



PROPOSED MINING ACTIVITIES FOR THE HAIB COPPER PROJECT ENVIRONMENTAL MANAGEMENT PLAN

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Project Number: WI301-00906/05-A

Continuity Number: WI26-00085

Revision Number: Rev B

Date: 18 August 2026



Document Register		
Rev	Description	Date
A	Issued in Final	18 August 2026

EXECUTIVE SUMMARY

Haib Minerals seeks to apply for an Environmental Clearance Certificate (ECC) for the development of mining activities on Exclusive Prospecting License (EPL) 3140. The Haib Copper Project is being developed by Haib Minerals (Pty) Ltd (Haib), a subsidiary of Koryx Copper S.A. (Koryx). Haib holds EPL 3140, which allows for the exploration of base, rare and precious metals over an area of 36 571 hectares (ha). The proposed Haib Copper Project is a porphyry copper exploration project.

The Project triggers listed activities under the Environmental Management Act (EMA), 2007, and requires an Environmental Clearance Certificate (ECC) from the Ministry of Environment, Forestry and Tourism (MEFT) through the Competent Authority (CA), the Ministry of Industries, Mines and Energy (MIME).

The mining component of the Project comprises an open pit mine, a 40 million tonnes per annum (Mtpa) crushing, milling and flotation concentrator, as well as infrastructure on and off site necessary to support these operations (waste rock dumps, stockpiles, tailings storage facilities, power infrastructure, roads, offices, etc.). A hydrometallurgical plant consisting of a 3 – 7 Mtpa heap leach, a copper solvent extraction, impurity removal, and a copper electrowinning plant will be built after initial production during the operations phase. The operation will achieve a combined throughput of 40 Mtpa. The mining schedule indicates a total material movement of approximately 87.5 Mtpa, providing approximately 24 years' supply of mineralised material. This equates to a total of 1.58 billion tonnes of material to be mined. The processing of the mineralised material will extend to 33 years. As the resource estimate is updated and ongoing optimisations are implemented, these quantities will be updated.

The proposed Haib Mine is currently in the exploration and studies phase, whereby the feasibility of the mine is being defined through ongoing investigations and analyses. Therefore the continuation of the Project is not guaranteed and it remains under development towards assessing feasibility.

The site layout and associated activities have been designed around critical landform features such as topography, sensitive biodiversity areas, and heritage features. Further optimisations since the scoping phase have considered the efficiencies required for the optimisation of mining activities. The proposed mining activities are therefore at an advanced conceptual phase, however, the design is still a work in progress to move through pre-feasibility and detailed design phases. For the purposes of the EIA, a fixed project description was adopted and included in this report as of 29 June 2026. Should subsequent design refinements change listed activities or introduce material impacts, the project description will be updated, and an amendment will be lodged, including any necessary updates to the Environmental Management Plan (EMP), as applicable.

Knight Piésold Consulting (Pty) Ltd Namibia (KP) was appointed by Koryx to support the development of environmental scoping and impact studies associated with the application for an ECC for the proposed activities on behalf of Haib Minerals.

This EMP has identified management actions or measures for significant project impacts identified in the EIA, and assigns responsibilities, frequencies and timeframes for each. Monitoring and auditing requirements specify analytical parameters and frequencies for air, surface water, groundwater levels and quality, stormwater and erosion, biodiversity, heritage, and noise. As is typical with a large scale mining operation, impacts will occur during the various development phases of the proposed Haib Mine, requiring adequate mitigation and/or management. The negative impacts of the project are mitigable as best as practically possible through the mitigation / enhancement measures proposed and documented herein. The effective implementation of the proposed measures through the EMP would promote environmental sustainability via reduction of negative impacts and enhancement of positive impacts.

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ABBREVIATIONS

AQMP	Air Quality Management Plan
CHMP	Cultural Heritage Management Plan
CSR	Corporate Social Responsibility
Cu	Copper
EAP	Environmental Assessment Practitioner
EC	Electrical Conductivity
ECC	Environmental Clearance Certificate
EHS	Environmental Health and Safety
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EMS	Environmental Management System
EPL	Exclusive Prospecting License
GISTM	Global Industry Standard on Tailings Management
GM	Grievance Mechanism
GN	General Notice
HFO	Heavy Fuel Oil
HIV	Human Immunodeficiency Virus
HLP	Heap Leach Pad
HM	Haib Minerals
I&APs	Interested and Affected Parties
IFC	International Finance Corporation
IWMP	Integrated Waste Management Plan
KP	Knight Piésold Consulting (Pty) Ltd
LED	Light Emitting Diode
LOM	Life of Mine
MAFWLR	Ministry of Agriculture, Fisheries, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
MIME	Ministry of Industries, Mines and Energy
ML	Mining License
MoHSS	Ministry of Health and Social Services
Mtpa	Million tonnes per annum
NamPol	Namibian Police Service
NamPort	Namibian Ports Authority
NamPower	Namibia Power Corporation
NamWater	Namibia Water Corporation
NGO	Non-Government Organisation
NHC	National Heritage Council of Namibia
NRA	National Roads Authority
OHTL	Overhead Transmission Line
ORASECOM	Orange-Senqu River Commission
PEA	Preliminary Economic Assessment
PM	Particulate Matter
PPE	Personal Protective Equipment
Project	Haib Copper Mine

PV	Solar Photovoltaic
RAP	Relocation Action Plan
ROM	Run-of-Mine
RTFE	Responsible Tailings Facility Engineer
SADC-RTSM	Southern African Development Community Road Traffic Signs Manual
SHEQ	Safety, Health, Environment and Quality
TDBA	Tailings Dam Breach Analysis
TDS	Total Dissolved Solids
TMP	Traffic Management Plan
TSF	Tailings Storage Facility
WRD	Waste Rock Dump

1.0 INTRODUCTION

1.1 PROJECT OVERVIEW

The Haib Copper Project (the Project) is being developed by Haib Minerals (Pty) Ltd (Haib Minerals), a subsidiary of Koryx Copper S. A. (Koryx). The Project is a porphyry copper exploration project located in the //Kharas Region of southern Namibia. The target resources for mining activities include copper with gold and molybdenum recovered as by-products. Haib Minerals holds Exclusive Prospecting License (EPL) 3140, which allows for the exploration of base, rare and precious metals over an area of 36 571 hectares (ha).

Koryx has a 100% interest in Haib Minerals (Pty) Ltd, a Namibian subsidiary which holds the exploration rights to the Haib Project on EPL 3140.

Haib Minerals seeks to apply for an Environmental Clearance Certificate (ECC) for the development of mining activities on EPL 3140. The Project triggers listed activities under the Environmental Management Act (EMA), 2007, and requires an ECC from the Ministry of Environment, Forestry and Tourism (MEFT).

Haib Minerals appointed Knight Piésold Consulting (Pty) Ltd Namibia (KP) to support the development of environmental scoping and impact studies associated with the application for an ECC for the proposed mining activities for the Project. The Project is at an advanced conceptual stage, and pre-feasibility designs have been utilised to simulate and measure the potential impacts. For the EIA, a fixed project description was adopted and included in this report as of 29 June 2026. Much of the detail on mining activities was sourced from the latest Preliminary Economic Assessment (PEA) (Koryx Copper, 2025) and supplemented with updates from ongoing Prefeasibility Studies. Should subsequent design refinements change listed activities, or introduce/increase material impacts, the project description will be updated, and an amendment will be lodged, including any necessary updates to the EMP, as applicable.

The mining component of the Project comprises an open pit mine, a 40 Mtpa crushing, milling and flotation concentrator, as well as infrastructure on and off-site necessary to support these operations (waste rock dumps, stockpiles, tailings storage facilities, off-channel storage dam, power infrastructure, pipelines, roads, offices, etc.). A hydrometallurgical plant consisting of between 3-7 Mtpa heap leach, a copper solvent extraction, impurity removal, and a copper electrowinning plant will be built after initial production during the operations phase.

The Namibia Water Corporation Ltd (NamWater) will supply operational and decommissioning water demand to the proposed Mine. NamWater has applied for an ECC for the proposed water abstraction to supply water to the Project.

The proposed mining operation (Haib Mine) will achieve a combined throughput of 40 Mtpa. The mining schedule indicates a total material movement of approximately 87.5 Mtpa, providing approximately 24 years' supply of mineralised material. This equates to a total of 1.58 billion tonnes (Bt) of material to be mined. The processing of the mineralised material will extend to 33 years. As the resource estimate is updated and ongoing optimisations are implemented, these quantities will be updated.

The Project is currently in the Pre-Feasibility phase, whereby the feasibility of the Project is being defined through ongoing investigations and analyses.

As part of the permitting process for the Project, the development of the Terms of Reference for the EIA and feedback from the consultation processes, resulted in the identification of partnership opportunities between Haib Minerals and NamWater. NamWater, as the custodian of bulk water supply in Namibia, will supply water to the proposed Haib Mine under an agreed volumetric tariff structure with Haib Minerals. Haib Minerals will design and construct the infrastructure (under NamWater's ECC) required for water supply on behalf of NamWater. The operation of infrastructure will be handed over to NamWater upon commissioning. A Memorandum of Understanding (MoU) between the two parties has been signed and an associated infrastructure development agreement is under development.

1.1.1 PROJECT LOCATION

The Haib Copper Project on EPL 3140 covers an area of approximately 36 571 ha and is located in the south of Namibia, approximately 9 km (from the south-western boundary) from Noordoewer (see Figure 1-1). The B1 Road forms the north-western boundary of the EPL. The Orange River runs immediately to the south of the EPL, and a number of farms surround the EPL. The biggest portion of EPL 3140 lies on state land. The eastern part of the EPL is located on Farm Tsams and the Farm Withoek is located within and on the north-eastern boundary of the EPL.

