allowing one tank to undergo elution while the other either recirculate through the electrowinning cells or pumps out a barren solution to the CIL/CIP circuit. During an electrowinning cycle, the pregnant eluate flows through two electrowinning cells equipped with stainless steel mesh cathodes. Gold adheres to the cathodes, and the solution returns by gravity to the chosen pregnant solution tank for recirculation until it is considered barren or the designated time frame has been completed. Pregnant solution from the ICR electrowinning tank undergoes an additional step, passing through a dedicated electrowinning cell for processing. Barren ICR solution is pumped back to the leach feed distribution box in the CIL/CIP circuit. In the future, pregnant solutions from the ICR will be directed to one of two ICR electrowinning feed tanks, allowing for eluate transfer to one tank while the other recirculates through the dedicated ICR electrowinning cells. The barren solution will be pumped to the leach feed distribution box in the CIL/CIP circuit. The gold-enriched sludge is dislodged from the steel cathodes in the electrowinning cells using high-pressure water sprays and moves to the sludge hopper via gravity. Subsequently, the sludge is filtered in a pan filter, dried, blended with fluxes, and smelted in a diesel-fired furnace to create gold Doré. This electrowinning and smelting process occurs in a secure and supervised gold room, equipped with access control and security systems.

The electrowinning circuit and gold room are outfitted with essential equipment, including:

- Two tanks for pregnant solution

- ICR electrowinning feed tank
- Three electrowinning cells with dedicated rectifiers
- Sludge hopper and sludge pan filter
- Drying oven
- Flux mixer
- Diesel smelting furnace with bullion moulds
- Bullion vault and safe
- Fume extraction and ventilation systems
- Gold room crane
- Gold room security system
- HCN gas monitor
- Gold room sump pump with imbedded gold trap
- ICR feed tanks, and electrowinning cells with dedicated rectifiers (Future).

4.6.6 SERVICES AND UTILITIES

4.6.6.1 *Mining office block*

The mining office block will be a modular structure installed on a mesh-reinforced concrete slab. The building will provide office space to the mining personnel, including the mine manager and the technical services manager, geology personnel, surveyors, maintenance engineers, and mining support staff.

The building will likely have offices, one main boardroom, two meeting rooms, male and female ablutions, a kitchen, a pit control room, a first aid room, and an open quadrant for landscaping.

4.6.6.2 *Geological core shed*

The geological core shed building will be a sheeted steel portal structure. The core shed will be used by the geology section to assess and store core and geological samples. Operations will include a night shift; internal ablution facilities will be provided in the building.

4.6.6.3 *Mining change house*

The mining change house will provide ablution facilities to all mining employees, and production and maintenance crews, including foremen. All employees who use the change house will clock in through the change house turnstiles when they enter or exit the mining complex. A single-tier locker will be allocated to each employee, either on shift or off shift, for personal belongings and clean overalls. Washing facilities will be included in the mining change house for washing overalls and clothing.

4.6.6.4 *Warehouse*

The mining warehouse (or stores) will be a sheeted steel portal structure. The warehouse shall be used for the storage of all critical and operational spares, as well as office and other consumables. Goods will be received by the store's personnel in fenced receiving bays before storage in the main building. Access to the store's building is limited to store personnel, and

dispatch will either take place over a goods issue counter or through a fenced dispatch bay. Store yards external to the warehouse will be used for pipes, large equipment, and tyres, etc. Acetylene gas, oil, paint, and other flammable materials will be stored in separate areas and designed accordingly if storing dangerous goods.

4.6.6.5 Heavy mobile equipment (HME) workshop

The heavy equipment workshop is the main shop for the maintenance and rebuilding of mining equipment. The building design is capable of handling maintenance work for 60 t ADT and Rigid Frame Dump trucks and support equipment as per the maintenance plan. The structure will be a sheeted steel portal supported on concrete plinths, with brickwork. The workshop will be bundled with an internal drainage system into a suitable hydrocarbon collection and treatment facility. Wash bays will be required for equipment, before, during and after maintenance, and therefore settling dams/ponds will be required as part of the wastewater treatment system in the wash bay.

4.6.6.6 Light vehicle (LV) workshop

The light vehicle workshop will be used for the maintenance of all mine light vehicles, including those operating in the processing plant areas. The structure will be a sheeted steel portal supported on concrete plinths. Similar wash bay facilities and arrangements for the heavy equipment workshop will be required for the light vehicle workshop and will need to be designed accordingly.

4.6.6.7 Fuel facility

Diesel for mine operations will be delivered by trucks to a designated and designed site fuel facility. A site-based service provider will erect infrastructure and facilities for the storage and handling of fuel. The service provider will also be responsible for the supply, delivery, and management of stock for the life of mine. The Proponent will ensure the facility has the required installation certificates before commissioning the fuel facility. A hard stand pad for maintenance and servicing of mining equipment will be constructed outside the HME workshop.

4.6.6.8 Explosive magazine and bulk emulsion storage facility

The number and capacity of magazines are determined based on the defined mine production schedule and on rock mass conditions in terms of strength and moisture. A total of two explosive magazines have been determined:

- One magazine holding 100 cases of accessories
- One magazine holding 100 cases of high explosives

The designs are based on an explosive supplier's recommendation and address all legal requirements.

An appointed contractor will be based on-site and will provide explosives and blasting services to the mine. The contractor will establish and be responsible for the explosive magazine infrastructure, office, and workshop infrastructure. Space provision has been made

for both sites, and the siting of the explosive magazine will be in conformance with the requirements of the Namibian Labour Act, Namibian Mining Legislation, and Regional Explosives Standards or regulations.

4.6.6.9 Communication

Radio, telephone, and internet connections will be required for the mining operation. Infrastructure, including communication masts, will be installed, and provisions will be made with the relevant service providers.

Additionally, there will be a training and induction facility, first aid and emergency response facility, gatehouses, and access control rooms to the site, HSE buildings, laundry facilities, analytic laboratory, refuse handling and recycle shed with office space and bus stop shelters, which will be built from brick.

While more substantial buildings such as HME workshops, boilermaker workshops, oil and flammable stores facility, bulk fuel and processing plant refuelling stations in the mining contractor laydown area and plant workshop wash bays and silt trap facilities will be steel framed and sheeted structures on concrete foundations and engineered concrete floor slab, purpose designed.

Electrical Motor Control Centre (MCC) buildings will be containerised or prefabricated e-house units with the MCCs and related electrical equipment pre-installed to minimise site work.

Moreover, there will be:

- Administrative offices;
- Facility for training and induction;
- Gatehouses;
- Ablution facilities distributed across the site;
- Analytical laboratory;
- Shed for refuse handling and recycling with associated office space;
- Shelters at bus stops;
- Workshops for equipment and light vehicle maintenance;
- Workshops for electrical, control, and instrumentation (EC&I) and boilermaker activities;
- Primary warehouse, including a smaller facility for oil and flammable storage;
- Refuelling stations for the process plant and bulk fuel dispensing at the Mining Contractor laydown area;
- Wash bays and a silt trap facility for plant workshops; and
- Electrical Motor Control Centre (MCC) buildings containerized or in prefabricated e-house units, with pre-installed MCCs and related electrical equipment to minimize on-site work.

4.7 UTILITIES

4.7.1 POWER SUPPLY

The current strategy is to source power for the Project from the national grid. Electrical power is readily available in the area from the national power utility, NamPower. The bulk electrical supply will be sourced from the NamPower electrical transmission network. An agreement will be signed with NamPower, with a 66 kV supply take-off from the Uis NamPower substation. The proponent may look into different forms of renewable energy such as solar on site to decrease reliance on the national grid and to reduce Project carbon emissions.

4.7.1.1 Construction power

The mine will use diesel-fuelled generators to supply power for construction activities. Contractors will also supply small generator sets for construction purposes at remote locations during the construction phase. A combination of rented generator sets, and use of the emergency generator set will be used for the provision of construction power.

4.7.2 WATER SUPPLY

Long drought periods of up to seven years, typically referred to as critical periods, are common to the Namibian climate. During a long critical period, the groundwater table drops significantly due to limited recharge, causing some boreholes to dry up. Similarly, surface water sources, which are already stressed, might not be able to support priority users, resulting in water restrictions being enforced to prevent the failure of the water resource. The source of water supply to the mine is still being investigated.

4.8 MINERAL AND NON-MINERALISED WASTE

4.8.1 WASTE ROCK

Waste rock dumps (WRDs) will be designed as close to the pit exits as possible, to optimise productivity and minimise waste mining costs. Rehabilitation requirements are considered in dump location and design, and all dumping areas will undergo an ore sterilisation campaign prior to waste dumping. The sterilisation drilling has not yet commenced. The waste rock dumping strategy is to reduce the hauling distance and similarly enable progressive rehabilitation of the waste dumps wherever possible. In-pit dumping will also be deployed where possible.

Due to the prevalence of sulphide dominant minerals such as pyrrhotite, löllingite and arsenopyrite which are spatially associated with the Kokoseb Mine's targeted gold mineralisation, acid rock drainage (ARD) from potential acid forming (PAF) waste rock will likely need to be mitigated through careful WRD design. The potential for ARD from the waste rock will be investigated through a comprehensive geochemical sampling and assessment study to determine what the likely impacts on the receiving environment will be, as well as

what corresponding WRD mitigation measures should be implemented through the Environmental Management Plan (EMP).

The WRD construction process will adhere to the guidelines outlined in the EMP. Staged construction and vegetation efforts will be carried out in alignment with the EMP to minimize the visual impact from the start of the project's life.

4.8.2 TAILINGS STORAGE FACILITY

The tailings will be treated in a cyanide destruction circuit, followed by thickening and pressure filtration. Tailings filter cake will be transferred to an overland conveyor for stacking at the tailings storage facility (TSF). Some mine waste rock will be delivered to the TSF by a dump truck and used in the construction of the outer containment berm and capping of the TSF.

4.8.3 GENERAL WASTE

Waste will be separated at the source, stored in a manner that there can be no discharge of contamination 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 before removal and disposal to appropriate recycling or disposal facilities off-site (Uis, Omaruru or Karibib 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. The waste types as set out in Table 6 will be generated by the project, a dedicated waste management and recycling facility will need to be built on site that specifically manages these waste types, and this will include an incinerator.

Table 6 - Waste specification, storage and end-use

Waste type	Waste specifics (example of waste types)	Storage facility	End-use
Non-hazardous solid waste (non- mineralised)	Wooden crates, pallets, cable drums, scrap metal, general domestic waste such as food and packaging.	Dust bins in relevant work areas will be provided for different waste types. A waste management contractor will remove dust bins regularly to a dedicated waste handling and storage area.	Waste will be sorted further at a dedicated waste handling and storage area on site. Recyclable waste will be sent to a reputable recycling company. Some items may be distributed directly to the community if possible. The remainder of the waste will be transported by the waste

Waste type	Waste specifics (example of waste types)	Storage facility	End-use
			management contractor to a permitted landfill facility which may be constructed on site for example within the WRD.
	Building rubble and waste concrete	Designated rubble collection points will be determined to which contractors will take rubble and concrete.	The waste management contractor will regularly remove the waste from the designated collection points to the footprint of the waste rock dump.
Hazardous contaminated solid waste (non-mineralised).	Treated timber crates, printer cartridges, batteries, fluorescent bulbs, paint, solvents, tar, empty hazardous material containers etc.	Hazardous waste will be separated at source and stored in designated containers in bunded work areas. The waste management contractor will remove these drums regularly to a dedicated waste handling and storage area.	Hazardous waste will be disposed of at the permitted hazardous disposal site (for example in Walvis Bay) by the waste management contractor.
	Hydrocarbons (oils, grease)	Used oil and grease will be stored in drums in bunded areas at key points in work areas. The waste management contractor will remove these drums regularly to a dedicated waste handling and storage area. The yard will have a dedicated used oil storage area which will include a concrete slab, proper bunding and an oil sump. The appointed bulk fuel supplier will collect used oil for recycling.	Used oil will be sent to a reputable recycling company for recycling.

Waste type	Waste specifics (example of waste types)	Storage facility	End-use
	Sewage	Sewage will be collected and stored in a septic tank on site.	Sewage will be collected on a regular basis and transported for treatment to a dedicated sewage treatment facility which may be constructed on site.
Laboratory waste	Mineral samples, mineral assay samples, chemical fluids, glass, gloves and general laboratory waste samples	Mineral waste samples that are not required to be kept will be disposed of at the tailings storage facility and at an approved mineral disposal landfill. A mineral waste management contractor will remove the waste on a regular basis to a waste handling and storage area.	Hazardous laboratory waste will be collected regularly and transported to a hazardous disposal treatment facility (for example in Walvis Bay). Non- hazardous waste will be disposed of at an appropriate landfill which may be on site.
Medical waste	Syringes, material with blood stains, bandages, etc.	Medical waste will be stored in sealed containers. A waste management contractor will remove these drums regularly to a dedicated waste handling and storage area.	Medical waste will be transported by the waste management contractor to a permitted medical waste treatment facility.

4.8.4 EFFLUENT AND WASTEWATER TREATMENT

Sewage will be collected and will use gravity reticulation via buried sewer pipes to be transported to the treatment facility. Sewage will be treated in a purpose-built sewage treatment plant. The plant will have the capacity to treat the sewage generated on-site per day. The water output from the plant will be suitable for use in dust suppression, vehicle washing, irrigation, fire 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 can be used as fertiliser for the rehabilitation of mining landforms.

4.9 ALTERNATIVES CONSIDERED

Alternative mine designs, processing plant options, and the types of tailing disposal methods have all been considered during the pre-feasibility and feasibility study stages of the Project. The availability of water, potential for acid mine drainage, long-term slope stability, safety, and climate change, etc. will be considered when assessing the economic, technical, and environmental suitability of alternatives. For every alternative option, trade-off studies may be produced, calculating the financial or technical impact on the overall Project.

4.9.1 MINE LAYOUT

Several site layout alternatives were considered during the assessment phase. Layout options are currently constrained by the EPL boundaries and national roads.

4.9.2 ENERGY SUPPLY

The alternative energy source identified is predominantly solar photovoltaic (PV) panels and battery storage system.

4.9.3 WATER SUPPLY

The alternatives for water supply have not yet been assessed, however, water supply optimisation strategies are in progress and continuing. Any findings will be included in the assessment chapter (Chapter 7) of the ESIA report.

4.10 REHABILITATION AND CLOSURE

The Proponent has developed a mine rehabilitation plan as part of the mine closure plan that is consistent with the Namibian Mine Closure Framework and ICMM Integrated Mine Closure Good Practice Guide. These plans include estimated costs and are consistent with Namibian legislation and the draft Namibia Mine Closure Framework.

5 ENVIRONMENTAL AND SOCIAL BASELINE

5.1 BASELINE DATA COLLECTION

Initial desktop baseline studies relevant to the Project will form part of the initial environmental assessment to be conducted for the exclusive prospecting licence, on which the Project is situated. As part of this assessment, the baseline will be studied in detail, with inputs from specialist studies commissioned as part of the environmental and social impact assessment process.

5.1.1 DESKTOP AND FIELD SURVEYS

Initial desktop baseline studies were conducted for this scoping assessment, while field surveys and onsite environmental monitoring data are currently being conducted to build a baseline dataset.

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 any knowledge gaps require additional information before the assessment phase is completed.

5.1.2 SPECIALIST STUDIES

The following specialist studies, as outlined in Table 7, will be commissioned to determine the current state of the baseline environments. All specialist reports will be available as appendices to the assessment report.

Table 7 - Specialist studies conducted for the ESIA

Study area	Purpose	Specialists
Terrestrial ecology	– Biodiversity, habitat and ecosystem services. – Identification of species of concern and sensitive areas. – Impacts of mining construction and operations on habitats and biodiversity.	– Peter Cunningham
Hydrology	– Water supply – Storm protection and river diversion – Impact on heritage aspects – Clean and dirty water management systems	– Umvoto & ECC
Groundwater	– 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.	– Umvoto & ECC

Study area	Purpose	Specialists
Air quality	– 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
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
Soils and land use	– Assess existing land use and potential impacts on surrounding land users. – A soil study informs the quality and quantity of material available for rehabilitation to a similar state on closure.	– ECC
Traffic	– The traffic impact assessment reviewed 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 provide a concept layout plan if necessary.	– ITS
Heritage and culture	– A heritage assessment is required, to comply with Namibian national legislation and gain approval from the Heritage Council.	– Dr Alma Nankela
Visual and tourism	– Assessing the potential visual impacts of a proposed Project on the receiving environment.	– ECC
Social and economic	– Includes the assessment of various recreational activities in Uis and Okombahe. – Site-level (conservancy) economic impacts.	– 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 & RGS - Mine Waste and Management Consultants
Blast vibration impact	– Assessing the impact of blasting on receptors in the area.	– Blast Management and Consulting
Climate Change	– Assess the Project's greenhouse gas emissions and assess potential climate-related risks, vulnerabilities and opportunities.	– RDJ Consulting Services CC

5.2 LOCATION

EPL 4818 is situated approximately 25 km NE of Okombahe and 30 km ENE of Uis in the Erongo Region (-21.19388, 15.277164). The EPL is bordered by the C36 main road as shown in Figure 1. The EPL falls within the Okombahe Reserve, while the southwestern portion of the EPL falls within the Tsiseb Conservancy as shown in Figure 4.

5.3 LAND USE

The Project is situated within the Okombahe reserve, Okombahe village became officially established as a Rhenish mission in 1870 but is situated in an area full of former ǀNūkhoen dwelling places. Today, the village of Okombahe is considered a cultural centre for ǀNūkhoen (Dama) people and is home to the annual Damara King's Festival. The area is characterised by communal agriculture with the land use being dominated by small stock and donkeys. A southwestern portion of the licence is part of the Tsiseb Conservancy shown in Figure 4. The Tsiseb Conservancy was registered in January 2001 and spans 7 914 km². The conservancy is characterised by a variety of game such as elephants, leopards, cheetahs, and mountain zebra and as well as tourist attractions such as rock paintings, the Brandberg Mountain (Namibia's highest mountain, which has an abundance of rock art including the famous White Lady) and the Messum Crater.

5.4 GEOLOGICAL SETTING

Namibia can be categorised into two main geological regions: the western and eastern parts. The western region consists of various geological formations of different ages and compositions, formed under diverse environmental conditions. These formations originated from ancient ocean depths, movements of the earth's crust, collisions, or and volcanic eruptions. Exposed in the west, they form rugged landscapes of mountains, hills, valleys, and plains with sparse vegetation, offering fascinating insights into Namibia's geological history.

In contrast, eastern Namibia's formations are covered with more recent deposits, as noted by Mendelsohn et al. (2002). These deposits are loose, aeolian in origin, sandy, and unconsolidated. The eastern surface appears monotonous and uniform, covered with dense vegetation in the north, which decreases towards the south. Knowledge about these sediments primarily comes from water abstraction boreholes, rare outcrops, and formations exposed along drainage lines and around isolated pans.

While diamonds are a notable resource, most of Namibia's valuable mineral resources, including its oldest rocks like metamorphic complexes and the Damara Supergroup (where the EPL is located), are found in the western part of the country.

The local geology of the area is characterised by three geological settings of which the Swakop Group is most dominant, followed by the Damara granites with a small southwestern section

of the EPL consisting of the Kalahari and Namib Sands and has already been described in detail in section 4.4.

The geological setting is shown in Figure 10.

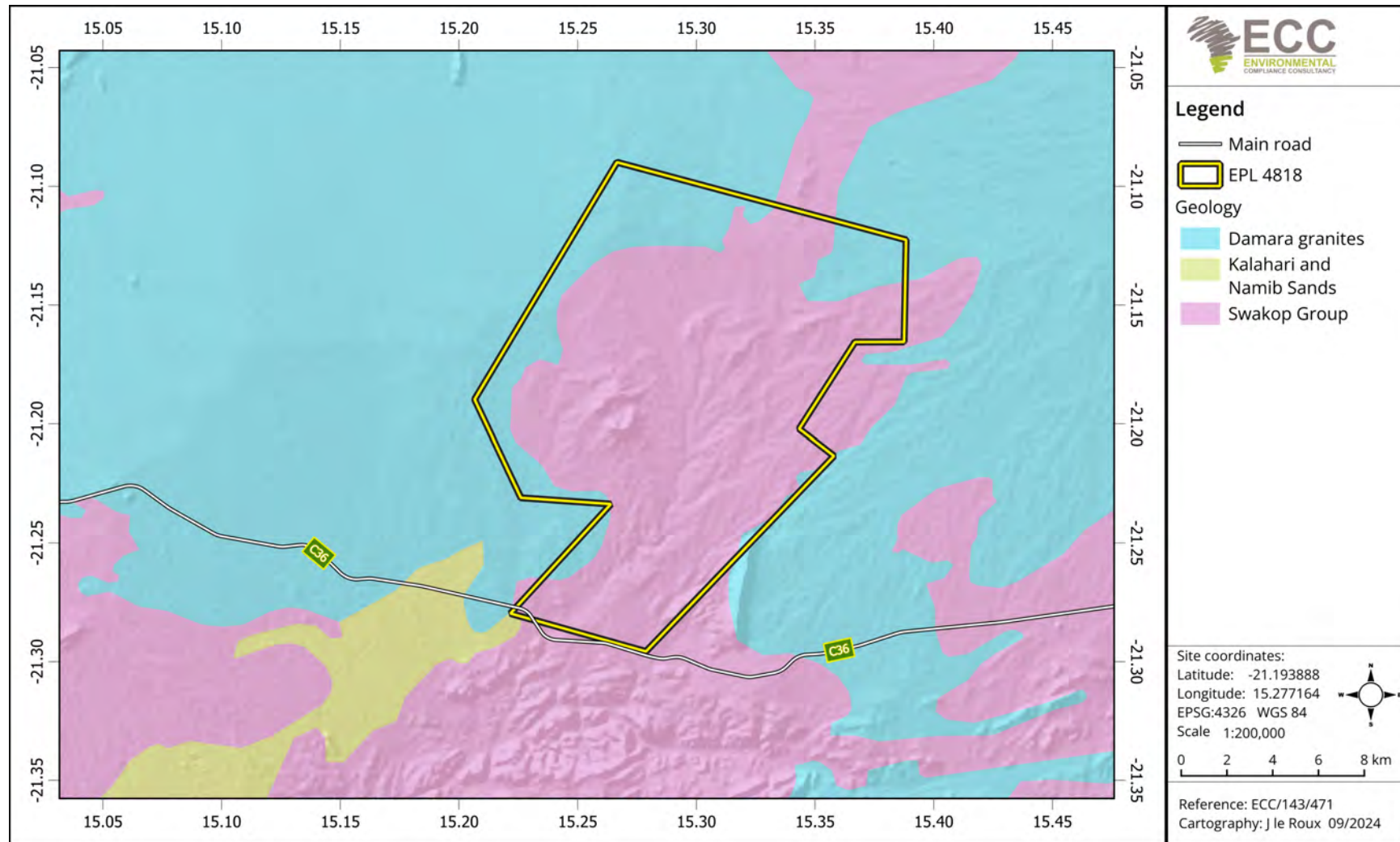


Figure 10 - Geological setting of the Project area

5.5 TOPOGRAPHY

The elevation decreases from the north to south and from east to west within the EPL. Despite the presence of rocky outcrops on the southeastern side of the EPL, this also happens to be the lowest area of the licence at around 900 meters above mean sea level (mamsl). Various drainage lines/rivers run throughout the EPL area as shown in Figure 11. The elevation within the EPL gradually changes from just below 900 mamsl to just above 1200 mamsl, but elevation across the EPL varies due to some elevated areas (i.e., hills).