Haib Minerals (Pty) Ltd
PROPOSED MINING ACTIVITIES FOR THE HAIB COPPER PROJECT
ENVIRONMENTAL MANAGEMENT PLAN

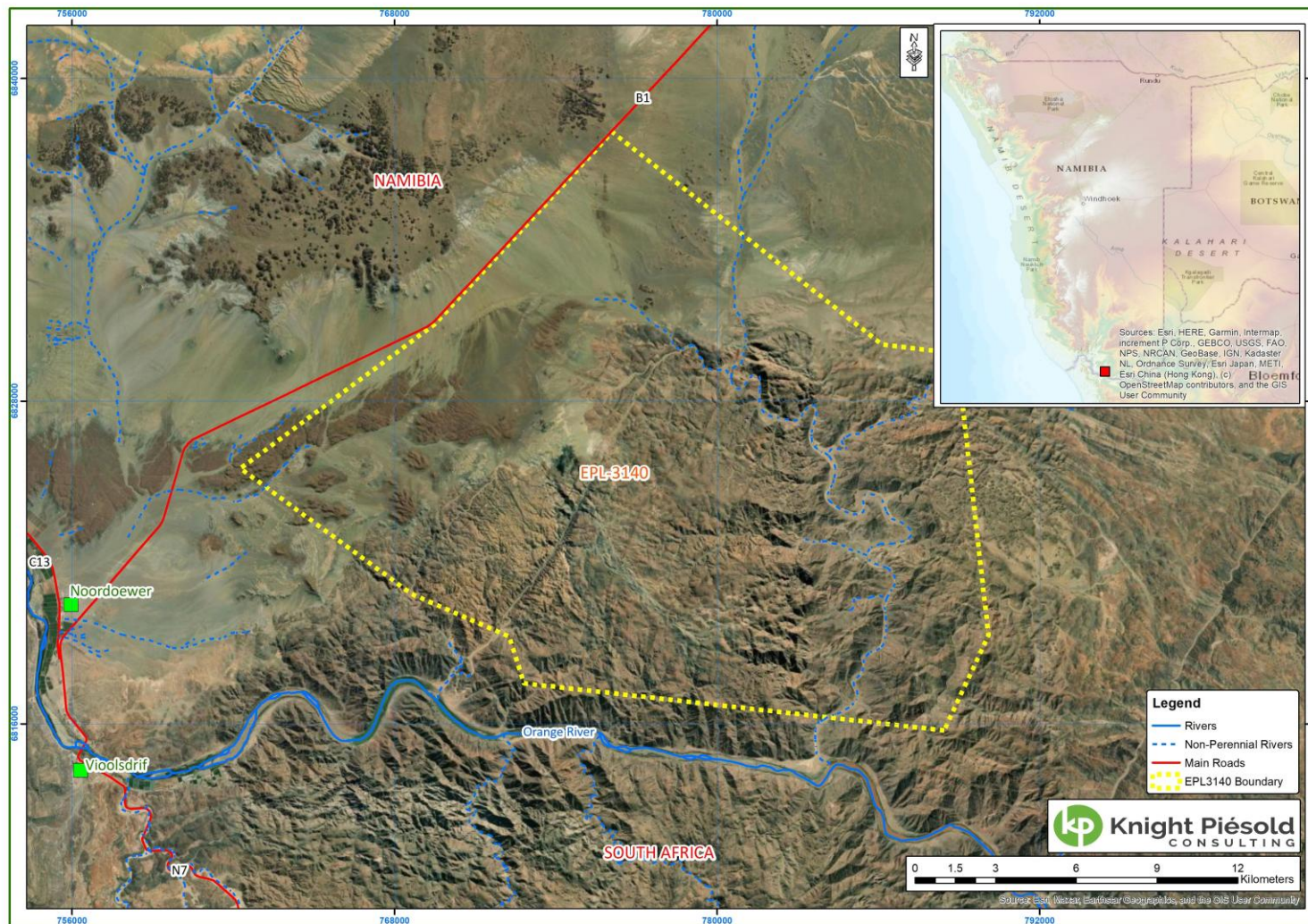


Figure 1-1: Location of EPL 3140

2.0 ROLES AND RESPONSIBILITIES

This Environmental Management Plan (EMP) and subsequent ECC will constitute a formal and binding agreement between Haib Minerals and the Government of Namibia once approved and issued by the Office of the Environmental Commissioner. Haib Minerals is accountable for ensuring compliance with the EMP and for allocating adequate resources to meet all environmental management commitments. Effective implementation of the EMP relies on the clear assignment of roles and responsibilities for each management action. The key roles and associated responsibilities relevant to the EMP are outlined below.

Table 2-1: Applicable Roles and Responsibilities

Roles	Responsibilities
General Manager	Overall responsibility for the implementation of and compliance with the EMP.
Environmental Manager	Provides support to various departments to implement the EMP commitments.
Environmental Officer (EO)	Provides hands-on support to the Environmental Manager and Contractors.
Financial Manager	Makes financial resources available to implement the EMP commitments – management, remediation, rehabilitation and closure costs.
Technical Services Manager	Provides geological and survey support.
Engineering Manager	Provides engineering, planning and maintenance support for infrastructure, machinery and equipment requirements.
Mining Manager	Responsible for the effective operation of open-cast pits, associated mineralised dumps, and waste material.
Processing Manager	Responsible for the effective operation of the Processing Plant.
Responsible Tailings Facility Engineer (RTFE)	Responsible for managing the Tailings Storage Facility (TSF) in accordance with Global Industry Standard on Tailings Management (GISTM) requirements.
Procurement Manager	Responsible for implementing processes that minimise business waste, while sourcing products and services for the Company – negotiating and managing contracts and building key relationships with both suppliers and the internal management team.
Supply Chain Manager	Responsible for the management of the flow of goods and services, including the movement and storage. Responsible for ensuring local procurement is maximised.
Corporate Social Responsibility (CSR) Manager	Creates links/relations between the Company and the community on common commitments towards sustainable social responsibility. Responsible for maximising the socio-economic benefits to the nearby community.
Safety Manager	Provides support to various departments to implement Safety and Health commitments.
Public Relations Manager	Responsible for all internal and external communications for the Company, navigating public relations, ensuring a consistent and engaging message (e.g. preparing detailed media reports, press releases, facilitating workshops and marketing materials).

Roles	Responsibilities
Human Resources Manager	Responsible for effective and efficient management of people in the Company to maximise employee performance and local employment.
Security Manager	Responsible for the security of the operations of the Company (e.g. access and product control).
Vehicle Fleet Manager	Responsible for the maintenance and logistics of the site vehicle fleet.

3.0 AUDITING AND REPORTING

3.1 PURPOSE OF THE EMP

The EMP details the actions required to effectively implement the mitigation measures identified in the EIA. These actions are required to minimise negative impacts and enhance positive impacts associated with the construction, operation and decommissioning of the Mine facility.

The EMP sets out the commitments as required by Section 8(j) of the Environmental Management Act Regulations, as governed by the Government of the Republic of Namibia's Ministry of Environment, Forestry and Tourism. Those requirements include the following:

- (j)(aa) information on any proposed management, mitigation, protection, or remedial measures to be undertaken to address the effects on the environment that have been identified including objectives in respect of the rehabilitation of the environment and closure;
- (bb) as far as is reasonably practicable, measures to rehabilitate the environment affected by the undertaking of the activity or specified activity to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development; and
- (cc) a description of the manner in which the applicant intends to modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation remedy the cause of pollution or degradation and migration of pollutants.

An EMP is a living document and will be updated by Haib Minerals or their consultant(s) and amended as new information (e.g. environmental and social data from ongoing studies), policies, authority guidelines and technologies develop. The EMP will also be reviewed and updated, if required, based on the findings and recommendations of periodic internal and external audits and performance assessments. Should additional listed activities, as defined in the Environmental Impact Assessment Regulations 2012: Environmental Management Act, 2007 (Government Gazette No. 4878) be triggered, this EMP will be updated as a result of another EIA process as stipulated in the Regulations.

3.2 AUDITING

To ensure effective implementation of management measures and compliance with the EMP and environmental and social legislative requirements, an auditing and reporting programme is proposed for the proposed Mine (Table 3-1). The purpose of auditing is to ensure continual improvement in environmental and social performance.

Table 3-1: Auditing requirements

Audit	Reporting Requirements	Action Plan	
		Responsibility for Audit	Frequency of Audit
Quarterly EMP Inspections Auditing compliance of the construction and operational phases to this EMP and any other legal requirements e.g.	Internal report to managers for discussion	Environmental Manager	Quarterly during construction and operations

Audit	Reporting Requirements	Action Plan	
		Responsibility for Audit	Frequency of Audit
licenses, authorisations, Namibia Heritage Council (NHC) consent, etc.			
Management Review of EMP	Internal Report	General Manager and Senior management	Annually
Internal (Bi-annual) EMP Compliance Audit Auditing compliance to this EMP and any other relevant legal requirements e.g. licenses, authorisations, NHC consent etc.	Internally produced to be submitted to the MEFT	Environmental / Social Manager	Twice a year (Bi-annual)
External EMP Compliance Audit	Externally produced report to Environmental Authorities and distributed internally	Environmental / Social Manager to appoint an external / independent auditor	Every three years

3.3 REPORTING

Reporting requirements are presented in Table 3-2.

Table 3-2: Reporting Requirements

Report	Description	Action Plan	
		Responsibility	Frequency
Environmental Monitoring Reports	Reporting on environmental monitoring requirements as per the Notification of Decision to the ECC	Environmental Manager	Bi-annually
Stakeholder / Community Feedback Report	Periodic feedback to key stakeholders including following: - Compliance with the EMP - Results of monitoring programmes	Environmental Manager, Public Relations Manager, CSR Manager	Annually alongside CSR reporting
	Incidence reporting		Episodic as incidents and grievances are raised, annually in performance reports

Report	Description	Action Plan	
		Responsibility	Frequency
Training and Awareness	Maintenance of records for all training and awareness specifically relating to: • Environment • Heritage • EMP	Environmental Manager	Ongoing / as it happens
	• Employee wellbeing	Human Resources Manager	
Incidence recording and adaptive management	The recording of incidents and non-compliances with the EMP and appropriate management to be included in bi-annual reporting including such as, not limited to: • Non-compliances with the EMP • Plant / animal death / injury • Spills (water and contaminants) • New roads / infrastructure • Damage to sites of heritage importance	Environmental Manager	Ongoing / as incidents occur
Maintenance of records	Maintenance of records as per the EMP including, but not limited to: • Rehabilitation photographic records • Safe disposal of waste • Results of air and water monitoring programmes	Environmental Manager	Ongoing / as incidents occur or grievances are lodged
	• Agenda, minutes of meetings under the stakeholder engagement plan • Grievances lodged and feedback	Environmental Manager, Public Relations Manager, CSR Manager	

3.4 PERMIT / APPROVAL / LICENSE REQUIREMENTS

The proposed activities will require a series of permits, approvals and licenses to ensure full compliance of proposed activities. Towards understanding the potential requirements, Table 3-3 includes a preliminary list of possible but likely requirements.

Table 3-3: Expected permit / approval / license requirements for the proposed mining activities for the proposed Haib Copper Mine (LM Environmental Consulting)

Legislation	Regulatory Authority	Permit / Approval / License	Contact Details
Environmental Management Act No. 7 of 2007 and the Environmental Impact Assessment (EIA) Regulations of 2012	Ministry of Environment, Forestry and Tourism (MEFT)	Environmental Clearance Certificate for Haib Mine (HCM)	Mr Timoteus Mufeti Environmental Commissioner Tel. 081-9528609 (Environmental Affairs Reception) E-mail: Timoteus.Mufeti@mef.gov.na
The Minerals (Prospecting & Mining) Act No. 33 of 1992, Section 93(1), Section 90(1)(e) and (2)(a)	Ministry of Mines and Energy (MME; now the Ministry of Industries, Mines and Energy (MIME))	Mining License (ML)	Mrs Isabella Kandjii-Chirchir Mining Commissioner Tel: 061-2848111 Email: isabella.chirchir@mme.gov.na
Water Resources Management Act No. 11 of 2013, Section 13, and the Water Resources Management Regulations 2023	Department of Water Affairs, Ministry of Agriculture, Fisheries, Water and Land reform (MAFWLR)	Dewatering Permit (Pit)	Mr Teofilus Nghitila Executive Director/Water and Marine Resources Accounting Officer Tel: 061-2087691 E-mail: ED-TNPA@mawlr.gov.na
		Borehole Drilling (BH Licenses)	
		Water Abstraction License: 3.5 Mm ³ /for 2 to 3 years construction water from the Orange River	
Electricity Act No. 4 of 2007, Section 17(1)	Electricity Control Board	Electricity Generation License (Diesel/Heavy Fuel Oil (HFO) and Solar Photovoltaic (PV) Generation License)	Robert Kahimise Chief Executive Officer Tel. 061-374300 E-mail: info@ecb.org.na
	MME, now MIME	Consumer Installation Certificate – Fuel Containers	Mr Andreas Sheehama Chief Petroleum Inspector

Legislation	Regulatory Authority	Permit / Approval / License	Contact Details
Petroleum Products Regulations of 2000, Regulation 18(5)		Consumer Installation Certificate – Power Plant	Tel: 061-2848300 E-mail: Andreas.Sheehama@mme.gov.na E-mail: Andreassheehama77@gmail.com
Explosives Act No. 26 of 1956, Section 6(1)	Namibian Police / MME (now MIME)	Explosives magazine License (NamPol)	Comm. T. Nghiyoonanye Explosives Division Tel: 061-2094250/4213/4255 E-mail: windhoekexplosives@nampol.na
		Blasting Permit (NamPol)	
National Heritage Act No. 27 of 2004, Sections 48–52 and 55	National Heritage Council of Namibia (NHC)	Grave Relocation Permit (TSF 4)	Ms Erica Ndalikokule Acting Director Tel: 061-244375 E-mail: info@nhc-nam.org
		NHC Consent (Consent (Sections 53(7) and 55(8) of the National Heritage Act No. 27 of 2004))	
Nature Conservation Ordinance No. 4 of 1975, Section 73	MEFT	Land Clearance Permit (A permit is required prior to the picking, cutting/chopping/picking off, taking, gathering, uprooting, damaging or destroying, or transporting any protected plant)	Mr Johnson Ndokosho Director, Directorate of Forestry Tel: 081-9528544 (Permit Reception) E-mail: johnson.ndokosho@meft.gov.na
		Certificate of Registration of Plant Nursery	
		Permit for the removal of a Protected Species	
Hazardous Substances Ordinance, No. 14 of 1974, Section 5(1)(a)(b)(c)		License to sell and registration to use hazardous substances	

Legislation	Regulatory Authority	Permit / Approval / License	Contact Details
	Ministry of Health and Social Services (MHSS)	Acid Sales Permit (A licence/permit for dealing in controlled acids (and sometimes for purchasers above certain concentrations/quantities))	
Labour Act 11 of 2007 (as amended by the Labour Amendment Act 2 of 2012, the Whistleblower Protection Act 10 of 2017, and the Abolition of Payment by Cheque Act 16 of 2022) (and the Regulations relating to the Health and Safety of Employees at Work 1997, the General Regulations 2008, and the Regulations relating to Domestic Workers 2017)	Ministry of Justice and Labour Relations	Permission is needed to run 12-hour shifts	Ms Kyllikki Sihlahla Labour Commissioner Tel. 061-2066800 E-mail: Kyllikki.Sihlahla@mol.gov.na
Atomic Energy and Radiation Protection Act No. 5 of 2005, Sections 18 and 21(1)(g), and the Radiation Protection and Waste Disposal Regulations 2011, and the Non-ionising Radiation Regulations 2020	MHSS, National Radiation Protection Authority (NRPA)	Sealed Sources License (level gauging)	Mr Axel Tibinyane Director, National Radiation Protection Authority Tel. 061-2032417 E-mail: Axel.Tibinyane@mhss.gov.na
Atmospheric Pollution Prevention Ordinance, No. 11 of 1976, Section 5(1)	MHSS	Registration Certificate for a Scheduled Process	

4.0 ENVIRONMENTAL MANAGEMENT PLAN

4.1 ENVIRONMENTAL MANAGEMENT PLAN

The EMP summarises the mitigation and management actions required to manage impacts identified in the EIA for the proposed Haib Copper Mine. The EMP guides the streamlining of the implementation and monitoring of management efforts. The applicant is to ensure full compliance not only with this EMP but also with all pertinent Namibian legislation, and as far as possible all best practice guidelines.

This EMP is aimed at implementation by the developer, i.e. Haib Minerals. As such, the roles and responsibilities assigned are internal to the Mine. Before construction, a Construction EMP / and or construction specifications are required to guide the conduct of the construction phase contractor(s).

4.1.1 PRE-CONSTRUCTION AND CONSTRUCTION PHASE

Table 4-1: Pre-construction and Construction Phase EMP

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
Administrative				
Legal / Permitting	Legal non-compliance	Obtain the ECC before commencing any listed activities.	General Manager, Environmental Manager	Pre-construction
		Obtain all required permits, approvals and licenses required for the proposed activities		
		Obtain necessary permits for the removal/ relocation/ destruction of nationally protected flora and fauna prior to undertaking clearance activities.		
		Obtain National Heritage Council consent where required for works near heritage resources. If required, obtain permits to relocate, disturb/destroy heritage features within the infrastructure footprint (i.e. the recorded burial cairns, surface scatter).		
		Incorporate all permit and license conditions into contractor specifications and site induction packs.		
Project establishment and training	Weak implementation and non-compliance	Conduct site induction for all personnel and contractors on the EMP, spill response, chance-finds, biodiversity and alien control, grievance and incident reporting.	Safety Manager	Pre-construction and ongoing
		Provide refresher training quarterly and upon personnel or scope changes.		
		Keep signed attendance registers and training materials on file.		
Mine Residue / Tailings Management			Develop procedures for encapsulating Potentially Acid Forming (PAF) materials and stockpiles.	Engineering Manager
Closure Planning	Legal compliance	Prepare an updated Rehabilitation, Decommissioning and Closure Plan covering assets, final land use, design options, rehabilitation, monitoring and costs.	Environmental Manager, General Manager	
Stakeholder Management	Lack of transparency	Develop and implement a Stakeholder Engagement Plan (SEP)	Public Relations Manager	
Climate				

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
Climate Management	Generation of GHGs	Restrict vegetation clearing to the essential construction footprint.	Environmental Manager, Engineering Manager, Contractor	Construction
		Maintain vehicles and equipment according to manufacturer schedules.		
		Prohibit unnecessary idling and enforce idling limits.		
		Use low-sulphur diesel where available.		
		Limit the use of generators.		
Topography and Drainage				
Topography and Drainage Management	Drainage alteration and erosion	Maintain natural drainage patterns where practicable through the use of diversions where required.	Contractor, Engineering Manager, Environmental Manager	Construction
		Install temporary cut-off drains, silt fences and energy dissipaters before earthworks.		
		Separate clean and dirty water and stabilise discharge points from the Stormwater Attenuation Dams (SWADs), if applicable.		
Visual Character				
Visual Aesthetics Management	Generation of negative visual views affecting sense of place	Restrict vegetation clearing to the minimum area required and undertake progressive rehabilitation at the earliest opportunity.	Contractor, Engineering Manager, Environmental Manager	Construction
		Design surface infrastructure to remain within approved footprint sizes and heights.		
		Shape and contour the TSF (TSF4) and WRDs to be congruent with surrounding landforms.		
		Maintain a clean and orderly construction site through regular removal of rubble and waste materials.		
		Implement a grievance mechanism for communities to report unsafe driving or incidents, enabling adaptive management of traffic risks.	Public Relations Manager	
	Use natural-coloured paints that are representative of the ambient area to reduce the visual impact of built infrastructure.	Contractor, Environmental Manager		
	Light pollution from vehicles and construction activities		Direct lights downwards and away from habitats, particularly sandy savanna areas.	
			Select lighting fixtures with minimal wattage and conical shaped fixtures and mount them at low heights or use bollard or foot-level lights.	
			Install motion detectors on security lighting where feasible.	

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Use night lighting only in areas where required and avoid excessive generation.		
Land Capability and Land Use				
Given the change in land use from grazing to construction, no mitigations are foreseen.				
Geology / Seismicity				
Based on the intent of mining activities and the low seismic risk, no mitigation measures are foreseen.				
Soil				
General soil management	Soil erosion	Develop and implement Soil and Erosion Management Plan	Contractor, Engineering Manager, Environmental Manager	Pre-construction
Site Clearance		Clearly demarcate footprint areas required for clearance.		
		Where new tracks must be made off the main routes, select the routes to cause minimal damage to the environment.		
		Avoid uniform removal of all vegetation (clear felling) in areas viewed as erosion-prone, i.e., ephemeral rivers or steep slopes (hill areas).		
		Rehabilitate temporary tracks immediately after use.		
		Undertake routine inspection of established tracks to monitor for signs of erosion and undertake necessary maintenance.		
		Surface permanent access routes to reduce the potential for erosion and the formation of potholes.		
Hazardous Materials Management	Soil contamination	Store chemicals in line with Material Safety Data Sheets (MSDS) or Safety Data Sheets (SDS)		
		Store fuel in line with SANS 10089		
		Store hydrocarbons on site in a demarcated area and on bunded impermeable surfaces with a capacity of 110 % of the largest storage volume kept within the bunded area.		
		Refuel only on impermeable surfaces or drip trays.		
		Regularly inspect and maintain vehicles and generators on bunded impermeable areas, to reduce the potential for hydrocarbon leaks.		
		Provide spill kits and train staff in their use.		
		Restrict the mixing of concrete and the cleaning of mixing equipment to lined or impermeable surfaces.		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		If a spillage occurs, clean it up immediately and dispose of contaminated soil at either an on-site bioremediation site or at an appropriate hazardous waste disposal site.		
		Implement proper pollution control measures to prevent accidental spillages, such as keeping hazardous materials in bunded areas to prevent spillages through runoff.		
Disturbance of soil	Loss of topsoil	Restrict topsoil clearance activities to only within the required footprints.		
		Clear only areas of topsoil if required for construction purposes and keep development footprint areas as small and compact as possible.		
		Strip and stockpile, together with any vegetation cover present, the usable soil (typically the top 150 millimetres (mm) of soil where available, or until hard rock is encountered where soil depths are <150 mm), making provision for gathering soft sandy/silty material containing organic material.		
		Avoid mixing topsoil and subsoil.		
		Maintain topsoil stockpiles for use in rehabilitation efforts (if available).		
		Store removed topsoil in areas where the topsoil will not mobilise during high rainfall events, or cover topsoil stockpiles to prevent erosion.		
		Undertake topsoil stripping in the dry season to prevent mobilisation through runoff during the rainy season.		
		Design and construct topsoil stockpiles with appropriate slopes and stormwater management to minimise the potential for erosion. Undertake routine inspections for signs of erosion and remedy erosion points where they arise.		
		Quarries and Spoil		
Material spoil	Material spoil contributing to impact footprint	Situate spoil rock from construction activities within existing infrastructure footprints on the Haib Copper Mine site (i.e. Waste Rock Dumps (WRDs), etc.).	Contractor, Engineering Manager, Environmental Manager	Pre-construction (Design Phase)
		Spoil locations must not contribute to the impact footprint.		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
Material sources	Material sources / quarries contributing to impact footprint	Source material for concrete batching or construction from within existing infrastructure footprints on the Haib Copper Mine site inclusive of the off-channel storage dam basin and the pit. Limit the number of borrow pits as far as possible i.e. only excavate the areas actually needed for the volume of aggregate required (the less area disturbed, the easier and cheaper the rehabilitation of the area would be).		and construction
		Material sources / quarries must not contribute to the mining activity's impact footprint.		
		Limit the depths of the borrow pits to above the water table. Terminate any excavations if groundwater (or moist conditions) is encountered and refill the pit(s) to above the water level.		
		Avoid the disposal/dumping of any liquid and/or solid waste in the borrow pits.		
		Undertake excavations in a safe manner and in compliance with the relevant safety regulations.		
Fauna, Flora and Sensitive Habitats				
Biodiversity – Terrestrial Flora and Fauna	Habitat loss, fauna injury and protected flora removal	Minimise the construction footprint and use directional clearing through the development and implementation of a Vegetation Clearance Protocol .	Contractor, Engineering Manager, Environmental Officer	Pre-construction
		An on-site EO (Environmental Officer) must assist during the construction phase specifically to design alignment of the linear infrastructure (roads and powerlines), to avoid sensitive areas or flora. Design alignment of all pipelineS, transmission line and roads to avoid sensitive areas or protected flora.		
		Develop and implement a Biodiversity Management Plan inclusive of taxon-specific management measures for both fauna and flora and detailing restricted no-go zones for biodiversity hotspots. Include the artificial habitat created by the off-channel storage dam in the Biodiversity Management Plan.	Environmental Manager	
		Develop a Biodiversity Offset Plan for the residual loss of biodiversity on the rocky plateau habitat.		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Apply for relevant permits for the removal/relocation of protected fauna and flora taxa.		
		Clearly demarcate and fence off the boundaries of the construction footprint areas, to limit migration across the area, prioritising any temporary laydown areas into low- and medium-sensitivity areas.	Contractor, Engineering Manager, Environmental Manager	Construction
		Implement a zero-tolerance policy on fishing, hunting, plant collection and firewood gathering.	Environmental Manager	
		All staff must undergo Environmental Awareness Training. Training shall include information on sensitive environmental receptors within the Project area, species identification, conservation status, habitat requirements, and management obligations.	Human Resources Manager, Safety Manager, Environmental Manager	
		Enforce strict track discipline by using only existing tracks/access roads when travelling in the area and do not go off-road.	Environmental Manager	
		Avoid leaving open trenches overnight or install escape ramps and inspect daily.	Contractor, Engineering Manager, Environmental Manager	
		Prohibit the use of herbicides and pesticides within the Project area.	Contractor, Environmental Manager	
		Prohibit open fires within the Project area, unless a specific area has been set aside for the cooking of food. Cooking appliances (e.g. gas stoves) are to be properly maintained and ventilated.	Contractor, Environmental Manager	
		Avoid restricting movement of faunal species through the appropriate design and placement of linear infrastructure (pipelines, fences, roads, etc.)	Contractor, Environmental Manager, Engineering Manager	
		Remove and relocate all protected species with a good relocation/survival potential, e.g., <i>Aloe</i> spp., <i>Commiphora</i> spp., <i>Hoodia</i> spp., <i>Lithops</i> spp., <i>Tylecodon</i> spp., etc. and fauna under valid permits.	Contractor, Environmental Manager	