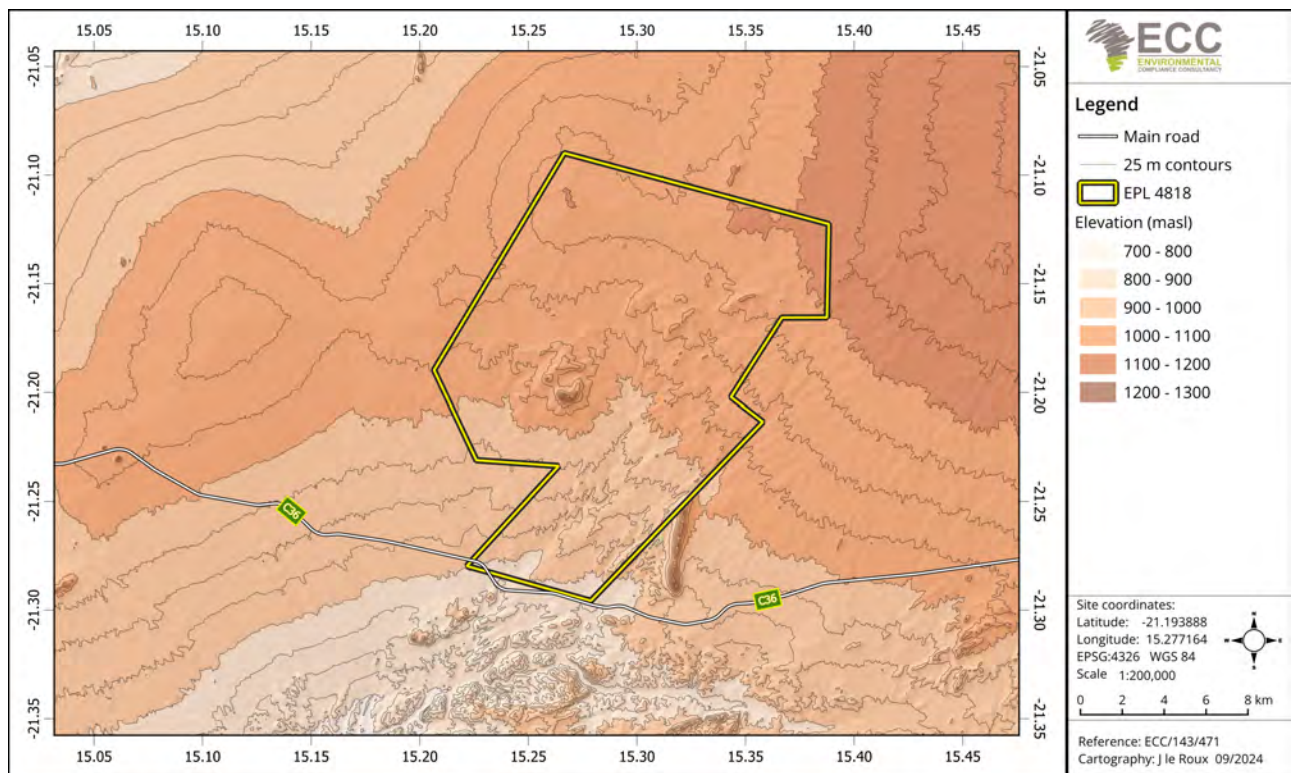


Figure 11 - Topography of the Project area

5.6 BUILT ENVIRONMENT AND INFRASTRUCTURE

5.6.1 INFRASTRUCTURE AND BULK SERVICES

The wide gravel C36 road south of the Project area carries large traffic volumes between Omaruru and Henties Bay and is likely to be the primary access route to the site.

The D3714 gravel road traverses the proposed mine site, across the and proposed site infrastructure area, this road may have to be diverted. Bulk water to Uis and Okombahe is pumped by NamWater from the Von Bach, Swakoppoort and Omatako Dams. The town of Uis and Okombahe is supplied by a 66 kV overhead powerline by ErongoRED.

5.6.2 TRAFFIC AND TRANSPORT

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

- C36 Road (M0080) – Class 3 minor arterial, with a gravel lane per direction. Speed limit of 100 km/h. A site observation made for the C36 road is that fencing along the road is suggested to protect drivers and animals.
- D3714 Road – Class 4 distributor, with a gravel lane per direction.

5.6.2.1 Site access

The current district road (D3741) runs through the Project area and will intersect the planned infrastructure. It will therefore need to be relocated. There are currently no details of how the road will be diverted. Additionally, the site can be accessed via the C36, which runs along the southern border of the EPL.

5.7 SOCIOECONOMIC BASELINE

5.7.1 GOVERNANCE

Namibia was established in 1990 and is led by a democratically elected and stable government. The country ranked eighth out of 54 African countries in the Ibrahim Index of African Governance in 2022 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 (Mo Ibrahim Foundation, 2023).

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 142nd on the Human Development Index out of 185 countries (United Nations Development Programme, 2024). Namibia's Multidimensional Poverty Index (MPI) in 2023 was 0.185 based on available data from 2013 (United Nations Development Programme, 2023). While in 2023 the country's Gini Coefficient was calculated by the World Bank Group to be 59.1 making Namibia the second most unequal country in the world (Josef Sheehama, 2023).

Namibia is divided into 14 regions, subdivided by 121 constituencies. The Erongo Region is divided into seven constituencies. The proposed Project is in the Daures 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).

5.7.2 DEMOGRAPHIC PROFILE

Namibia is one of the least densely populated countries in the world (3.7 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 of a better life.

The national population growth rate is estimated at 3%, which is lower than that of most African countries. Namibia's population is young – although 56.1% falls into the age group 15 to 59, 37% of the total population is younger than 15). In 2018, it was estimated that 49.5% of all Namibians are urbanised, i.e. living in an urban settlement. The last national census was conducted in 2023 and counted 3 million Namibians (Namibian Statistics Agency, 2023).

The populations of the Khomas and Erongo regions are projected to increase the most, with over a third of Namibia's population calculated to live in these two regions (Namibian Statistics Agency, 2023).

The proposed Project is in the Daures Constituency and borders the Karibib Constituency. In this region, the gender split between males and females is almost equal. An overview of the region and constituency in which the proposed Project is situated is presented in Table 8.

Table 8 - Socioeconomic baseline study summary of key indicators as of the 2023 Census (Namibian Statistics Agency, 2023)

Indicator	Erongo Region	Daures Constituency
Population estimate 2023	240 206	14 601
Gender ratio	50.9% male and 49.1%	57% male to 43% female
Number of households	74 795	4820

5.7.3 HEALTH

According to the website of the Ministry of Health and Social Services (MHSS), the Erongo Region has a total of 18 primary healthcare facilities, including two health centres, and four district hospitals. There are also private hospitals in Swakopmund and Walvis Bay.

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).

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).

5.7.4 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 those employed are in the category of “elementary occupation”, and 15.2% in 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 (COM) 2022 annual review report, the mining industry employed 16 147 people directly in the industry, which is an increase from the 15 426 reported figure in 2021 (an increase of 6.9%). This employment consisted of 8 391 permanent employees, 742 temporary employees and 7 014 contractors. The mining industry spent 196 million Namibian dollars on skills expenditure, with 184 million Namibian dollars spent on CSR expenditure and 964.9 million Namibian dollars on exploration. These figures include developing and operational mines, such as the Osino Twin Hills Gold Project.

5.7.5 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 of October 2021 and 64.64 as of May 2023.

5.7.6 ECONOMIC AND BUSINESS ACTIVITIES

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 (29.6% in 2022) and accounts for 12.2% of the country's GDP (COM, 2022 annual review report). Mining is one of the main contributors to GDP and one of the largest economic sectors of Namibia. Mining is a pronounced industry in the Erongo region, and the main commodities are uranium, gold, salt and dimension stones.

In addition to the sectors mentioned, 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 practised along the lower part of the Swakop River and at Omaruru. Several fresh crops are produced, mainly for local consumption.

In the Erongo region, 68.7 % of all households depend on salaries and wages as their main income (Namibian Statistics Agency, 2024). 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 7.5% of households receive their income from non-farming business activities (Namibian Statistics Agency, 2024).

5.8 HERITAGE AND CULTURE

The Erongo Region is characterised by major archaeological landscapes, however, a large portion of the region is archaeologically undocumented. The region's archaeological value is contributed by the significant number of prehistoric human settlements dating from the Early through Middle to Late Stone Age periods. Past excavation activities that occurred in archaeological areas such as the Brandberg, Erongo and Spitzkoppe Mountains indicate that human occupation dates back approximately 6000 years ago to 50 years ago when rock art traditions were no longer common (Mowa, 2024).

The recent historical evidence of activities in the area includes colonial battlefields, historic graves, roadworks, old salt works, historical Mines and shipwrecks. Some of these features such as graves, are specific and localised and might be easily defined and demarcated, whereas others may be extensive and difficult to demarcate (Mowa, 2024).

The Project area is in proximity to the Nainais settlement. It is assumed that the settlement dates to pre-colonial times due to the earliest dates marked on burial sites encountered in and around the settlement (Mowa, 2024).

5.9 NOISE

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 3 dBA at the nearest receptor location off-site (IFC, 2007). For a person with average hearing acuity, an increase of less than 3 dBA in the general ambient noise level is not detectable. 3 dBA is, therefore, a useful significance indicator for a noise impact.

A noise baseline survey will be conducted, at designated points by Airshed Planning Professionals (Pty) Ltd., a firm that specialises in all aspects of air quality, ranging from neighbourhood concerns to regional air pollution impacts. Airshed Planning Professionals (Pty) Ltd. will be appointed to conduct the modelling and assessment process.

5.10 VISUAL AND SENSE OF PLACE

The proposed Kokoseb Gold Project is situated in a sparsely populated area, with few farmsteads or other possible receptors. The village of Okombahe is considered a cultural centre for ǀNūkhoen (Dama) people and is home to the annual Damara King's Festival and tourist attractions such as rock paintings.

The Project's mining landforms will be seen from sections along the C36 road. Project construction and operational processes may lead to excessive dust, and the waste rock dump and tailings storage facility will alter the landscape in perpetuity. The visual assessment to be undertaken will include the viewsheds for several receptors.

5.11 LIGHTING AND VISUAL MARKERS

Namibia is known for its clear night skies and excellent stargazing settings. Artificial lighting, floodlights and lighting for night-shift mining activities are expected to be visible from the Project site. The baseline of undisturbed night skies from lights will be altered during the construction and operations of the Project.

5.12 BIOPHYSICAL ENVIRONMENTAL BASELINE

5.12.1 CLIMATE AND METEOROLOGY

The Kokoseb Gold Project is in western Namibia in an area that experiences generally hot daytime temperatures throughout the year, while the nights are mild to cool in winter. The average temperature for this area is between 21 °C – 22 °C. The mean maximum temperatures range between 32 °C and 34 °C and the mean minimum temperatures range

between 8 °C – 10 °C. The hottest months of the year for this area are between October and February, while the coldest months of the year are between May and August.

The relative humidity (RH) during the most humid months during summer is 70%, while the average rate of evaporation is between 3200-3400 mm per year. The average rainfall in this area during the year is between 150 to 250 mm and rainfall events are limited to the summer months, mainly between November and March as shown in Figure 12.