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Undertake concurrent rehabilitation, where feasible, using indigenous vegetation.	Environmental Manager	
		Clear large trees and shrubs from the dam inundation area to avoid the formation of methane (GHG) prior to inundation.	Contractor, Environmental Manager,	
Biodiversity – Avifauna	33 kV Overhead Transmission Line (OHTL) – avifauna collisions, fauna injury	An on-site EO (Environmental Officer) must assist during the construction phase specifically to design alignment of the linear infrastructure (roads and powerlines), to avoid sensitive areas or flora. Design alignment of all pipelines, transmission line and roads to avoid sensitive areas or protected flora.	Environmental Officer, Engineering Manager	Construction
		Stagger the poles/pylons with the existing 132 kV OHTL where applicable to minimise collisions.	Contractor, Engineering Manager, Environmental Manager	
		Install Bird Flight Diverters along sensitive spans of the entire line.		
		Monitor OHTL mortalities to identify problem areas.		
		Avoid routing on ridge crests where practicable.		
		Backfill and secure pole holes at the end of each shift.		
		Select transmission pole configuration for 33kV to prevent bird mortalities and include suspended insulators (i.e., hanging insulators that drop the cables below the cross arms without ground wire); offset cross arms; conductors covered by LDPE (Low Density Polyethylene) insulating sleeves and anti-perching devices on cross arms. Select this technical configuration detail with NamPower (or contractor) input.		
Biodiversity – Alien/Pest Control	Proliferation of invasive alien and pest species	Develop and implement an Alien and Invasive Species Management Plan for incorporation into the Biodiversity Management Plan .	Environmental Manager	Pre-construction
		Develop and implement a Pest Management Plan for incorporation into the Biodiversity Management Plan , inclusive of the artificial aquatic habitat created by the off-channel storage dam.	Contractor, Engineering Manager, Environmental Manager	
		Limit land clearing activities at the Mine site and infrastructure areas to prevent additional soil disturbances favouring invasive alien plant species.		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Avoid the use of herbicides to remove invasive species, prioritising manual or mechanised removal methods.	Contractor, Environmental Manager, Environmental Manager	Construction
		Remove <i>Prosopis</i> spp. and other invaders by manual or semi-mechanised methods, avoiding the use of herbicides.		
		Implement follow-up clearing after floods to prevent coppicing and thickening.		
		Conduct annual maintenance (alien plant removal) after rainy season.		
		Monitor the re-establishment and regrowth of invasive alien species and conduct follow-up procedures when necessary.		
Aquatic Ecosystems				
Biodiversity – Aquatic Ecosystems	Riparian and aquatic habitat disturbance, loss of fauna	Incorporate measures for aquatic biodiversity management into the Biodiversity Management Plan .	Environmental Manager	Pre-construction
		Establish and undertake aquatic biomonitoring to monitor the construction phase impact on the receiving environment.	Contractor, Engineering Manager, Environmental Manager	
		Establish a 50 m buffer from riparian edges and storage dam edges for all non-essential activities.		
		Restrict in-channel works to the dry season, particularly within the ephemeral Haib riverbed, where feasible, to reduce potential for sediment mobilisation.		
		Direct stormwater runoff from access roads and all construction areas to buffer zones before reaching rivers or storage dams.		
		If a spillage occurs, clean it up immediately and dispose of contaminated soil at either an on-site bioremediation site or at an appropriate hazardous waste disposal site.		
		Provide drip trays for all construction vehicles, and spill kits should be made readily available to reduce the potential for hydrocarbon mobilisation into surface water courses.		
Surface Water				
Surface water – Quality	Pollution and contamination of surface water and the	Design stormwater interventions to allow uncontaminated stormwater to bypass the construction areas.	Contractor, Engineering Manager, Environmental Manager	Pre-construction
		Design stormwater interventions to capture contact water for use in alternative processes.		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
	surrounding environment	Develop a surface water monitoring programme for water quality within the Orange River. The programme must be subsequently updated to incorporate any surface water bodies established during the construction phase.	Environmental Manager	
		Design and construct the TSF to maintain integrity and stability during storm events in line with GISTM requirements (Global Tailings Review, 2022).	Engineering Manager, Environmental Manager	Pre-construction and construction
		Schedule in-channel works for the dry season to reduce sediment mobilisation and contamination within the ephemeral Haib River.	Contractor, Engineering Manager, Environmental Manager	Construction
		Implement proper pollution control measures to prevent accidental spillages, such as keeping hazardous materials in bunded areas to prevent spillages through runoff.		
		Use drip trays for all refuelling and maintenance near watercourses.		
		Prohibit equipment washing and materials mixing within the Orange River, ephemeral Volstruis and Haib rivers and tributaries.		
		Provide serviced ablutions and remove wastewater to approved facilities 1 toilet per 30 employees max. If chemical toilets are selected, the contents must be collected by an approved contractor and disposed of at an approved sewage site.		
Surface water – Quantity	Reduction in surface water quantity	Obtain Water Abstraction License from MAFWLR for construction phase water demand prior to abstraction.	Environmental Manager	Pre-construction
		Water Abstraction Protocol is finalised and in place for use by NamWater in operational phase.	Environmental Manager, Engineering Manager	Construction
		Design all stormwater interventions to allow uncontaminated stormwater to bypass the construction areas and feed towards stormwater storage facilities or towards the Orange River.		
		Prohibit abstraction before the licence and operating rules are in place.		
		Install flow meters and effectively record abstraction volumes and rates and all pumps must calibrated with proof of calibration made available to stakeholders.		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Monitor flows in the Orange River at Blouputs and at dedicated points within the Noordoewer/ Vioolsdrift area.	Environmental Manager, Engineering Manager, Public Relations Manager	Pre-construction and construction
		Participate in Orange River water user forums and implement feedback on pumping and abstraction volumes.		Construction
		The Mine must be an active member of the local water users association (or similar).		
Hydrogeology				
Groundwater Management	Contamination of groundwater resources (spillage, interception from the pit, contamination of aquifers from seepage, leaching)	Train construction crews in groundwater protection and spill response.	Human Resources Manager, Safety Manager, Environmental Manager	Pre-construction
		Develop and implement a groundwater monitoring programme and establish a site-specific database. This will require installation of dedicated groundwater monitoring boreholes downgradient of various areas of interest, including the pit, TSF, WRDs, Heap Leach Pad (HLP) and water storage dam. Specific focus on alluvial and fractured rock aquifers to monitor contaminant migration away from WRDs and TSF.	Environmental Manager Engineering Manager	
		Scavenger wells must be designed by a competent hydrogeologist.	Environmental Manager	
		Establish a baseline groundwater database at the proposed Project footprint areas to monitor changes over time.	Environmental Manager	
		Develop and implement spill prevention measures and emergency response plans to address accidental spills of fuel, hazardous substances and waste.	Environmental Manager Engineering Manager.	
		Develop protocols and action plans for responding to unexpected changes in groundwater behaviour, such as sudden inflows or contamination.	Environmental Manager Environmental Manager	

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Establish a network of groundwater monitoring points associated with the facility.	Environmental Manager	
		Bund hazardous chemical / fuel storage to 110% of the largest container volume.	Contractor, Engineering Manager, Environmental Manager	
		Temporary storage areas should be impervious and bunded to contain any spillages.	Environmental Manager Engineering Manager.	
		Undertake vehicle maintenance and refuelling on bunded or impenetrable areas and not on bare soil.	Environmental Manager Engineering Manager.	
		Use proper well casing and sealing techniques to prevent surface pollutants such as hydrocarbons and chemicals from entering the groundwater.	Environmental Manager Engineering Manager.	
		Dispose of drilling waste and contaminated materials at approved sites to avoid environmental release.	Environmental Manager Environmental Manager	
		Plan site layout to avoid areas of shallow groundwater associated with the alluvial aquifer.	Environmental Manager Engineering Manager.	
		Incorporate the monitoring of groundwater levels into the groundwater monitoring programme and incorporate the levels in a database.	Environmental Manager	
		Implement controlled dewatering management systems by means of strategically placed boreholes or sumps to manage inflows, while ensuring that drawdown is localised and does not excessively affect surrounding aquifers.	Environmental Manager Engineering Manager	
		All pollution prevention structures to be built according to SANS standards, where/if guidelines are applicable.		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
Water Storage Dam Management				
Operation of Water Storage Dam	Dam Breach	Develop an Emergency Preparedness and Response Procedure for the Water Storage Dam in case of a sudden breach.	Environmental Manager Engineering Manager	Construction
		Develop Storage Dam Management Plan inclusive of O&M (Operation and Maintenance) manual for the operational phase that addresses surveillance, monitoring and maintenance of the storage dam.		
Tailings Management				
Operation of Tailings Storage Facility	Tailings Breach	Conduct Tailings Dam Breach Assessment (TDBA) during detailed design of the TSF	Environmental Manager, Engineering Manager, RTFE	Pre-construction
		Develop an Emergency Preparedness and Response Procedure for the TSF in case of a breach.		
		Manage the TSF in accordance with GISTM requirements.		
Air Quality				
Air Quality Management	Fugitive dust, PM _{2.5} and PM ₁₀ and emissions (NO ₂ and SO ₂) from construction activities and vehicle movement	Develop an Air Quality Management Plan (AQMP) and monitor ambient air quality monthly (dust fallout, NO ₂ and SO ₂) and quarterly (PM _{2.5} and PM ₁₀) and maintain a database of site-specific data. Adapt the management plan to incorporate sites specific for TSF 4.	Environmental Manager	Pre-construction
		Develop and maintain a grievance register for air quality related complaints.	Public Relations Manager	
		Implement regular dust control or dust suppression measures for roads and work areas.	Contractor, Engineering Manager, Environmental Manager	Construction
		Increase the frequency (where required) of water sprays and consider the addition of surfactants or chemical suppressants (e.g. lignosulfonates, calcium chloride, or polymer-based sealants) for areas or activities of concern along unpaved roads and exposed surfaces using water trucks with spray bars.		
		Reduce speed limits, truck weights and the number of vehicles using unpaved roads and surfaces as far as practicable. Vehicles travelling on unsealed roads should not exceed 60 km/h. Vehicles on internal roads should not exceed 30 km/h.		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Restrict idling times for vehicles and heavy machinery through efficient work planning to reduce fuel consumption and emissions.		
		Minimise surface areas of stockpiled material (i.e. avoid sharp edges) to reduce the surface area exposed to wind erosion.		
		Conduct workforce training at all levels (workers, foremen, managers and contractors) on air emissions awareness. This may be included in site induction courses and should focus on promoting understanding of why operational controls are in place and must be adhered to.	Human Resources Manager, Safety Manager, Environmental Manager	
		Maintain appropriate operational controls (e.g. adherence to repair and maintenance requirements for all equipment, including vehicles).	Contractor, Engineering Manager, Environmental Manager	
		Initiate progressive rehabilitation (e.g. revegetation with appropriate species or coarse material covers) to stabilise disturbed areas and reduce dust entrainment. Inactive surfaces must be rendered non-dust forming.		
		Utilise windbreaks, contouring and material covers or enclosures for exposed soils and stockpiles of erodible material. Install porous windbreaks or fencing around the facility or at a minimum alongside areas of high erosion potential.		
		Adhere to the minimum practical drop heights when offloading materials.		
Noise and Vibrations				
Construction Activities	Increase in ambient noise levels affecting sensitive receptors	Establish a Noise and Vibration Management Plan to monitor noise and vibrations generated through construction activities and restrict noise generation activities to typical daytime hours as far as possible.	Environmental Manager	Pre-construction
		Develop and maintain a grievance register for noise-related complaints.	Public Relations Manager	
		Maintain all construction vehicles and equipment in good working order to limit the generation of noise as much as possible.	Contractor, Engineering Manager, Environmental Manager	Construction

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Provide workers with sufficient appropriate PPE (Personal Protection Equipment) to reduce noise levels experienced by staff.	Safety Manager	
		Implement construction phase noise monitoring for both daytime and nighttime activities.	Contractor, Engineering Manager, Environmental Manager	
		Install suitable mufflers on engine exhausts and compressor components.		
		Install acoustic enclosures for equipment causing radiating noise.		
Blasting				
If blasting is required to establish platforms or bases, it will typically be civil blasting, which will have no impact on areas outside of the immediate area of the specific blast.				
Blast and Vibration Management	Damage to Public, mining infrastructure and Heritage site	Develop a Blasting Management Plan incorporating safety and vibration requirements.	Mining Manager and Safety Manager	Pre-construction and construction
Traffic and Transport				
Traffic Management	Increased vehicle presence and collision potential	Develop and implement a construction Traffic Management Plan (TMP) covering haul routes, bus routing/scheduling, parking/staging on site, speed management, driver induction/fatigue management, incident reporting, and road cleanliness.	Environmental Manager, Safety Manager	Pre-construction
		Obtain relevant Namibian Roads Authority (NRA) permits where required for tie-ins with existing road infrastructure.		
		Upgrade the Mine access intersection to the NRA Standard Drawings – Typical Accesses to Roads, Type A Access before the commencement of the Mine's operational phase.	Contractor, Engineering Manager, Environmental Manager	Pre-construction
		All site personnel operating vehicles must be appropriately licensed and trained in the operation of the specific vehicle types.	Safety Manager, Human Resources Manager, Contractor	Construction
		Install signage and road marking to the Southern African Development Community Road Traffic Signs Manual (SADC-RTSM) requirements for temporary traffic control.	Environmental Manager, Safety Manager	
		Maintain and regularly grade and water access roads to control dust and prevent gravel carry-over onto the B1.	Engineering Manager, Environmental	

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
			Manager, Safety Manager	
Archaeology and Cultural Environment				
Heritage Resource Management	Damage to / loss of heritage sites	Develop a Cultural Heritage Management Plan (CHMP) .	Environmental Manager	Pre-construction
		Contractor must be made aware of all heritage sites. Locations are not included in this EMP due to sensitivity.	Environmental Manager	
		Demarcate all heritage sites as “No-go” zones and associated buffer zones on site maps and physically demarcate with visible flagging and fencing in line with the NHC Consent.	Engineering Manager, Environmental Manager	
		Create and maintain a buffer zone around all burial sites and suspected burial sites.	Environmental Manager	
		Create and maintain a buffer zone around the stone circle, storage cairns, blinds and stone hut features.	Environmental Manager	
		Burial site QRS 10/47 located in the TSF to be excavated and removed to the National Museum of Namibia subject to National Heritage Council Permit requirements.	Environmental Manager	
		Implement a no-go buffer zone around high significance archaeological sites . Erect signage on approach tracks to the site.	Environmental Manager	
		Conduct a pre-construction walkover with an archaeologist confirming the suspected grave sites and burial cairns, and refine no-go zones where necessary.	Environmental Manager	
		Obtain the necessary permits from the NHC to destroy, remove or relocate sensitive heritage finds, such as the suspected burial cairn and surface scatter within the proposed footprint of TSF 4.		
		Implement the Chance-Find Procedure for all ground-breaking activities. Train all contractors and employees in the Chance Find Procedure for chance find or unrecorded discoveries.	Contractor, Environmental Manager, Environmental Manager	Construction
		Supervise earthworks in sensitive areas and report finds to the NHC.		
Socio-Economic				

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
Social and Economic Performance	Economic benefit to national (GDP) and local economies	Source goods and services locally (e.g. contractors, accommodation, equipment and perishable goods) during construction, wherever practicable.	Supply Chain Manager, Procurement Manager	Pre-construction
	Employment opportunities	Develop and implement a Personnel Procurement and Retention Plan towards Developing local procurement and retention policies.	Human Resources Manager	
		Prioritise local employment for construction activities.		
	Education, training and skills development	Implement skills development strategies and programmes to maximise the use of the local labour force.		
		Support employees to continue learning and developing skills to improve labour flexibility and productivity.		
		Promote continuous learning programmes to diversify and upgrade skills.		
		Provide recognised, documented and accredited skills upgrading and training programmes.		
	Population influx	Implement a local recruitment policy prioritising employment for residents of Project-affected settlements.	Human Resources Manager	Pre-construction
		Prepare an Influx Impact Management Plan to mitigate anticipated influx.	Environmental Manager, Human Resources Manager, Public Relations Manager, CSR Manager	
		Establish clear contractor management requirements, including prohibition of the formation of worker-led informal settlements and requiring all workers to stay in designated worker accommodation either on site or within the nearby settlements such as Noordoewer.		
		Support the local Regional Council and Settlement Office in planning for basic services (water, sanitation, waste management, health) during construction to reduce stress on existing infrastructure systems.		
		Develop, implement and maintain a grievance mechanism for community concerns related to labour influx.		
	Social pathologies	Develop and implement an employee and contractor code of conduct, inclusive of behaviour, substance abuse, harassment and transactional sexual relationships, and provide training thereof.		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Develop, implement and maintain a community-level grievance mechanism and act on reported grievances.		
	Agriculture and land rights	Assess the settlement requirements in line with the Namibian requirements and linked requirements for a Livelihood Restoration Plan (LRP) for farmers affected by the loss of grazing land.		
	Water abstraction and conflict with agriculture	Participate in Orange River water user forums and implement feedback.	Environmental Manager, Engineering Manager, Public Relations Manager	
	Emergency Responses	Prepare and publicly disclose emergency response plans for spills, dam failures, fires or hazardous incidents.		
Community Health				
General	Impacts on community health	Develop and implement a Community Health, Safety and Security Plan	CSR Manager, Environmental Manager, Public Relations Manager	Pre-construction
Air Quality		Implement management and monitoring measures as per air quality section.	Environmental Manager	
Noise Management		Implement management and monitoring measures as per noise management section.		
Water Quality Management		Groundwater and surface water monitoring programmes as per section above.		
		Implement management measures as per the hydrogeology section above.		
Community and Influx Management		Develop Influx Impact Management Plan.	Environmental Manager, Public Relations Manager	
		Support labour and community wellness programmes (voluntary testing, screening)		
		Establish an on-site first aid/occupational health facility		
		Strengthen stakeholder engagement with local communities with active inclusion of vulnerable groups and river users to address cultural health practices and psychosocial concerns		
Waste Management				

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
Waste Management (General)	Contamination of soil, surface- and groundwater	Develop, implement and maintain a site-wide Integrated Waste Management Plan (IWMP) .	Environmental Manager	Pre-construction
		Train all staff and contractors in waste management, spill prevention, containment, remediation, and environmental responsibilities. provide specific training for waste operations.		
		Relevant permits and licenses must be in place (i.e. discharge licenses if required) as per the IWMP .		
Keep records of waste volumes, disposal certificates, hazardous chemical storage, and incidents.		All Departmental Managers	Construction	
Conduct periodic audits of waste management, spill control, and hazardous waste service providers.		Environmental Manager		
Waste Collection		Establish sufficient designated waste collection points on site with adequate capacity for domestic, industrial, and hazardous waste.		Pre-construction
Waste Storage / Separation – Domestic and Recyclable Waste		Separate domestic and recyclable waste at source and store in appropriate wheely/lugger bins or skips. Provide recyclable materials to qualified recycling companies.	All Departmental Managers	Construction
		Investigate and support the development of small- and medium-sized recycling companies in the nearby towns.	CSR Manager	
		Design waste storage areas/containers to meet specific requirements that prevent contamination of soil (impervious floor, bunded areas, lids, sealed containers for hazardous waste).	Environmental Manager, Engineering Manager	
Hazardous Waste – Solid Waste		Develop procedures covering the storage, handling, transportation and disposal of hazardous, solid and medical waste.		Pre-construction
		Train employees and contractors on the waste management procedure.		
		Store hazardous waste in designated containers (oil, batteries, cartridges, rags, fluorescent tubes, explosives packaging).		Construction
		Collect and accumulate other hazardous waste (e.g., car batteries, oil filters) until sufficient volumes are available for removal.		
		Design storage areas to meet specific requirements (impervious floors, bunded areas, sealed containers).	Environmental Manager, Supply Chain Manager	

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
Liquid Waste		Capture hydrocarbon and chemical-contaminated water/solids in pollution control structures, stored safely, treated or recycled by registered companies.	Environmental Manager, Engineering Manager, Mining Manager, Processing Manager	
		Appoint a reputable recycling company to collect waste oil.	Supply Chain Manager	
		Dispose of contaminated water and solids appropriately, recycle treated water in mineral processing.	Engineering Manager, Mining Manager, Processing Manager	
Machinery & Equipment Maintenance		Service equipment in equipped workshops and undertake regular servicing to minimise oil/fuel leaks.	Engineering Manager	
Hydrocarbon Spills		Contain spills using spill kits, separate hydrocarbons from contaminated water; treat water before re-use.	All Departmental Managers	
		Maintain existing bunds to contain 110% of the content of the largest tanks.	Processing Manager, Engineering Manager	
		Maintain pumps and pipelines.		
		Contract service providers for large-scale or emergency spills and periodically test emergency response procedures.	Safety Manager, Supply Chain Manager	

4.1.2 OPERATIONAL PHASE

Table 4-2: Operational Phase EMP

Aspect	Project phase potential impacts	Management action	Responsibility
Administrative			
Closure Plan	Legal compliance	Update and maintain the Rehabilitation, Decommissioning and Closure Plan covering assets, final land use, design options, rehabilitation, monitoring and costs.	Environmental Manager, General Manager

Aspect	Project phase potential impacts	Management action	Responsibility
Permitting	Legal non-compliance	Keep all relevant permits, certifications and licenses valid and up to date.	General Manager
Stakeholder Management	Lack of transparency	Implement the Stakeholder Engagement Plan (SEP)	Public Relations Manager
Climate			
Climate Management	Greenhouse gas (GHG) emissions and climate change	Maintain and service mechanical equipment to reduce combustion emissions and particulate matter generation.	Environmental Manager, Engineering Manager
		Use low sulphur diesel.	
Topography and Drainage			
Impacts will be established during the construction phase; therefore no mitigations are foreseen for the operational phase.			
Visual Character			
Visual Aesthetics Management	Alterations to visual landscape	Maintain a clean and orderly operational site through regular removal of rubble and waste materials.	Environmental Manager
		Implement dust suppression measures consistently during operational activities.	
		Shaping and contouring of the TSF (TSF 4) and WRDs must be congruent with the surrounding landforms as further development progresses.	Engineering Manager, Mining Manager, RTFE
		Keep surface infrastructure within approved footprint sizes and heights.	
		Conduct concurrent rehabilitation and revegetation during operations to reduce the visual impact and dust.	Environmental Manager
		Manage and protect vegetation that does not require removal.	
Land Capability and Land Use			
Impacts will be established during the construction phase; therefore, no mitigations are foreseen for the operational phase.			
Geology / Seismicity			
No mitigation measures necessary.			
Soil			
Soil Management	Soil erosion	Implement Soil and Erosion Management Plan	
		Conduct erosion maintenance after each rainy season.	

Aspect	Project phase potential impacts	Management action	Responsibility
Hazardous Materials Management	Soil contamination	Store chemicals in line with MSDS or SDS	Environmental Manager, Mining Manager
		Store fuel in line with SANS 10089	
		Provide spill kits and train personnel in their use.	
		Store mineral waste material separately from soil stockpiles.	
		Avoid mixing topsoil and subsoil.	
		Control and intercept contaminated stormwater run-off from stockpiles, TSF, WRDs, etc., to prevent soil loss and contamination.	Environmental Manager, Mining Manager, Processing Manager, RTFE
		Store and handle hydrocarbons and chemicals safely to prevent soil contamination.	
		Undertake maintenance of vehicles or mechanical equipment on an impervious layer to prevent soil contamination.	
		Clean up all spills immediately; keep records and dispose of contaminated soil at the on-site bioremediation site or at an appropriate hazardous waste disposal site.	
Fauna, Flora and Sensitive Habitats			
Terrestrial Biodiversity and Habitat Management	Habitat loss, injuries or fatalities of terrestrial biodiversity	Maintain the Biodiversity Management Plan .	Environmental Manager
		Implement and maintain the Alien Invasive Plant Control Programme.	
		Conduct Environmental Awareness Training for staff and contractors on local species, conservation status, biology, habitat and management requirements.	Environmental Manager, Human Resources Manager
		Undertake concurrent rehabilitation, where feasible, using indigenous vegetation.	Environmental Manager
		Enforce zero-tolerance rules for poaching and illegal resource collection.	
		Maintain equipment used to prevent bird collisions with powerlines (spiral markers, flappers, LED devices).	
		Follow the site-specific IWMP .	
		Prohibit herbicide/pesticide use on site.	
		Record any observed animal fatalities on site and maintain complete database of all fatalities.	
Aquatic Ecosystems			
		Maintain the Biodiversity Management Plan .	