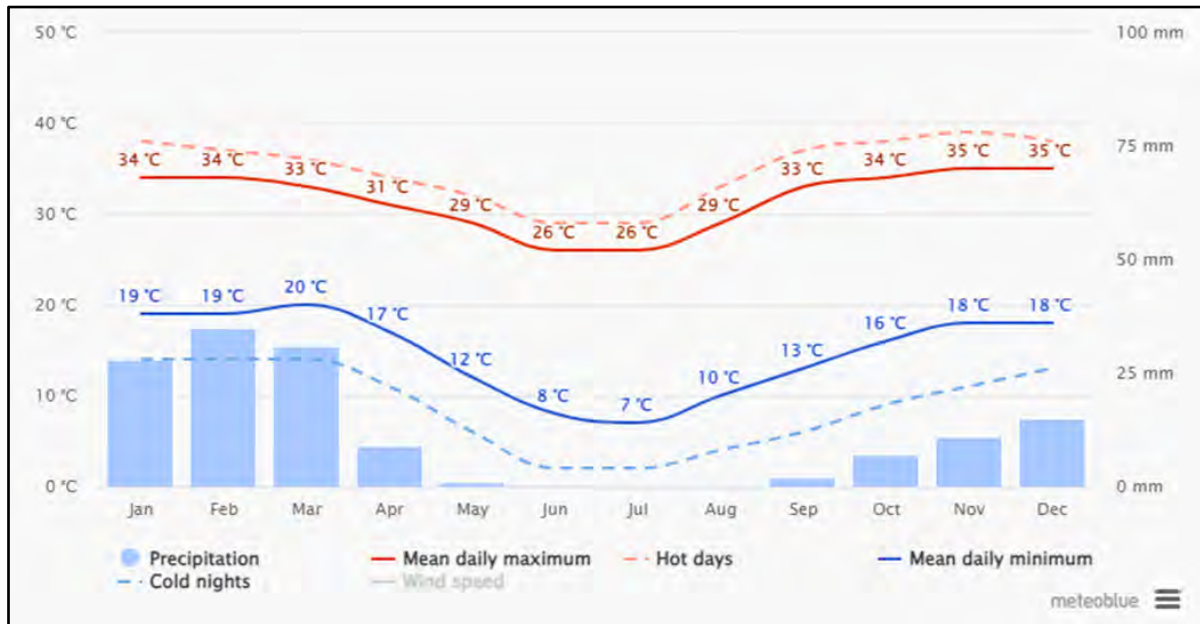


Figure 12 - Project area monthly temperature and precipitation averages (Source: meteoblue)

Climate and weather data from meteoblue (2024) for the site have been used to give the most accurate data for the EPL area. This area has wind speeds between 0 and more than 28 km/h, where the months of April to August 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 SW and ENE as shown in Figure 13.

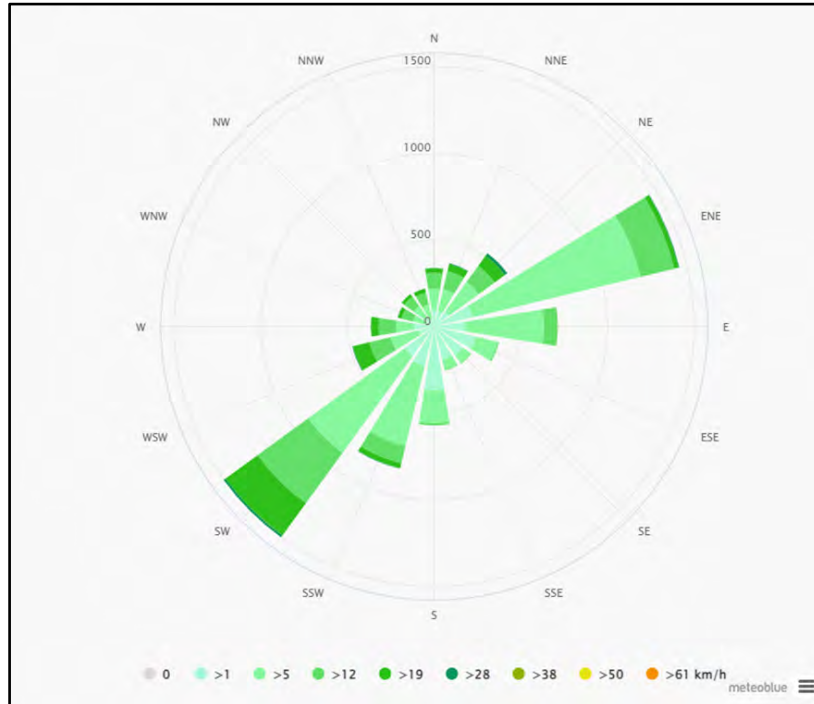


Figure 13 - Wind rose diagram showing the prevailing wind directions and speeds for the Project area

5.12.2 CLIMATE CHANGE

Over the past four decades, there has been a consistent rise in temperatures within the Project area, notably accelerating since 2016 as shown in Figure 14. 2019 marked a pinnacle, recording the highest temperatures ever documented since 1979, averaging at 23.5 °C. Data analysis reveals a pronounced upward trend in average temperatures, indicative of a broader global warming pattern. According to Jessica Lindsey and Luan Dahlman (2024), the Earth's temperature has increased by an average of 0.06 °C per decade since 1850. However, since 1982, this rate has surged to over three times faster, reaching 0.36 °C per decade; notably, 2023 stood out as the warmest year on record globally, tracing back to 1850.

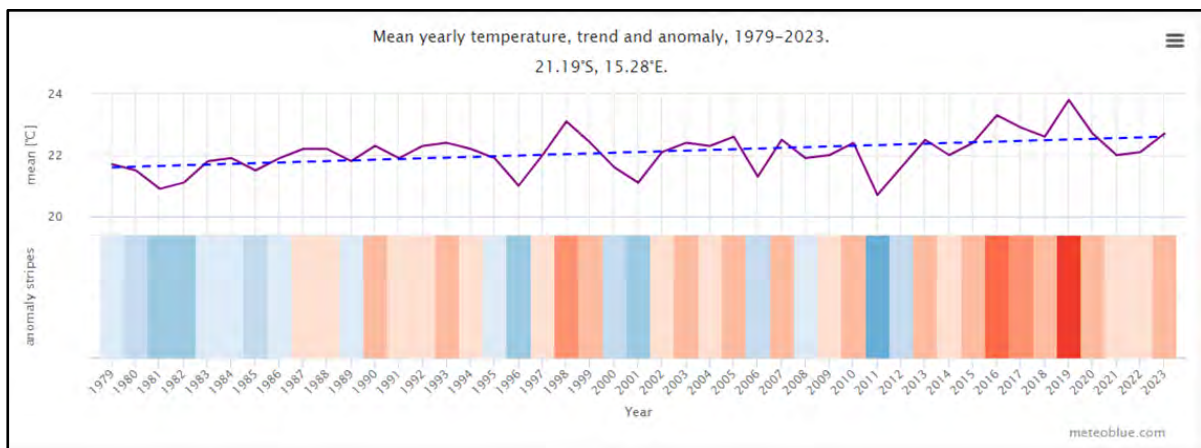


Figure 14 - Yearly average temperature change at Kokoseb Gold Project site (meteoblue, 2024)

5.12.3 SOIL

A soil analysis baseline was conducted, sampling the different soil types from six (6) soil sampling locations which were determined by the visible soil differences found on satellite imagery. The soil in the Project area is dominated by Regosols and rocky outcrops based on mapping in the Atlas of Namibia and is expanded on in detail in sections 5.12.3.1 and 5.12.3.2 and as shown in Figure 15.

5.12.3.1 *Eutric Skeletic Regosols*

Eutric Skeletic Regosols soils are a specific type of Regosols characterized by their high rock fragment content and relatively higher nutrient levels compared to other Regosols subtypes. Regosols frequently develop in recent unconsolidated sediments such as alluvium, colluvium, or aeolian deposits. Eutric refers to the relatively higher fertility of the soil compared to other Regosols, while Skeletic indicates the presence of a significant amount of rock. The parent material for these soils can originate from a diverse array of geological sources, including volcanic ash, glacial till, and eroded rock fragments (Stoops et al., 2018). Characterized by weak soil development, Regosols exhibit minimal horizon differentiation, typically presenting only an initial organic layer (O horizon) and a weakly developed topsoil (A horizon). These soils are generally shallow to moderately deep and vary in texture from sandy to loamy, with sandy textures being particularly common. They often contain a high percentage of coarse fragments, such as gravel or pebbles, and possess a weak, granular, or single-grained soil structure (Eze, 2022). The presence of rock fragments gives the soil a skeletal structure, which can affect soil management practices. The soil may have a loose, granular texture where rock fragments are abundant. Eutric Skeletic Regosols typically have a relatively young and minimally developed soil profile, with a noticeable presence of rock fragments or coarse material, but with more favourable nutrient conditions than other Regosols types.

Regosols are usually well-drained due to their loose, coarse-textured nature, which facilitates rapid water movement. These soils have a high proportion of rock fragments, gravel, or coarse material. The texture can vary but often includes a mix of sand, silt, and coarse fragments. The coarse material affects soil structure and properties such as water retention and aeration.

The term "Eutric" indicates that these soils have relatively higher levels of nutrients compared to other Regosols. This can be due to the type of parent material or recent sediment deposition, which contributes to the soil's fertility. The nutrient levels, while generally higher, can still be variable. The pH of Eutric Skeletic Regosols can vary but is often neutral to slightly alkaline, depending on the mineral content of the rock fragments and the surrounding environment.

Regosols are found in various climatic regions but are particularly prevalent in arid and semi-arid environments where soil development is slow. They occur in diverse topographical settings, including deserts, river plains, mountain slopes, and coastal areas. The loose and shallow nature of these soils makes them susceptible to erosion by wind and water. Despite

these challenges, Regosols often support unique ecosystems adapted to harsh conditions, making the conservation of these habitats important for biodiversity (Rathinasamy & Saliha, 2014). Eutric Skeletic Regosols have excellent drainage properties because of their coarse texture. This rapid drainage can lead to low moisture levels in dry conditions but can also reduce waterlogging issues.

5.12.3.2 Rocky outcrops

Rocky outcrop areas present specific challenges and features due to the predominant presence of exposed bedrock. The soils on these outcrops are typically very shallow, often less than 10 cm deep, as the bedrock is near the surface. Large portions of the surface may be bare rock with little to no soil cover (Fonseca do Carmo et al., 2015). The existing soil is often coarse-textured, comprising mainly gravel, sand, and small rock fragments. This coarse texture results in low water-holding capacity, causing the soil to dry out quickly after rainfall. The shallow and coarse nature of the soil allows for rapid drainage, reducing waterlogging but also leading to quick drying and potential drought stress for vegetation (Milodowski et al., 2015).

Typically, these soils are low in essential nutrients due to the limited organic matter and rapid leaching. The pH can vary depending on the type of bedrock; soils derived from granite tend to be acidic, while those from limestone may be alkaline. Organic matter is usually minimal because of the sparse vegetation and slow decomposition rates in these harsh conditions (Oludare, 2017).

Vegetation on rocky outcrops is generally sparse, consisting of plants adapted to harsh conditions, such as drought-resistant species, succulents, lichens, and mosses. These plants often have specialized root systems that penetrate cracks in the rock to access deeper moisture and nutrients. The harsh conditions result in lower microbial activity and fewer soil organisms compared to more fertile soils (Fitzsimons & Michael, 2017).

Soils on rocky outcrops are prone to erosion by wind and water due to their shallow nature and lack of vegetative cover. Erosion can transport sediment away from the outcrop, further depleting the already thin soil layer. The primary form of weathering is physical, such as freeze-thaw cycles that cause the rock to fracture and break apart. Some chemical weathering occurs, particularly in the presence of water, contributing to the formation of soil particles from the bedrock (Carroll et al., 2000).