Aspect	Project phase potential impacts	Management action	Responsibility
Biodiversity – Aquatic Ecosystems	Habitat loss, injuries or fatalities of aquatic taxa	Undertake routine aquatic biomonitoring to monitor operational impacts on the sediment load of receiving aquatic environment.	Environmental Manager
Surface Water			
Hazardous Materials Management	Pollution/contamination of surface water and the surrounding environment	Maintain the Emergency Preparedness and Response Plan , including for large-scale hydrocarbon or reagent spills on and off-site	Environmental Manager
		De-contaminate polluted soil or water using appropriate methodologies and rehabilitate affected areas.	Environmental Manager, Mining Manager, Processing Manager, RTFE
		Collect slurry spilt to the ground in sealed containers and either transport to the TSF or to an approved hazardous waste facility for disposal.	
		Identify and contract specialist service providers for emergency spill response and clean-up off-site.	
Surface water – Quality	Pollution and contamination of surface water and the surrounding environment	Maintain the surface water monitoring plan , and update it accordingly to incorporate any additional surface water bodies erected on site (process ponds, storage dams, etc.).	Environmental Manager
		TSF 4 must be operated to provide for flood prevention from storm events in line with GISTM requirements (Global Tailings Review, 2022).	RTFE
		Follow the operation and inspection procedures for the TSF, secondary containment infrastructure, and pipeline corridor.	Environmental Manager, Mining Manager, RTFE
		Establish a drainage management system with engineered structures to protect the Orange River from contaminated runoff.	
		Remove soil contaminated by process slurry, tailings or supernatant for placement in the TSF.	
		Establish and maintain paddocks and cut off trenches around the TSF and WRD to contain spillages and runoff.	
		Undertake daily inspections of the pipelines between the Plant and TSF 4 for breakage and blockages.	
		Maintain employee awareness about the impact of spills.	Human Resources Manager, Environmental Manager
		Divert all stormwater in the area to separate clean and dirty water.	

Aspect	Project phase potential impacts	Management action	Responsibility
		Monitor stormwater channels for erosion.	Environmental Manager, Mining Manager, Processing Manager, Engineering Manager
		Monitor surface water ponds, ensuring adequate freeboard to prevent overflows during the rainy season.	
		Undertake routine maintenance of vehicles and equipment to reduce the potential for hydrocarbon spillages.	
		Prohibit the washing of vehicles and equipment within drainage lines, streams and rivers. Limit the washing to designated areas only.	
		Prohibit the discharge of contaminated water into the surrounding environment.	
		Provide waste bins and prohibit the disposal of domestic waste within the environment.	
		Notify relevant authorities and surrounding farmers of major spillages. Hydrocarbon spillages exceeding 200 litres require that the MIME be informed through completion of form PP/11 in line with the Petroleum Products Regulations, 2000.	
Surface water – Quantity	Reduction in surface water quantity	Monitor implementation of the Water Abstraction Protocol and operating procedure.	Environmental Manager
		Monitor flows in the Orange River at Blouputs and at dedicated points within the Noordoewer/ Vioolsdrift area.	
		Monitor surface water ponds, ensuring adequate freeboard to prevent overflows during the rainy season.	
		Monitor and maintain all relevant diversions to bypass operational areas and feed clean stormwater to the Orange River.	
		Participate in Orange River water user forums and implement feedback on results of flow monitoring. Hold NamWater accountable to the effective implementation of the Water Abstraction Protocol .	Environmental Manager, Engineering Manager, Public Relations Manager
		The Mine must be an active member of the local water users association (or similar).	
Hydrogeology			
Groundwater Management	Contamination of groundwater resources	Maintain the groundwater monitoring programme .	Environmental Manager

Aspect	Project phase potential impacts	Management action	Responsibility
		Monitor and maintain the TSF, water containment facilities and related infrastructure (transfer pipes, cut-off trenches, scavenger wells, etc.) to prevent spillages/leakages that could pollute the environment and aquifer.	Environmental Manager, Mining Manager, Processing Manager, Engineering Manager
		At evidence of seepage, interceptor trenches should be installed, possibly with the support of scavenger/ dewatering wells in either, or both, the alluvial aquifer and fractured rock aquifer.	Environmental Manager Engineering Manager.
		Scavenger wells must be designed by a competent hydrogeologist.	Environmental Manager
		Implement groundwater monitoring upstream and downstream from the TSF for sulphate, manganese, nickel, cobalt, arsenic, cyanide, and nitrate.	Environmental Manager
		Update the groundwater flow model every two years.	Environmental Manager
		Notify relevant authorities and surrounding farmers of major spillages. Hydrocarbon spillages exceeding 200 litres require that the Minister and the MIME be informed through completion of form PP/11 in line with the Petroleum Products Regulations, 2000.	Environmental Manager
		Use only properly designed hazardous chemical/hydrocarbon facilities that are bunded and secured.	Engineering Manager, Environmental Manager
		Provide spill/drip trays for refuelling and vehicle maintenance activities.	Environmental Manager Environmental Manager Contractor Manager
		Pump water seeping into the open pit into the dirty water system for reuse as far as feasible.	Engineering Manager, Environmental Manager

Aspect	Project phase potential impacts	Management action	Responsibility
	Groundwater – Quantity	Operate retention structures with adequate freeboard for 1:50 year rain events.	Engineering Manager, Environmental Manager
		Maintain the groundwater monitoring programme . Monitor groundwater levels at pumping wells and monitor boreholes throughout the Life of Mine (LoM).	Environmental Manager
		Implement controlled dewatering through strategically placed boreholes or sumps to localise drawdown and limit the impact on the surrounding aquifers.	Engineering Manager, Environmental Manager
		Develop protocols/action plans to respond to unexpected changes in groundwater behaviour (e.g., sudden inflows or contamination).	Environmental Manager
Water Storage Dam Management			
Operation of Water Storage Dam	Dam Breach	Maintain and update Emergency Preparedness and Response Procedure for the Water Storage Dam in case of a sudden breach.	Environmental Manager
		Implement and maintain O&M (Operation and Maintenance) manual for the operational phase that addresses surveillance, monitoring and maintenance of the storage dam.	Engineering Manager
Tailings Management			
Operation of Tailings Storage Facility	Tailings Breach	Maintain and update Emergency Preparedness and Response Procedure for the TSF in case of a breach.	Environmental Manager, Engineering Manager, RTFE
		Manage the TSF in accordance with GISTM requirements.	
Air Quality			
Air Quality Management	Fugitive dust, PM _{2.5} and PM ₁₀ and emissions (NO ₂ and SO ₂) from operational activities and vehicle movement	Maintain the AQMP and undertake routine monitoring.	Environmental Manager
		Use water sprays, with or without suppressants, on unpaved roads, unmitigated material handling points (e.g. the crusher), the WRDs, TSF 4 and the ROM pad.	
		Undertake concurrent rehabilitation of exposed surfaces to reduce dust generation.	
		Manage wind erosion from exposed WRDs, stockpile and TSF 4 surfaces using effective mitigation measures (reduce the surface area exposed to wind erosion).	
		Plan and implement progressive rehabilitation as soon as practicable after earthworks to enhance vegetation cover.	

Aspect	Project phase potential impacts	Management action	Responsibility
		Conduct monthly visual inspections to confirm adequate vegetation cover on exposed topsoil stockpiles and establish vegetation cover where required.	
		Minimise hauling distances as far as practically possible.	
		Enforce speed limits on all site roads. Vehicles travelling on unsealed roads should not exceed 60 km/h. Vehicles on internal roads should not exceed 30 km/h.	Safety Manager
		Implement regular dust control or dust suppression measures for roads and work areas.	Environmental Manager
		Increase the frequency (where required) of water sprays and consider the addition of surfactants or chemical suppressants (e.g. lignosulfonates, calcium chloride, or polymer-based sealants) for areas or activities of concern along unpaved roads and exposed surfaces using water trucks with spray bars.	
		Restrict idling times for vehicles and heavy machinery through efficient work planning to reduce fuel consumption and emissions.	
		Maintain and service mechanical equipment to reduce combustion emissions and particulate matter.	Engineering Manager
		Design efficient handling of mineral waste to minimise haul distances and fuel use.	Mining Manager
		Implement emergency response procedures for emission incidents (fires, spills, abnormal releases).	Environmental Manager
		Maintain and manage the complaints register; investigate and close out all air-related complaints.	Environmental Manager, Mining Manager, Public Relations Manager
Noise and Vibrations			
Noise	Increase in ambient noise levels affecting sensitive receptors	Maintain the noise and vibrations monitoring programme.	Environmental Manager
		Provide hearing protection and monitor occupational exposure.	Safety Manager, Environmental Manager
		Implement acoustic mitigation measures at noise sources exceeding 85 dBA.	Environmental Manager
		Schedule noise-intensive maintenance activities and blasting during daytime hours.	Environmental Manager,

Aspect	Project phase potential impacts	Management action	Responsibility
			Engineering Manager, Mining Manager
		Maintain equipment and fit mufflers or silencers where practicable.	Engineering Manager
Blasting			
Blast and Vibration Management	Occupational safety, community safety	Implement the Blasting Management Plan .	Environmental Manager, Mining Manager
		Contain fly rock within a maximum distance of 500 m from the blast site.	Environmental Manager, Mining Manager, Safety Manager
		Clear third parties to a safe distance in accordance with applicable legislation and safe working procedures prior to each blast and sound an audible warning.	
		Monitor ground vibration and air blast overpressure at the nearest third-party structures. Measurements must remain within acceptable best-practice standards.	Environmental Manager
		Conduct blasting in a controlled manner and design blasts to minimise vibration impacts.	Environmental Manager, Mining Manager
		Implement appropriate corrective measures in response to vibration complaints, should they occur.	
		Document, investigate and respond to all registered blasting-related complaints.	Environmental Manager, Mining Manager, Public Relations Manager
Traffic and Transport			
Traffic Management	Vehicle presence and collision potential	Update, implement and maintain the TMP for the operational phase.	Environmental Manager, Safety Manager
		Maintain all road signage.	
Archaeology and Cultural Environment			
Heritage Resources Management	Damage to / loss of heritage sites	Maintain the CHMP .	Environmental Manager
		Maintain buffer zones, “no-go” zones, fencing infrastructure and all demarcations around all identified features.	

Aspect	Project phase potential impacts	Management action	Responsibility
	Chance finds during maintenance	Maintain the Chance-Find Procedure and report any new finds to NHC.	
Socio-Economic			
Social and Economic Performance	Contribution to GDP	No enhancement measures foreseen.	Not Applicable
	Taxes and Royalties		
	Contribution to exports and trade balance		
	Local employment	Prioritise the employment of local personnel in line with the local employment and retention policies.	Human Resources Manager
	Education, training and skills development	Facilitate additional capacity development of personnel training in skills that further develop personnel to improve retention or remobilisation of employees.	
	Population influx	Maintain the grievance mechanism for community concerns related to labour influx.	Human Resources Manager, Public Relations Manager, CSR Manager
		Implement the Influx and Impact Management Plan	
	Social pathologies	Maintain the employee and contractor code of conduct.	Human Resources Manager
		Maintain the community-level grievance mechanism and act on reported grievances.	Human Resources Manager, Public Relations Manager, CSR Manager
	Agriculture and land rights	Implement any operational phase-specific requirements of action plan for the affected farmers.	Environmental Manager, Public Relations Manager, CSR Manager
	Water abstraction and conflict with agriculture	Participate in the Orange River water user forums and implement feedback.	Environmental Manager, Engineering Manager, Public Relations Manager
		Maintain the grievance mechanism for downstream users related to water abstraction and quality.	
		Maintain open communications with stakeholders and river users downstream of the abstraction works	
	Emergency Responses	Maintain and publicly disclose emergency response plans for spills, dam failures, fires or hazardous incidents.	