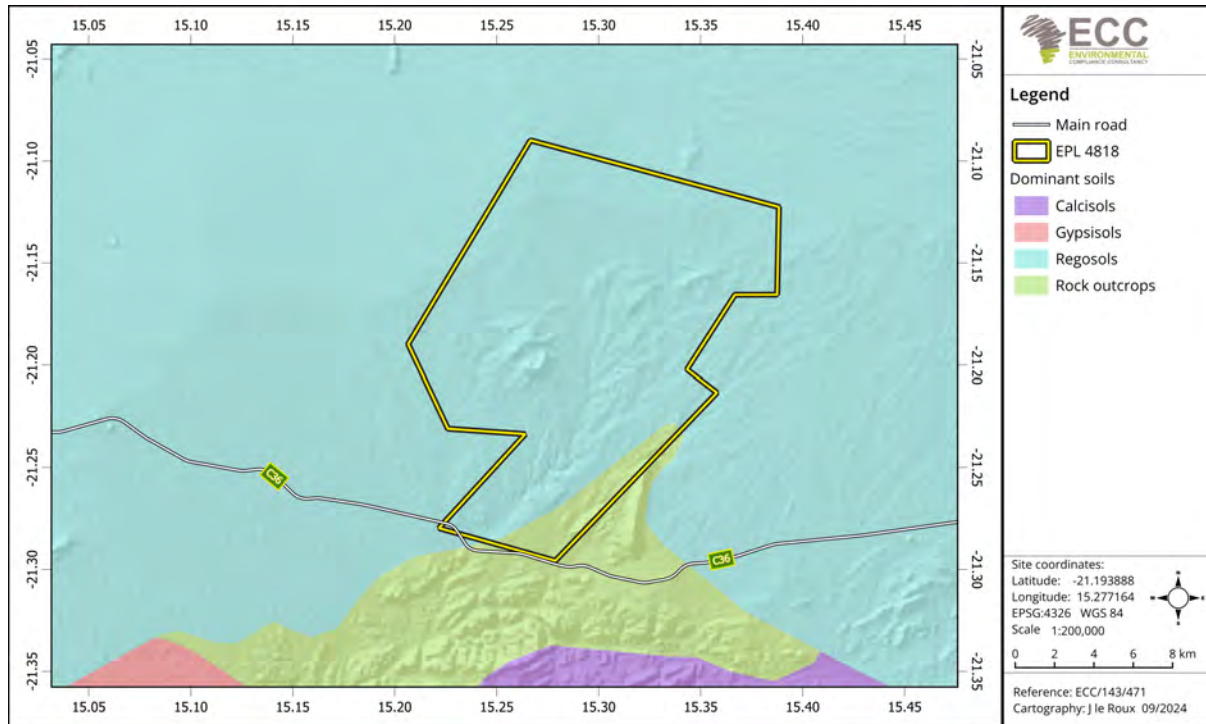


Figure 15 - Soil profile of the Project area

5.12.4 AIR QUALITY

Since October 2023, ECC has been conducting environmental monitoring and assessments for the Project, to report on fallout dust, at eight 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; mineral material handling and processing; and mining activities like drilling, blasting and hauling. Therefore, depositional dust monitoring station locations were based on the proposed infrastructure locations likely to generate dust, considering prevailing wind, in line with the requirements of the Standard Test Method for Collection and Measurement of dust fall (ASTM D1739-98) and South African National Standards (SANS) standards and target actions.

Figure 16 shows the locations of the dust fallout sampling locations.

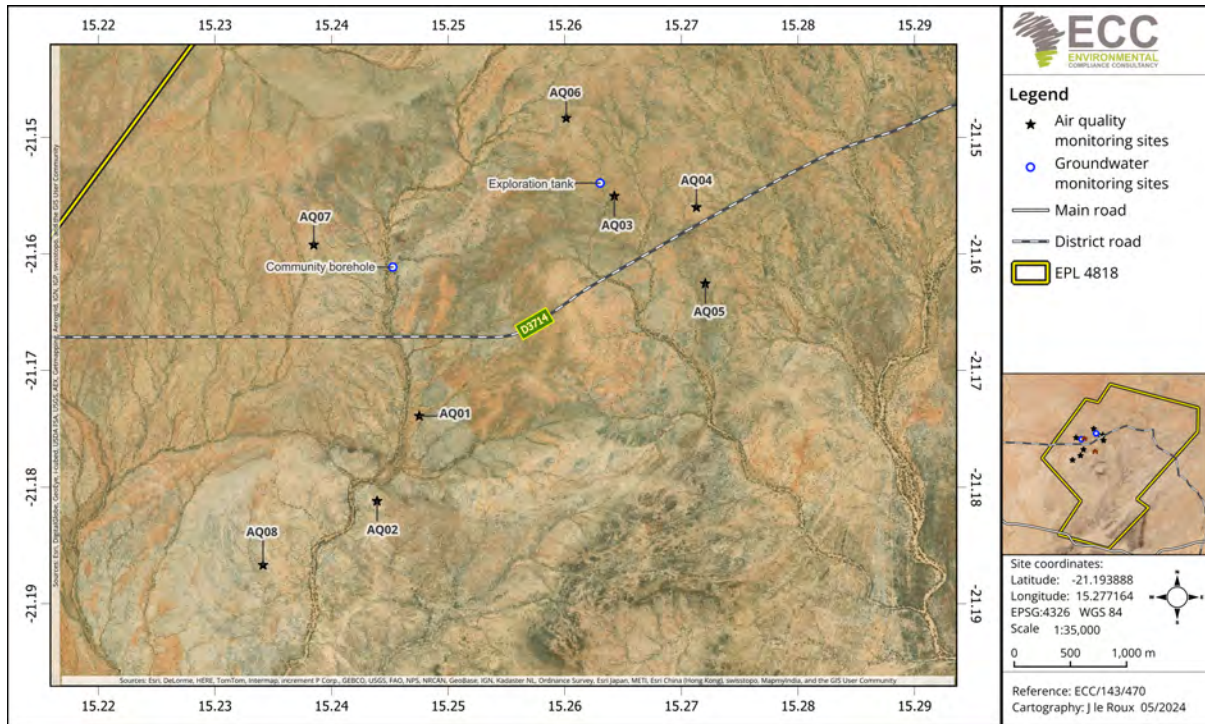


Figure 16 - Air quality (dust fallout) monitoring locations on EPL 4818

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 can be 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. Wind direction and speed are the primary factors determining the distance of travel of a dust particle and the distribution of particles falling out.

As the ESIA for the proposed gold mining activities at the Project site commenced in 2024, an air quality specialist study was deemed necessary to determine the potential impacts of atmospheric pollution on air quality for this Project. Airshed Planning Professionals (Pty) Ltd. will be engaged to model and provide a technical report for the air quality baseline environment.

5.13 WATER

The Project area falls predominantly over the Erongo Groundwater Basin, while a small corner in the NW portion of the EPL falls within the Kunene South Groundwater Basin. Furthermore, the EPL falls largely within the Omaruru Catchment, while a smaller northwestern part of the EPL falls within the Ugab Catchment. This area has a hard rock terrain with an aquitard which is a poorly permeable underground layer that limits the flow of groundwater from one aquifer to another, or aquiclude which means geologic formation that may contain water but is incapable of transmitting water.

Effective water management and pollution control are essential in the western part of Namibia, where rivers play a crucial role in sustaining delicate desert ecosystems. These rivers provide the necessary water resources that support both the flora and fauna unique to these arid landscapes. To preserve these vital ecosystems, it is imperative to minimise pollution and implement proper mitigation measures.

The southern part of the EPL has a low groundwater potential while the northern part of the EPL has a moderately productive but variable (porous or fractured) aquifer. However, a very small portion in the centre of the southern border of the EPL lies over a productive porous section of the aquifer. Drainage in the area is dendritic with ephemeral streams, often steeply incised, forming small tributaries of the Ugab River, which flows towards the west coast (Figure 17). Groundwater in this area is generally of good to excellent quality (Group A and B), but there are some areas around the site (closer to Uis), where water quality is generally poor and not suitable for human consumption (Group D). Ten active boreholes were found in the area and Project Groundwater is supplied from local boreholes to the community. As per the gazetted Water Management Resources Act No. 11 of 2013, which was promulgated in August of 2023, the entire groundwater areas of Namibia have been declared groundwater-controlled areas.

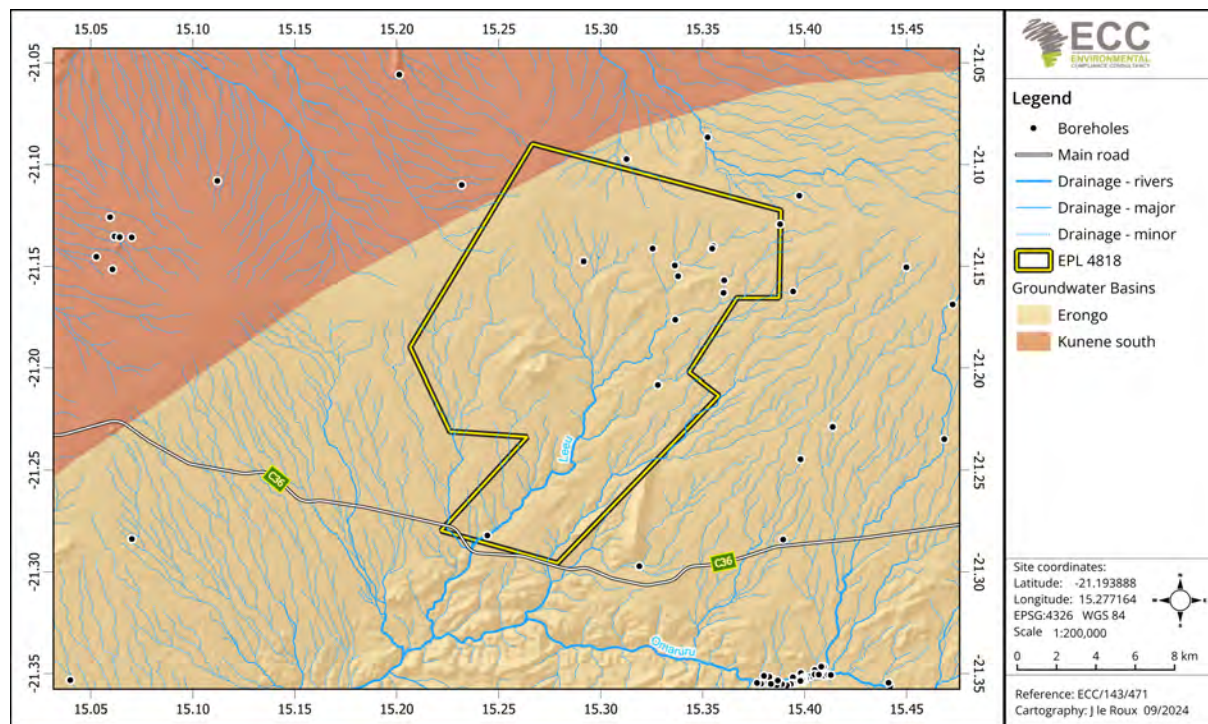


Figure 17 - Surface water flow showing ephemeral rivers, drainage lines, groundwater boreholes and the Project area

5.14 BIODIVERSITY

Namibia's network of protected areas, communal conservancies, state forests, community forests, private game reserves and commercial farmlands provide an immense biodiversity (Alberts, 2023). The area is defined as the Western-Central Escarpment and Inselbergs and

borders on the Western Highlands. A part of the study area lies within the Tsiseb Communal Conservancy and the Ohungu Communal Conservancy. The major wildlife present in the area are as follows: elephant, black rhino, leopard, cheetah, mountain zebra, kudu, gemsbok, ostrich, springbok, steenbok, black-backed jackal, and klipspringer (Tsiseb) (Cunningham, 2023).

The study area is also approximately 60 km southeast of Brandberg mountain stretching along the central and northwestern Namib Desert near the coast of Namibia. Not only is the area surrounding Brandberg Mountain biologically diverse, but it is also an endemic hotspot. The rich biodiversity is due to the various unique habitats in the general Uis area, i.e. inselberg, semi-desert and escarpments. There are several species, including succulent vegetation and rich wildlife adapted to the environmental conditions of the arid semi-desert. Any major environmental or social 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.

5.14.1 FLORA

This area is characterised by little vegetation due to low rainfall, high evaporation and unfavourable soil. The plant diversity for this area is low to medium (150 to 199 species) and around the Erongo Mountain areas, are high (400 to 499 species). Plant endemism in this area is viewed as high with 16 to 25 species and the dominant vegetation structure in the Project area are western-central escarpment and inselbergs with varied and sparse shrubland and grasslands within the Namib desert biome as shown in Figure 18. The vegetation biomass in the Project is extremely low and the biomass increases towards the northeastern direction of the country (Mendelsohn et al., 2002).

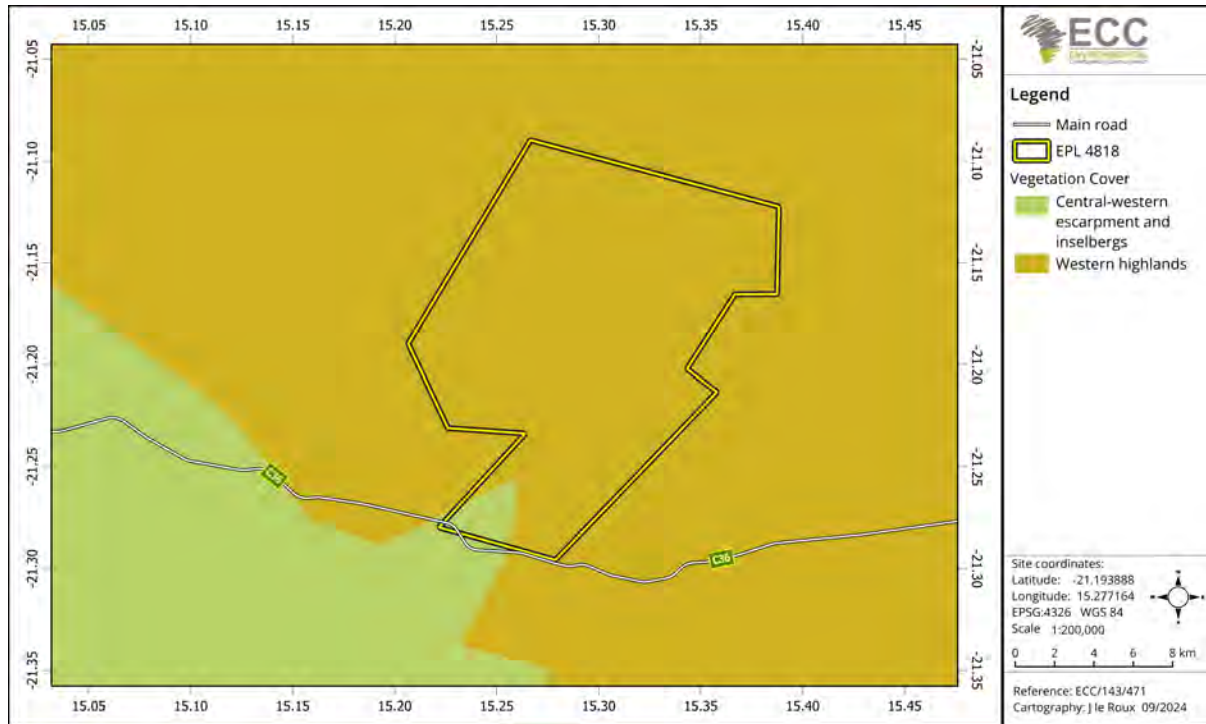


Figure 18 - Vegetation profile of the Project area

5.14.2 FAUNA

The area supports the greatest combination of endemic fauna than any other place in Namibia and is therefore a critical conservation area (BirdLife International, 2023). This area is a hot spot for reptile and amphibian endemism, making up 49 of the 59 near-endemic reptile species and three (3) of the six (6) endemic species in Namibia. The mammal endemism in Namibia is highly associated with the escarpment belt eastwards from the Namib Desert (BirdLife International, 2023 & Mendelsohn et al., 2002).

Reptiles

The overall reptile diversity in Namibia accounts for 30% of reptiles in Africa with at least 22% being endemic. At least 57 species of reptiles are expected to occur in the general area with 28 species being endemic – i.e., 49.1% endemic. The majority of which are lizards and snakes. Reptile diversity tends to be highest around gravel plains, inselbergs and mountains such as the Brandberg mountain consisting of at least 41-50 different reptile species. According to Namibian legislation, 1 species is viewed as rare - the African Flat Gecko (*Afroedura africana africana*); 3 species as vulnerable - the Leopard Tortoise (*Stigmochelys pardalis*), Southern African Python (*Python natalensis*), and Rock or White-throated Monitor (*Varanus albigularis*); 4 species as protected game; 2 species as insufficiently known; and 3 species as peripheral.

Amphibians

The amphibian populations are declining globally largely due to habitat destruction because of increased anthropogenic activities (Cunningham, 2023). Amphibian patterns across the country are closely associated with rainfall trends, due to their attraction to surface water.

Most amphibians require water to breed and for their young to grow, therefore they are associated with permanent water bodies, predominantly in northeast Namibia. There is an estimate of 5 to 8 amphibian species in the general area which is quite low. Of these, 4 species are endemic - Damaraland Pygmy Toad (*Poyntonophrynus damaranus*); Hoesch's Pygmy Toad (*Poyntonophrynus hoeschi*); Marbled Rubber Frog (*Phrynomantis annectens*) and Damaraland Sand Frog (*Tomopterna damarensis*).

Mammals

The overall diversity and abundance of large herbivorous mammals (big game) are rated as "moderate" with 3-4 species expected – e.g., gemsbok, mountain zebra and springbok – while overall diversity and density of large carnivorous mammals (large predators) is viewed as "moderate" with 4 species expected – e.g., leopard, cheetah, spotted and brown hyena (Cunningham, 2023). Although the mammal diversity may be moderate, the large mammal abundance may be high as this area is quite popular in relation to wildlife (Mendelsohn et al., 2002). Approximately 87 species of mammals are expected of which 10 are endemic. The IUCN (2022) classifies 4 species as vulnerable (cheetah, leopard, Hartmann's Mountain zebra, and giraffe) and 4 species as near threatened (African straw-coloured fruit bat, Commerson's roundleaf bat, striped leaf-nosed bat, brown hyena). The House Mouse (*Mus musculus*) is an invasive alien species to the area which are viewed as casual pests, are known carriers of "plague" and may add to economic stressors.

Birds

A total of 658 bird species has been recorded in Namibia; this region consists of 111-140 bird species, which is average compared to the central and northeast regions of Namibia. Thirteen of the 14 Namibian endemics are expected to occur in the general area (92.9% of all Namibian endemic species or 6.8% of all the species expected to occur in the area).

The Bird species classified as protected/important species in Namibia are as follows:

Seven species are classified as endangered (violet wood-hoopoe, Ludwig's bustard, white-backed vulture, tawny eagle, booted eagle, martial eagle, black rhino; two species as vulnerable (lappet-faced vulture, secretary bird); and five species as near threatened (Rüppel's parrot, kori bustard, Cape eagle owl, Verreaux's eagle, peregrine falcon).

Most bird species in Namibia fall under Schedule 4: Protected Game within the Namibian Conservation Ordinance No. 4 of 1975, except for the following excluded species: Weavers, Sparrows, Mousebirds, Redheaded Quela, Bulbul, and Pied Crow as well as 19 huntable game bird species identified in Schedule 6 of the Nature Conservation Ordinance (Nature Conservation Ordinance No. 4 of 1975). Many bird species are highly migratory and pass-through Namibia sporadically, thus some of the species might be very rare to identify during the year, nonetheless could potentially be spotted within the EPL boundaries periodically. It is believed that the man-made earth-filled water dams in the area attract various water birds (either resident or migratory).

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. Prediction and evaluation of impacts is a key step in the ESIA process. This chapter outlines the methods that will be followed, to identify and evaluate the impacts arising from the proposed Project. The findings 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 regarding the assessment methodology.
- How impacts will be identified and evaluated, and how the level of significance will be derived.
- How mitigation will be applied in the assessment, and how additional mitigation will be identified.
- The cumulative impact assessment (CIA) method that will be used.

This assessment will aim 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 by 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.