Aspect	Project phase potential impacts	Management action	Responsibility
Community Health			
Air Quality	Impacts on community health	Implement management and monitoring measures as per air quality section.	Environmental Manager
Noise Management		Implement management and monitoring measures as per noise management section.	
Water Quality Management		Groundwater and surface water monitoring programmes as per section above.	
		Implement management measures as per the hydrogeology section above.	
Community and Influx Management		Implement Influx Impact Management Plan .	Environmental Manager, Public Relations Manager
		Support labour and community wellness programmes (voluntary testing, screening).	
		Maintain on-site first aid/occupational health facility.	
	Strengthen stakeholder engagement with local communities with active inclusion of vulnerable groups and river users to address cultural health practices and psychosocial concerns.		
Waste Management			
Waste Management (General)	Contamination of soil, surface and groundwater	Maintain the site-wide IWMP	Environmental Manager
		Relevant permits and licenses must be in place (i.e. discharge licenses if required) as per the IWMP	
		Maintain training of all staff and contractors in waste management, spill prevention, containment, remediation, and environmental responsibilities; provide specific training for incinerator operation.	
		Keep records of waste volumes, disposal certificates, hazardous chemical storage, and incidents.	All Departmental Managers
Waste Collection		Maintain designated waste collection points on site with adequate capacity for domestic, industrial, and hazardous waste.	Environmental Manager
Waste Storage / Separation – Domestic and		Separate domestic and recyclable waste at source and store in appropriate wheely/lugger bins or skips. Provide recyclable materials to qualified recycling companies.	All Departmental Managers
		Support the development of small- and medium-sized recycling companies in the nearby towns.	CSR Manager

Aspect	Project phase potential impacts	Management action	Responsibility
Recyclable Waste		Design waste storage areas/containers to meet specific requirements to prevent contamination of soil (impervious floor, bunded areas, lids, sealed containers for hazardous waste).	Environmental Manager
Hazardous Waste – Solid Waste		Maintain the procedures covering the storage, handling, transportation and disposal of hazardous solid and medical waste. Train employees and contractors to be aware of the procedure.	
		Store hazardous waste in designated containers (oil, batteries, cartridges, rags, fluorescent tubes, explosives packaging).	
		Collect and accumulate other hazardous waste (e.g., car batteries, oil filters) until sufficient volumes are available for removal.	
		Keep empty reagent bags temporarily at reagent store until collected for refills.	Supply Chain Manager
		Design storage areas to meet specific requirements to prevent contamination of soil (impervious floors, bunded areas, sealed containers).	Environmental Manager, Supply Chain Manager, Engineering Manager
Liquid Waste		Hydrocarbon and chemical-contaminated water/solids must be captured in pollution control structures, stored safely, treated or recycled by registered companies.	Environmental Manager, Engineering Manager, Mining Manager, Processing Manager
		Waste oil must be collected by a reputable recycling company.	Supply Chain Manager
		Dispose of contaminated water and solids appropriately, recycle treated water in mineral processing.	Engineering Manager, Mining Manager, Processing Manager
Machinery & Equipment Maintenance			Service equipment in equipped workshops and undertake regular servicing to minimise oil/fuel leaks.

Aspect	Project phase potential impacts	Management action	Responsibility
Hydrocarbon and Reagent Spills		Contain spills using spill kits, separate hydrocarbons from contaminated water; treat water before re-use.	All Departmental Managers
		Maintain existing bunds to contain 110% of the contents of the largest/all tank(s).	Processing Manager, Engineering Manager
		Maintain pumps, secondary containment infrastructure and pipelines.	
		Contract service providers for large-scale or emergency spills and periodically test emergency response procedures.	Safety Manager, Supply Chain Manager

4.1.3 REHABILITATION, DECOMMISSIONING AND CLOSURE PHASE

The table below presents measures relevant to the rehabilitation, decommissioning and closure phase of the Minie. A closure framework has been developed for the project. This framework will require updates and progression in terms of level of detail throughout the project development process. The table below will need to be updated in accordance with the measures presented within the closure plan.

Table 4-3: Rehabilitation, Decommissioning and Closure Phase EMP

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
Administrative				
Closure Planning	Legal compliance	Implement the Rehabilitation, Decommissioning and Closure Plan .	Environmental Manager, General Manager	Ongoing throughout planning, construction and operations
		Review closure plan after construction, every five years, after significant changes, annually within five years of LoM end, and during post-closure.		
		Establish strict procedures for draining, dismantling and cleaning all equipment, using impermeable work areas equipped with retention facilities.		
		Secure financial provision and obtain necessary permits and approvals.		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Consult stakeholders on closure schedule, risks and post-use options.	Environmental Manager, General Manager, Public Relations Manager	
		Notify the MEFT, MIME, MAFWLR, the Orange-Senqu River Commission (ORASECOM), and other relevant stakeholders and landowners of closure timelines.		
		Update or surrender licenses according to requirements.		
		Maintain the grievance mechanism throughout the rehabilitation, decommissioning and closure phase.		
	Infrastructure opportunities	Investigate opportunities for retaining infrastructure, such as offices, workshops, solar and electrical infrastructure, dams and water infrastructure, in place of decommissioning.	Environmental Manager, General Manager	
Stakeholder Management	Lack of transparency	Implement the Stakeholder Engagement Plan (SEP)	Public Relations Manager	
Climate				
Climate Management	Generation of GHGs	Revegetate footprint areas with local vegetation.	Environmental Manager	Rehabilitation and decommissioning
		Undertake erosion and rehabilitation monitoring.		
		Maintain vehicles and equipment according to manufacturer schedules.		
		Prohibit unnecessary idling and enforce idling limits.		
		Use low-sulphur diesel where available.		
		Prohibit the burning of waste material.		
Topography and Drainage				
Topography and Drainage Management	Drainage alteration and erosion	Reinstate natural drainage patterns where practicable.	Environmental Manager, Engineering Manager	Rehabilitation and decommissioning
		Profile remnant landforms to fit in with the surrounding topography in line with the Rehabilitation, Decommissioning and Closure Plan .		
		Rehabilitate all land affected by mining (such as the operations site, mine waste, tailings site, settling basins, stockpiles and spoil sites) to control drainage and minimise erosion.		
Visual Character				

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
Visual Aesthetics Management	Alterations to visual landscape	Profile remnant landforms to fit in with the surrounding landscape and biodiversity in line with the Rehabilitation, Decommissioning and Closure Plan .	Environmental Manager, Engineering Manager	Rehabilitation and decommissioning
		Revegetate all rehabilitated land affected by mining (such as the operations site, mine waste, tailings site, settling basins, stockpiles and spoil sites) with various types of indigenous vegetation to reach final land use and restore visual aesthetics.		
Land Capability and Land Use				
Land Use	Obtaining final land use	Undertake rehabilitation activities in line with the desired final land use as determined by the Rehabilitation, Decommissioning and Closure Plan .	Environmental Manager, Engineering Manager	Rehabilitation and decommissioning
Geology / Seismicity				
Stability and safety		Reshape pit walls to geotechnically stable angles and add abandonment bund to limit access.	Environmental Manager, Engineering Manager	
Soil				
Soil Management	Soil rehabilitation	Rip compacted areas and apply a sufficient layer of topsoil recovered from topsoil stockpiles (if available) for rehabilitation and revegetation of the disturbed footprint area.	Environmental Manager, Engineering Manager	Rehabilitation and decommissioning
	Soil erosion	Regrade slopes to a gradient of 1V:3H or greater, as determined by the Rehabilitation, Decommissioning and Closure Plan .		
		Apply a sufficient amount of topsoil recovered from the topsoil stockpiles (if available) for rehabilitation and revegetation of the remnant infrastructure slopes (TSF 4, WRDs) and surfaces.		
		Establish vegetation on rehabilitated slopes using indigenous species.		
		Monitor rehabilitated slopes annually for five years to determine signs of erosion and unsuccessful rehabilitation. Extend if required or cease once functional targets have been reached.		
Hazardous Materials Management	Soil contamination	Store chemicals in line with MSDS or SDS.		
		Store fuel in line with SANS 10089.		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Store and handle hydrocarbons and chemicals safely to prevent soil contamination.		
		Avoid mixing topsoil and subsoil.		
Fauna, Flora and Sensitive Habitats				
Biodiversity – Terrestrial		Monitor the establishment of indigenous vegetation on rehabilitated areas.	Environmental Manager	Rehabilitation and decommissioning
		Keep decommissioning activities and stockpiles within impacted footprint areas to reduce impact on surrounding natural areas	Environmental Manager, Engineering Manager	
		Fence off and limit access of fauna to any remaining voids to reduce potential for faunal fatalities.	Environmental Manager	
		Monitor the proliferation of alien invasive vegetation and implement a control programme for these species.	Environmental Manager, Safety Manager, Security Manager	
		Maintain access control, track discipline and implement anti-poaching measures.	Environmental Manager	
		Respond to major spillages and wildlife injury incidents as required.	Environmental Manager	
Aquatic Ecosystems				
Biodiversity – Aquatic	Habitat loss, injuries or fatalities of terrestrial biodiversity	Avoid undertaking decommissioning activities and materials stockpiling within the drainage channels and ephemeral rivers that lead to the Orange River to prevent increased sediment load through runoff during peak rainfall.	Environmental Manager	Rehabilitation and decommissioning
Surface Water				
Hazardous Materials Management	Pollution/contamination of surface water and the surrounding environment	Maintain the Emergency Preparedness and Response Procedure including for large-scale hydrocarbon or reagent spills on and off-site	Engineering Manager, Safety Manager	Decommissioning and rehabilitation
		Decontaminate polluted soil or water using appropriate methodologies and rehabilitate affected areas.	Engineering Manager	

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Collect slurry spilt to the ground in sealed containers and either transport to the TSF or to an approved hazardous waste facility for disposal.	RTFE	
		Identify and contract specialist service providers for emergency spill response and clean-up off-site.	Supply Chain Manager	
	Pollution and contamination of surface water and the surrounding environment	Implement monitoring to determine decommissioning impacts on the receiving Orange River.	Environmental Manager	Rehabilitation and decommissioning
		Undertake routine maintenance of vehicles and equipment to reduce the potential for hydrocarbon spillages.	Environmental Manager, Engineering Manager	
		Prohibit the washing of vehicles and equipment within drainage lines, streams and rivers. Limit the washing to designated areas only.		
		Prohibit the discharge of contaminated water into the surrounding environment.		
		Provide waste bins and prohibit the disposal of domestic waste within the environment.		
		Notify relevant authorities and surrounding farmers of major spillages. Hydrocarbon spillages exceeding 200 litres require that the MIME be informed through completion of form PP/11 in line with the Petroleum Products Regulations, 2000.		In the event of a spillage
Surface water – Quantity	Reduction in surface water quantity	Monitor implementation of the Water Abstraction Protocol and operating procedure.	Environmental Manager	Decommissioning
		Monitor flows in the Orange River at Blouputs and at dedicated points within the Noordoewer/ Vioolsdrift area.		
		Monitor surface water ponds, ensuring adequate freeboard to prevent overflows during the rainy season.		
		Monitor and maintain all relevant diversions to bypass operational areas and feed clean stormwater to the Orange River.		
		Participate in Orange River water user forums and implement feedback on results of flow monitoring. The implementation of the Water Abstraction Protocol must be recorded.	Environmental Manager, Engineering Manager, Public	
		The Mine must be an active member of the local water users association (or similar).		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
			Relations Manager	
Hydrogeology				
Groundwater Management	Contamination of groundwater resources	Update and maintain the groundwater monitoring programme for the closure phase.	Environmental Manager	Prior to closure
		Maintain and sample groundwater boreholes during decommissioning activities and post-closure. Identify contamination migrating away from pollution sources.		
		Undertake post-closure monitoring to assess underlying aquifers during the decommissioning of the site.		
		Maintain and continue to monitor the integrity of seepage collection systems around mine residue deposits i.e. TSF 4 and the WRDs, for five years post-closure.		
		Conduct ongoing modelling to confirm and refine transport models which indicate that evaporation will prevent decanting of free water from the pit and confirm that pit lake formation is an acceptable closure option.		
		Investigate the feasibility of using free water in the pit for irrigation purposes after closure.		
		Maintain an up-to-date mine water balance to support groundwater management and closure planning.		
Water Storage Dam Management				
Operation of the off channel Storage Dam into post-closure phase	Dam Breach	Maintain and update Emergency Preparedness and Response Procedure for the Water Storage Dam in case of a sudden breach.	Environmental Manager Engineering Manager	Construction
		Implement and maintain O&M manual for the operational phase (even after closure of the mine) that addresses surveillance, monitoring and maintenance of the storage dam.		
Tailings Management				
Decommissioning and closure of Tailings Storage Facility	Tailings Breach	Maintain and update Emergency Preparedness and Response Procedure for the TSF in case of a breach.	Environmental Manager, Engineering Manager, RTFE	Decommissioning and Closure
		Manage the TSF in accordance with GISTM requirements.		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
Air Quality				
Air Quality Management	Fugitive dust, PM _{2.5} and PM ₁₀ and emissions (NO ₂ and SO ₂) from decommissioning activities and vehicle movement	Maintain the AQMP and the grievance mechanism.	Environmental Manager	Rehabilitation and decommissioning
		Manage wind erosion through the successful rehabilitation of exposed surfaces to reduce or prevent dust generation (reduce the surface area exposed to wind erosion).		
		Implement rehabilitation to enhance vegetation cover on exposed surfaces and slopes.		Quarterly throughout rehabilitation activities
		Conduct visual inspections to confirm sufficient vegetation cover on exposed slopes and extend vegetation cover to exposed areas every quarter throughout the rehabilitation activities.	Safety Manager	Decommissioning
		Restrict demolition activities requiring blasting to typical daytime hours only.		
		Vegetate capped areas to reduce the potential for wind-blown dust.	Environmental Manager	Rehabilitation and decommissioning
		Use water sprays, with or without suppressants, on unpaved roads, unmitigated material handling points (e.g. the crusher), the WRDs, TSF 4 and the ROM pad.		Decommissioning
		Manage wind erosion from exposed WRDs, stockpile and TSF 4 surfaces using effective mitigation measures (reduce the surface area exposed to wind erosion).		Rehabilitation and decommissioning
		Implement progressive rehabilitation as soon as practicable after earthworks to enhance vegetation cover.		
		Enforce speed limits on all site roads. Vehicles travelling on unsealed roads should not exceed 60 km/h. Vehicles on internal roads should not exceed 30 km/h.	Safety Manager	Decommissioning
		Increase the frequency (where required) of water sprays and consider the addition of surfactants or chemical suppressants (e.g. lignosulfonates, calcium chloride, or polymer-based sealants) for areas or activities of concern along unpaved roads and exposed surfaces using water trucks with spray bars.	Environmental Manager	