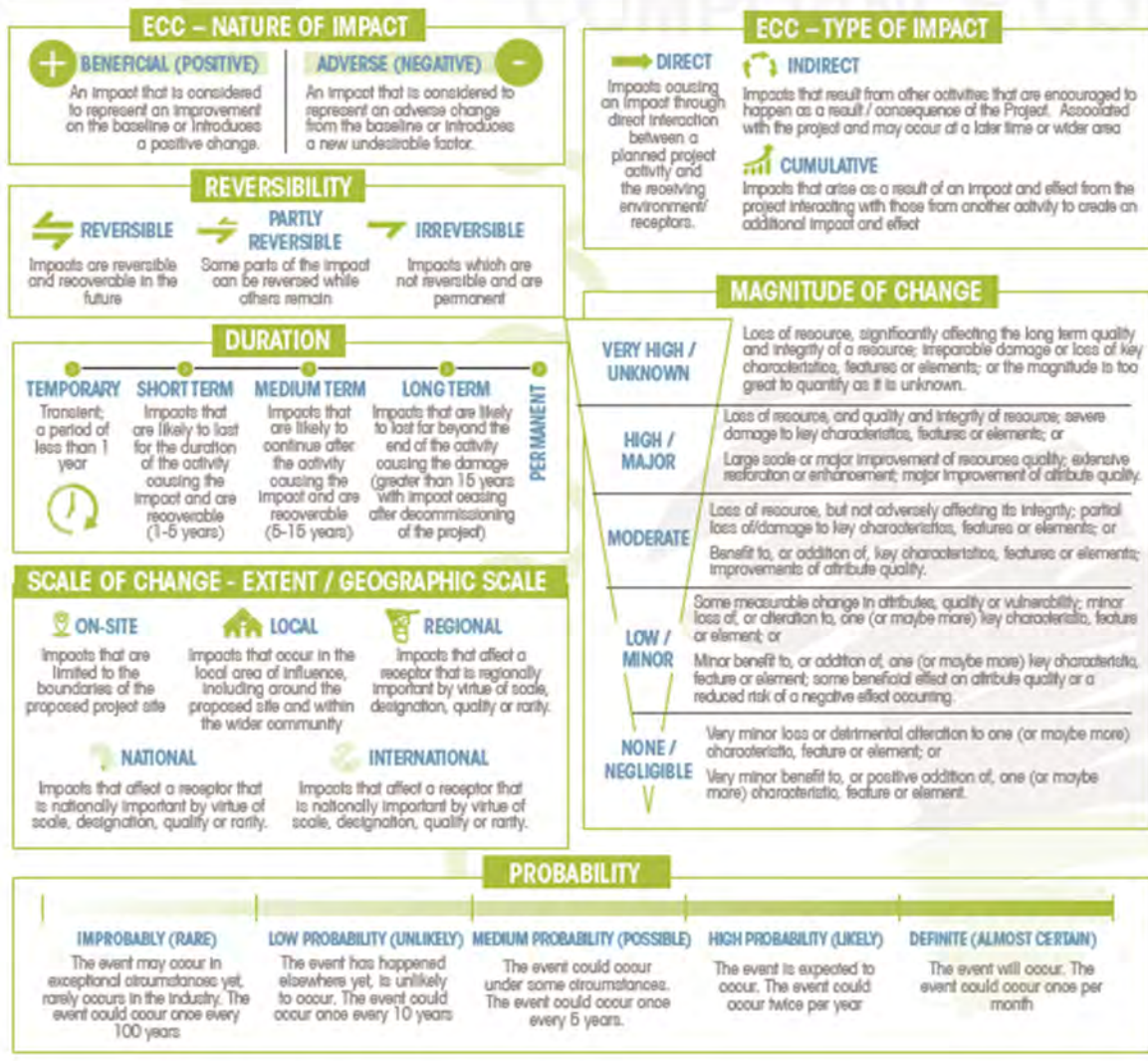
6.4 ASSESSMENT METHODOLOGY

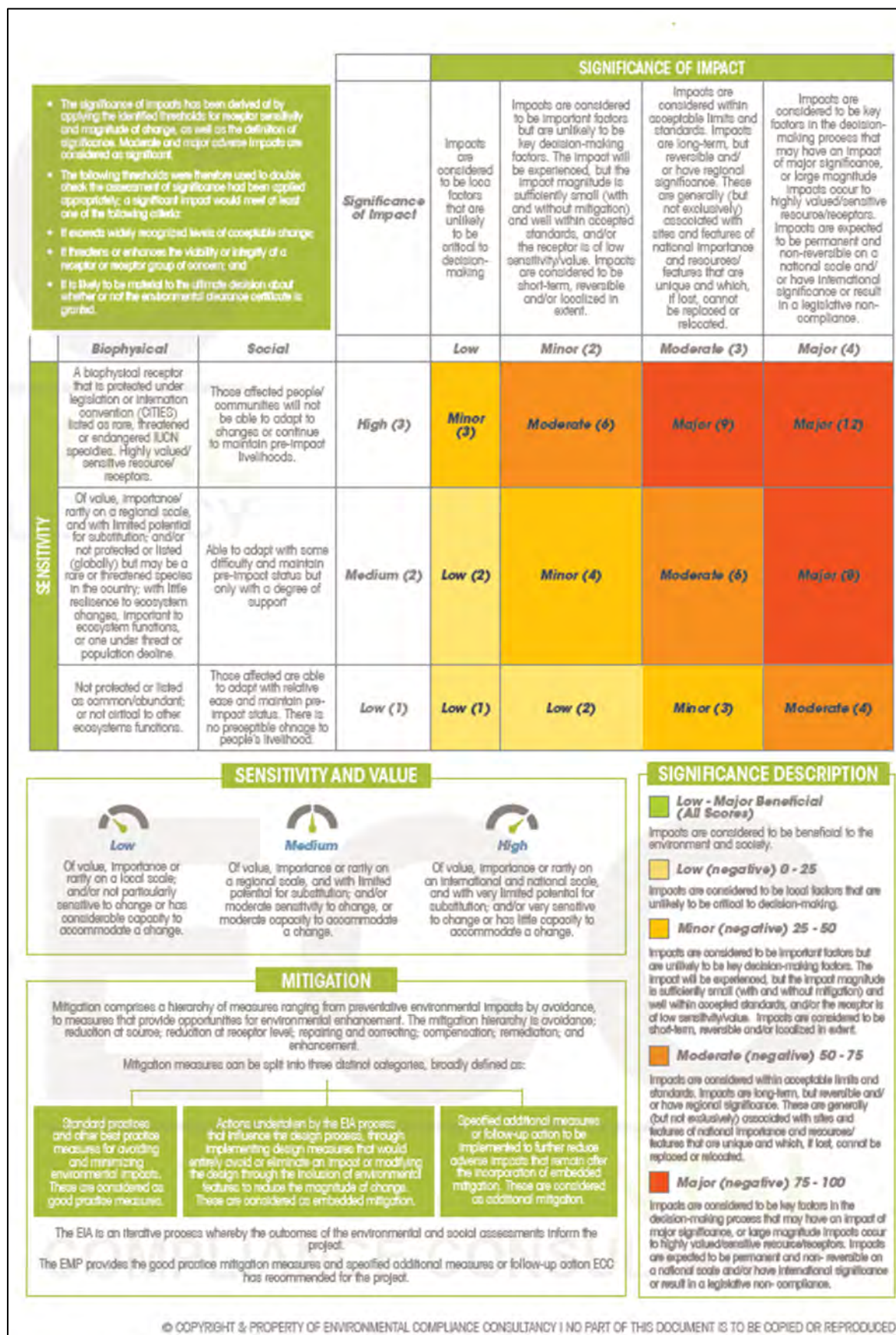
The ESIA methodology applied to this assessment has been developed by ECC using the International Finance Corporation (IFC) standards and models, in particular performance standard 1: 'Assessment and management of environmental and social risks and impacts' (International Finance Corporation, 2017); 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 19.

The evaluation and identification of the environmental and social impacts require the assessment of the Project characteristics against the baseline characteristics, ensuring that all potentially significant impacts are identified and assessed.

The significance of an impact is determined by taking into consideration the combination of the sensitivity and importance/value of environmental and social receptors that may be affected by the proposed Project, the nature and characteristics of the impact, and the magnitude of any potential change. The magnitude of change (the impact) is the identifiable changes to the existing environment that may be negligible, low, minor, moderate, high, or very high; temporary/short-term, long-term or permanent; and either beneficial or adverse.

ECC IMPACT PREDICATION AND EVALUATION METHODOLOGY





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Figure 19 - ECC ESIA methodology based on IFC standards

6.5 CUMULATIVE IMPACTS

6.5.1 CUMULATIVE IMPACTS ASSESSMENT METHOD

Cumulative impacts may arise as a result of other Project activities, or due to the combination of two or more projects in the Project area. A cumulative impact assessment (CIA) will be undertaken by applying the IFC CIA Good Practice Handbook (International Finance Corporation, 2013), which recommends that a rapid CIA is undertaken.

A rapid CIA takes into consideration the challenges associated with a good CIA process, which include a lack of basic baseline data, uncertainty associated with anticipated development, limited government capacity, and the absence of strategic regional, sectoral, or integrated resource planning schemes.

The following five-step rapid CIA process will be followed:

Step 1: Scoping – Determine spatial and temporal boundaries

Step 2: Scoping – Identify valued environmental and social receptors and identify reasonably foreseeable developments.

Step 3: Determine the present condition of valued environmental and social receptors (The baseline).

Step 4: Evaluate the significance of the cumulative impacts

Step 5: Identify mitigation measures to avoid or reduce cumulative impacts

The following information will be applied to the assessment in line with the above steps and IFC guidance:

- The spatial and temporal boundaries of the CIA are the extent of the ML boundaries and the duration of the construction and operation phases of the proposed Project.
- Valued environmental and social receptors that may be affected.
- A review of existing and reasonable, anticipated and/or planned developments has been undertaken, which is based on the information presented in Chapter 4.
- The predicted future conditions of sensitive and common environmental and social receptors have been taken into consideration in the assessment.
- The assessment findings will be presented in the assessment report and will have the CIA applied in combination with professional judgment and published environmental assessment reports.
- A review of mitigation and monitoring measures will be undertaken, with any additional ones identified.

7 TERMS OF REFERENCE FOR THE ASSESSMENT PHASE

A full environmental and social impact assessment (ESIA) is required for a mining operation like the Kokoseb Gold Project. The scope of work for the impact assessment report is defined with due consideration of the range of potential impacts to be identified resulting from the proposed mining operations on EPL 4818 as outlined in the BID, as well as consideration of the concerns/comments raised through the public and stakeholder engagements proposed by the proponent.

The objectives of the ESIA:

- To address the issues and concerns raised by authorities, the public (both interested and affected parties) and the specialist consultants through the public consultation and scoping process.
- To identify and evaluate actual and potential impacts resulting from the Project and processing operations on EPL 4818 that potentially may influence the receiving environment.
- To recommend management, mitigation and monitoring programmes to be implemented before and during mining.
- To define an appropriate environmental and social management plan for the proposed operations on EPL 4818.

Various specialist studies will be undertaken, previous assessment studies will be reviewed and reassessed based on the findings from the public participation phase and any changes in the project scope in the time since the previous studies were completed. A final ESMP will be produced to manage residual impacts that cannot be mitigated through the Project evolution process.

The scope of the ESIA report that will be developed will comprise an updated impact assessment in two primary components based on both existing and new data from related specialist studies as noted below. The terms of reference (ToR) for the various studies are described within this chapter.

Table 9 - List of specialist studies to be commissioned to inform the assessment phase of the ESIA

Study area	Purpose	Specialists
Terrestrial ecology	– Biodiversity, habitat and ecosystem services. – Identification of species of concern and sensitive areas. – Impacts of mining construction and operations on habitats and biodiversity.	– Peter Cunningham
Hydrology	– Water supply. – Storm protection and river diversion. – Impact on heritage aspects.	– Umvoto & ECC

Study area	Purpose	Specialists
	– Clean and dirty water management systems.	
Groundwater	– 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.	– Umvoto & ECC
Air quality	– 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
Noise and sense of place	– Identification of possible receptors and assess levels of noise to which they may be exposed during construction and operations.	– ECC
Soils and land use	– Assess existing land use and potential impacts on surrounding land users. – A soil study informs the quality and quantity of material available for rehabilitation to a similar state on closure.	– ECC
Traffic	– The traffic impact assessment will review 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
Heritage and culture	– A heritage assessment is required to comply with Namibian national legislation and gain approval from the Heritage Council.	– Dr Alma Nankela
Visual and tourism	– Assessing the potential visual impacts of a proposed Project on the receiving environment.	– ECC
Social and economic	– Includes the assessment of various recreational activities in Uis and Okombahe. – Site-level (conservancy) economic impacts.	– 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	– ECC & RGS - Mine Waste and Management Consultants

Study area	Purpose	Specialists
	potential, and metal concentration of the leachate of waste rock and tailings.	
Climate change	– Assess the Project’s greenhouse gas emissions and assess potential climate-related risks, vulnerabilities and opportunities.	– RDJ Consulting Services CC
Blast vibration impact	– Assessing the impact of blasting on receptors in the area.	– Blast Management and Consulting

7.1 BIODIVERSITY ASSESSMENT

The objective of the biodiversity assessment is to define the biophysical environment, including vertebrate fauna, avian species, and flora relevant to the project area(s) and assess the significance and impact of construction and long-term operation of the various project components on the fauna and flora at the proposed site(s).

Scope of work:

- Site visit and fieldwork:

A visit to the applicable project areas (only) will be required to identify, classify, and assess the environment(s) and types of biodiversity harboured. This shall include as a minimum:

- Small mammal transects;
- Defining larger mammal presence;
- Reptile & amphibian transects (diurnal & nocturnal);
- Bird transects to determine avian diversity in the area;
- Flora transects to determine plant diversity in the area;
- Surveying the proposed Project footprint, considering alternative layouts
- Propose mitigation measures, as necessary

- Methods:

- Small mammal trapping will be conducted by using collapsible Sherman traps. Small mammals caught will be identified in situ, photographed, measured (when applicable to facilitate identification) and released unharmed at the site of capture; [Transects or grids (i.e. lengths, directions, etc.) will be determined at the site and the techniques used may be adapted according to the local environment]
- Reptile & amphibian transects will be conducted during the day and night (using a gas lantern) to determine the diurnal & nocturnal reptile diversity. Reptiles & amphibians will be caught using active capture technique ('reptile noosing') and

identified in situ, photographed, measured (when applicable to facilitate identification) and released unharmed at the site of capture;

[Transects (i.e. lengths, directions, etc.) will be determined at the site and the techniques used may be adapted according to the local environment]

- Larger mammal presence will be determined by direct observations including other signs – e.g. tracks, scats, carcasses, burrows, scrapes, etc. Camera traps will also be set to capture images of larger mammals in the area (if feasible);
- Bird transects (on foot & by vehicle) will be conducted during daylight hours using binoculars to ID and confirm species;

[Transects (i.e. lengths, directions, etc.) will be determined at the site and the techniques used may be adapted according to the local environment]

- Flora transects to determine species composition will be conducted using the step point method. Tree and shrub densities will also be determined using standard quadrats (10x10m or 20x20m - depending on the terrain). The focus will be on the identification of unique species in the proposed development area. Samples may be collected for further identification if found necessary.

[Transects & quadrats (i.e. lengths, directions, etc.) will be determined at the site and the techniques used may be adapted according to the local environment]

- The assessment must provide suggested mitigation and control recommendations for inclusion in the EIA.
- Provide alternatives and options if the proposed project options are not viable to reduce impacts.

7.2 GROUNDWATER AND SURFACE WATER ASSESSMENT

The objective of the hydrological and hydrogeological impact assessment is to assess surface and groundwater issues relevant to the Project and look at the significance of development and environmental impact that the Project may have on the hydrological/hydrogeological environment and other users at the proposed site. There should be an assessment of the current baseline hydrology and hydrogeological conditions.

Scope of Work:

Phase 1

- The development of a scoping study to evaluate the current available data and information from previous studies and assessments.
- This should be supported by a comprehensive literature review of existing as well as “recent” relevant publications. Data from previous impact assessment reports should be used to inform the detailed assessment in phase two.

- A scoping report and desktop study report should be provided as a deliverable, including all figures, maps, and spatial and temporal data sets. The assessment should also address hydrological and hydrogeological issues relevant to the Project and assess the significance of development and environmental impact that the Project may have on the surface and groundwater environment at the proposed site, including general comments.

Phase 2

- Conduct a field-based hydrocensus of ~5 km radius of the site boundaries. Water point details (latitude, longitude, elevation, groundwater level, field-based water quality measures) are to be recorded and a list of interested and affected parties visited with all contact details etc. is to be compiled.
- Undertake groundwater sampling to determine baseline groundwater quality of identified aquifer(s). Results must be compared to relevant national and international groundwater quality standards.
- Conduct pumping tests and/or slug tests to determine aquifer properties and general yield potential.
- Determine the interconnectedness between groundwater and surface water resources (if any).
- Develop a conceptual groundwater model including details of recharge, groundwater flow directions, potential existing contamination points and activities.
- Develop a numerical flow and contaminant transport model (steady state) and assess resource availability, contamination plume migration and changes in groundwater level over the life of mine through a series of modelled scenarios. Impacts on other users in terms of quality and quantity need to be considered.
- Provide recommendations for a monitoring network (from existing boreholes identified in the hydrocensus) with clear monitoring objectives and frequencies.
- Identify short-, medium- and long-term impacts and receptors from the various mining infrastructure and activities (pits, tailings facilities, waste rock dumps, processing plant etc.) by undertaking an impact assessment.
- Compile a flood hydrology assessment for the mine site (this can be desktop-based with the best available information).
- Recommend strategic measures to be included in a groundwater and surface water management plan for the Project.

7.3 NOISE ASSESSMENT

The objective is to assess the potential noise impacts of the proposed Project on surrounding sensitive receptors, including residents, businesses and wildlife. The assessment aims to identify potential impacts, evaluate increased noise effects, and provide recommendations to manage and mitigate these impacts.

Scope of work:

- A comprehensive literature review of relevant publications.
- Study of current baseline noise levels and impacts in the project area.
- Identification of affected receptors and their exposure levels.
- Assistance with monitoring site selection and baseline data analysis.
- Analysis of topography and emissions inventory.
- Attenuation modelling to predict noise propagation.
- Assessment of impacts using ECC's methodology.
- Provision of mitigation recommendations and alternatives.

7.4 HERITAGE AND CULTURE ASSESSMENT

An archaeological and/or heritage assessment should be conducted to identify and assess potential impacts on archaeological/heritage resources arising from the proposed activities. This should be done taking into consideration the relevant laws, regulations, and ethical guidelines. Furthermore, measures for the preservation, protection, or mitigation of identified cultural resources should be proposed to conclude the assessment.

Scope of work:

- Review available literature pertinent to the proposed Project's location.
- Undertake a desktop assessment, supported by a field-based survey to identify archaeological/heritage sites.
- Primary data will be collected during a pre-disturbance site assessment including the proposed project footprint considering alternative layouts should this be needed. This only includes the most preferred access route option into the proposed Project area. Development footprint areas will be surveyed on foot employing a parallel, transect-based survey according to visibility on the ground as far as possible.
- Furthermore, landscape features known to be associated with potential heritage resources will be scrutinised such as hills, rocky outcrops, vegetation, or sources of water.
- Receptor identification, nearby infrastructure and users, residents, tourist hot spots, and other receptors susceptible to impacts from the Project raised in the study.
- Propose mitigation measures, as necessary and methodologies for dealing with the discovery of cultural artefacts or ruins with cultural heritage significance.

7.5 AIR QUALITY ASSESSMENT

The objective is to evaluate the potential air quality impacts of the Project on surrounding sensitive receptors, including residents, and local projects/businesses. The assessment aims to identify impacts, assess baseline air quality levels, and provide recommendations to manage and mitigate potential impacts.

Scope of work:

- Study of air quality impacts (e.g. dust fallout, PM_{10/2.5}) on the biophysical and social environment.

- Assessment of baseline air quality levels and sources.
- Review of legal requirements pertaining to air quality standards and regulations.
- Collection and analysis of relevant project data, including technical studies, meteorological data, and previous air quality assessments.
- Literature review of existing and recent publications relevant to air quality impacts in the project areas.

7.6 MINE-INDUCED BLAST AND VIBRATION

The objective is to assess the potential impacts of blasts and vibrations that emanate from operations at the proposed Kokoseb Gold Mine site on nearby farms, and communities. The assessment will evaluate the cumulative impacts of project operations and provide recommendations to manage potential impacts.

Scope of work:

- Detailed analysis of impacts associated by the proposed mining activities.
- Collection of mine layout data and potential vibration level records.
- Identification of sensitive receptors within the project area.
- Evaluation of potential impacts on nearby farms, communities and wildlife.

7.7 GEOCHEMISTRY OF ORE AND WASTE ROCK CHARACTERISATION ASSESSMENT

A geochemical sampling and analysis campaign will be commissioned to determine the chemical makeup of the ore and waste rock bodies that will be produced by the Project in three (3) successive stages with the aim of producing a geochemical sampling and analysis plan (GSAP). This will assess the potential of waste rock to produce acid that may lead to acid mine drainage during leach events and the impacts that this may have on the biotic environment and provide mitigation measures.

Scope of work:

- The assessment will require a review of existing information on available data provided by the proponent for waste rock, ore and tailing materials.
- All individual samples would be screened for total sulphur, pH, EC, and Acid-Base Account with some confirmatory sulphur speciation and Net Acid Generation (NAG) testing. Selected individual and/or composite samples will then be tested for acidity/alkalinity, multi-elements (total and soluble), exchangeable cations, and major ions in leachate.
- Based on the results of the static geochemical analyses, more detailed kinetic geochemical analysis using kinetic leach columns (KLCs) will be established.
- Mineralogical analysis of selected materials using semi-quantitative X-ray diffraction (XRD) or other appropriate techniques should also be completed on a select subset of samples to assist in confirming and better understanding the geochemical nature of the materials in the proposed mining area.

- Provide alternatives and options if the proposed Project options are not viable to reduce impacts.
- Applicable mitigation and management measures should be recommended subject to the significance of the impact.

7.8 TRAFFIC IMPACT ASSESSMENT

A traffic assessment will be commissioned to assess the implications relevant to the project with regards to the current C36 road which is expected to be used as the official Kokoseb Gold Project mine access route.

Scope of Work:

The increase in traffic volume from the proposed Project also needs to be evaluated, to see whether the C36 route would be able to manage an increase in traffic volume from the proposed Project and existing surrounding receptors. The deliverables include:

- Receptor identification.
- Baseline traffic assessment.
- Mitigation and control recommendations.
- Alternative options.

7.9 SOIL BASELINE ASSESSMENT

A soil baseline study will be conducted in-house to assess the soils present in the study area. The study will summarise the soil composition, fertility, land use potential, and erodibility of the Project area. The assessment will establish a reference point for future soil comparisons, for environmental monitoring and will contribute to the rehabilitation and mine closure designs and reports.

Scope of work:

- The report should define and characterize the receiving baseline environment and determine the land use capability by assessing a combination of observations during a site survey.
- The report should provide detailed information on the physical, chemical, and biological properties of the soil, including pH, nutrient levels (such as nitrogen, phosphorus, and potassium), organic matter content, and texture.
- Additionally, the report should assess existing land use and potential impacts on surrounding land users.
- The soil study will inform the quality and quantity of material available for rehabilitation to a similar state on closure.

7.10 CLIMATE CHANGE ASSESSMENT

A climate change assessment should be conducted to assess the Project's potential (greenhouse gas (GHG) emissions (Scope 1, 2 and 3) as well as assess the Project's potential

climate-related risks and vulnerabilities. The assessment should also recommend mitigation and adaptation measures while considering potential co-benefits.

Scope of work:

- Assess the Project's GHG emissions by collecting data on the projected emissions across direct (Scope 1), indirect (Scope 2), and other indirect (Scope 3) sources, using methodologies such as the GHG Protocol to quantify emissions and identify hotspots.
- A comprehensive analysis of climate change impacts should evaluate physical, regulatory, market, and reputational effects on operations, supply chain, and stakeholders, considering both short-term and long-term impacts using climate models, scenario analysis, and risk assessment techniques. Additionally, the vulnerability and resilience of the Project's business to climate-related risks will be evaluated by identifying specific vulnerabilities,
- Assess the Proponent's adaptive capacity and existing risk management strategies and consider both physical and transition risks.
- Assess potential mitigation strategies and prioritize each based on feasibility, cost-effectiveness, and emissions reduction potential, with consideration of co-benefits. If viable strategies are not readily apparent, further analysis or research should be conducted to develop innovative solutions.

7.11 SOCIOECONOMIC ASSESSMENT

A socio-economic study will be conducted in-house to assess the impact of the proposed Project along with cumulative impacts from Uis Tine Mining Company (UTMC) and the other socio-economic activities in Okombahe and Uis on the current socio-economic state of the two towns and their inhabitants.

Scope of work:

The assessment will look at the impact of the Project associated with an influx of workers, an increase in the population of the town, an increase in services that may be required and an increase in town revenue due to an increase in the number of jobs. It will also look at housing and accommodation and how that will be affected by the Project. Deliverables will include:

- Receptor identification.
- Baseline socio-economic assessment.
- Mitigation recommendations.
- Alternative options.

8 CONCLUSION

This final scoping report provides the baseline data for the assessment phase of the ESIA. ECC will carry out an in-depth environmental and social impact assessment to ensure that all potentially significant impacts that may occur during the Project are identified.

These potential impacts will then be further analysed to establish mitigation and best practice methods to protect the environment and avoid unforeseen effects and environmental disturbances. These mitigation and best practice managing methods will then be outlined in a detailed environmental management plan (EMP).

The likely studies to be completed for the proposed project assessment may include those set out in Table 10.

Table 10 - Likely studies to be completed for the proposed Project assessment

STUDY AREA	PURPOSE
Terrestrial ecology	– Biodiversity, habitat and ecosystem services. – Identification of species of concern and sensitive areas. – Impacts of mining construction and operations on habitats and biodiversity.
Hydrology	– Water supply. – Storm protection and river diversion. – Impact on heritage aspects. – Clean and dirty water management systems.
Groundwater	– 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.
Air quality	– 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.
Noise and sense of place	– Identification of possible receptors and assess levels of noise to which they may be exposed during construction and operations.
Soils and land use	– Assess existing land use and potential impacts on surrounding land users.

STUDY AREA	PURPOSE
	– A soil study informs the quality and quantity of material available for rehabilitation to a similar state on closure.
Traffic	– This assessment will focus on 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.
Heritage and Culture	– A heritage assessment is required to comply with Namibian national legislation and gain approval from the Heritage Council.
Visual & tourism	– Assessing the potential visual impacts of the proposed project on the receiving environment.
Socio-economic	– Assessing the potential impacts of Project on the social fabric and local economy of the town of Uis and Okombahe.
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 tailings.
Climate change	– Assess the Project's greenhouse gas emissions and assess potential climate-related risks, vulnerabilities and opportunities.
Blast and Vibration	– Assessing the impact of blasting on receptors in the area.

Findings from the ESIA process will be clearly reported in the ESIA and EMP ready for public, stakeholder, competent authority, and government review for a record of decision.

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APPENDIX A - ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

APPENDIX B - PUBLIC CONSULTATION RECORDS

APPENDIX C - EAP CVS

APPENDIX D – ADDENDUM REPORT