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Restrict idling times for vehicles and heavy machinery through efficient work planning to reduce fuel consumption and emissions.		
		Maintain and service mechanical equipment to reduce combustion emissions and particulate matter.		
Noise				
Noise	Increase in ambient noise levels affecting sensitive receptors	Restrict demolition activities requiring blasting to typical daytime hours only.	Environmental Manager, Engineering Manager	Decommissioning
		Maintain all vehicles and machinery used during rehabilitation and decommissioning activities.		Rehabilitation and decommissioning
		Maintain communication channels to provide prior notice to sensitive receptors where noise- or vibration-generating activities are planned, including proposed working times, duration, purpose of the activity and Company contact details.	Public Relations Manager, Environmental Manager	
		Document, investigate and address all registered complaints.		
Blast and Vibration				
This section will require amendment once closure planning activities are confirmed.				
Traffic and Transport				
Traffic Management	Vehicle presence and collision potential	Determine whether any signage must remain through liaison with the NRA.	Environmental Manager	Rehabilitation and decommissioning
		Maintain the Traffic Management Plan	Environmental Manager, Safety Manager	
Archaeology and Cultural Environment				
Heritage Resource Management	Maintenance and preservation of heritage resources	Maintain all protective infrastructure and demarcations for all identified archaeological sites.	Environmental Manager, Engineering Manager	Rehabilitation and decommissioning
	Damage to / loss of heritage resources	Maintain the Chance-Find Procedure for all decommissioning activities.	Environmental Manager	
		Arrange an archaeologist call-out for subsurface works as needed.		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Report any finds to the NHC and follow directives.		Only if any new finds are discovered
Socio-Economic				
Hazardous excavations and infrastructure harmful to third parties and animals	Exposure risks to people	Implement security control points to prevent uncontrolled vehicle access to mining, stockpile and waste areas.	Security Manager	Rehabilitation and decommissioning
		Rehabilitate the WRDs, TSF 4 and any remaining stockpiles to create stable landforms, protected from flood damage, with re-vegetated slopes.	Environmental Manager, Engineering Manager	
		Make any remaining voids (pit lake, trenches) safe.	Engineering Manager	
	Emergency Responses	Maintain and publicly disclose emergency response plans for spills, dam failures, fires or hazardous incidents.	Environmental Manager, Engineering Manager	
Mine Closure	Loss of employment and associated socio-economic impacts	Implement a Post Closure Sustainable Development Plan , including change management training, union negotiations, departmental briefings, and official workforce communications.	Human Resources Manager	Prior to decommissioning for implementation throughout decommissioning and closure
		Develop a targeted communication strategy reflecting stakeholder needs in the Rehabilitation, Decommissioning and Closure Plan and update periodically.	Public Relations Manager, CSR Manager	Rehabilitation and decommissioning
		Conduct a closure-phase skills assessment to retain or recruit personnel needed to execute closure	Human Resources Manager	
		Manage unavoidable retrenchments professionally and according to legislation.		
		Redeploy employees to other operations or provide retraining and skills transfer where possible.		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Provide financial planning training to all employees affected by closure		
	Cessation of water abstraction improving accessible water quantities for downstream users	Participate in Orange River water user forums, inform the relevant stakeholders of the cessation of abstraction, and implement feedback.	Environmental Manager, Engineering Manager, Public Relations Manager	
Community Health				
Air Quality	Impacts on community health	Implement management and monitoring measures as per air quality section.	Environmental Manager	Decommissioning
Noise Management		Implement management and monitoring measures as per noise management section.		
Water and Contamination		Groundwater and surface water monitoring programmes as per sections above.		
		Implement management measures as per the hydrogeology section above.		
Community and Influx Management		Support labour and community wellness programmes (voluntary testing, screening).	Environmental Manager, Public Relations Manager	Closure / post closure
		Implement Influx Impact Management Plan		
		Maintain on-site first aid/occupational health facility		
Legacy and Long Term Planning		Establish post-closure monitoring wells and appropriate community health action plans are in place to manage any unforeseen residual impacts.		
Waste Management		Implement long-term site remediation measures such as capping of waste dumps and treatment of potential leachate.	Environmental Manager	Closure
Monitoring and Adaptive Management		Maintain stakeholder engagement with local communities with active inclusion of vulnerable groups and river users to address cultural health practices and psychosocial concerns.		Decommissioning
Waste Management				
Waste Management (General)	Contamination of soil, surface and groundwater	Maintain the site-wide IWMP	Environmental Manager	Decommissioning
		Relevant permits and licenses must be in place (i.e. discharge permits if required) as per the IWMP		

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
		Maintain training of all staff and contractors in waste management, spill prevention, containment, remediation, and environmental responsibilities; provide specific training for incinerator operation.		
		Keep records of waste volumes, disposal certificates, hazardous chemical storage, and incidents.	All Departmental Managers	
		Conduct periodic audits of waste management, spill control, and hazardous waste service providers.	Environmental Manager	
Waste Collection		Maintain designated waste collection points on site with adequate capacity for domestic, industrial, and hazardous waste.		
Waste Storage / Separation – Domestic and Recyclable Waste		Separate domestic and recyclable waste at source and store in appropriate wheely/lugger bins or skips. Provide recyclable materials to qualified recycling companies.	All Departmental Managers	
		Design waste storage areas/containers to meet specific requirements to prevent contamination of soil (impervious floor, bunded areas, lids, sealed containers for hazardous waste).		
		Implement procedures covering the storage, handling, transportation and disposal of hazardous solid and medical waste.	Environmental Manager, Engineering Manager	
		Train employees and contractors to be aware of the above procedure.		
		Store hazardous waste in designated containers (oil, batteries, cartridges, rags, fluorescent tubes, explosives packaging).		
		Collect and accumulate other hazardous waste (e.g., car batteries, oil filters) until sufficient volumes are available for removal.		
		Design storage areas to meet specific requirements to prevent contamination of soil (impervious floors, bunded areas, sealed containers).	Environmental Manager, Engineering Manager	
		Hydrocarbon and chemical-contaminated water/solids must be captured in pollution control structures, stored safely, treated or recycled by registered companies.	Environmental Manager, Engineering	
Liquid Waste				

Aspect	Project phase potential impacts	Management action	Responsibility	Timeframe
			Manager, Mining Manager, Processing Manager	
		Waste oil must be collected by a reputable recycling company.	Supply Chain Manager	
		Dispose of contaminated water and solids appropriately, recycle treated water in mineral processing.	Engineering Manager, Mining Manager, Processing Manager	
Machinery & Equipment Maintenance		Service equipment in equipped workshops and undertake regular servicing to minimise oil/fuel leaks.	Engineering Manager	
		Contain spills using spill kits, separate hydrocarbons from contaminated water; treat water before re-use.	All Departmental Managers	
		Maintain existing bunds to contain 110% of largest tanks.	Processing Manager, Engineering Manager	
Hydrocarbon and Reagent Spills		Undertake intrusive assessments beneath decommissioned tanks/lines/separators and remediate impacted soil/groundwater to closure criteria. Verify by means of soil/groundwater sampling and reinstate surfaces as required.	Safety Manager, Engineering Manager, Environmental Manager	
		Contract service providers for removal of contaminated soils from decommissioned infrastructure, or from large-scale or emergency spills and periodically test emergency response procedures.	Safety Manager, Supply Chain Manager	

4.2 PROCEDURES, PLANS, PROTOCOLS AND MECHANISMS

4.2.1 MANAGEMENT PLANS AND PROTOCOLS

Haib Minerals will need to establish, implement and maintain the following plans and protocols for the successful impact management of the Project:

- **Air Quality Management Plan (AQMP):** To control dust and combustion emissions, meet monitoring obligations, and protect health and sensitive receptors.
- **Blasting Management Plan:** To design and execute blasts to meet peak particle velocity and air-blast criteria, control fly-rock, clear and secure exclusion zones, provide community notifications, monitor outcomes, and investigate/respond to complaints.
- **Community Health, Safety and Security Plan:** To prevent and manage community risks from exploration and mining, traffic, blasting, dust/noise and communicable diseases, operate clinic and emergency referrals, issue timely public notices/alerts, and align site security with the Voluntary Principles on Security and Human Rights.
- **Construction EMP and Construction Specifications:** To ensure contractors meet legal and EMP obligations through pre-qualification, binding environmental and social requirements, induction and supervision, routine audits, and corrective actions/penalties for non-compliance.
- **Cultural Heritage Management Plan (CHMP) (including Chance Find and No-Go Procedures):** To obtain requisite NHC permits, demarcate and enforce buffers and “no-go” areas, implement the Chance Find Procedure, supervise works near heritage resources, and monitor/report site integrity in compliance with the National Heritage Act (27 of 2004), the Burial Place Ordinance (27 of 1966) and the Environmental Management Act (7 of 2007). This includes obtaining relevant permits and approvals from the National Heritage Council of Namibia.
- **Emergency Preparedness and Response Plan (EPRP) (site-wide):** Coordinate preparedness and response for credible worst case and likely incidents in Section 4.1, including TSF 4 breach or pipeline failure, water storage dam breach, major hydrocarbon/reagent spills on and off site, storms and freeboard exceedance, fires/explosions, blasting incidents, significant dust or gas releases, serious traffic accidents and medical emergencies. Define incident levels, roles, communications, muster points and resources; link to the TSF 4 Specific Management Plan (including TDBA), Surface and Groundwater Plans, AQMP, TMP, Biodiversity Management Plan and SEP for public alerts. Protect the Orange River and downstream users through immediate containment, recovery and clean up, activation of paddocks, cut off trenches, interceptor trenches and scavenger wells where applicable, and post incident surface and groundwater monitoring. Set notification and reporting thresholds, including PP/11 to the Minister and MIME for hydrocarbon spills over 200 litres and timely notification to neighbouring farmers and authorities, and engage ORASECOM and Orange River water user forums where relevant. Require regular drills, equipment readiness, incident records, and corrective actions with lessons learned for continual improvement.
- **Groundwater Monitoring and Management Plan:** To establish baseline conditions, install and sample a sentinel borehole network, detect and respond to seepage or contamination (including around the TSF 4), manage dewatering, and update the groundwater model with trigger-action responses.

- **Grievance Redress Mechanism:** To capture, investigate and resolve community and worker complaints promptly, providing early warning of impacts and demonstrating accountability.
- **Livelihood Restoration Plan (LRP):** To develop a strategy to manage displacement of land users affected by development of the Haib Mine. The LRP must define the steps taken to identify affected individuals, assessing economic impacts, and providing training, new job opportunities, or other not to adversely affect these individuals.
- **Personnel Procurement and Retention Plan:** To identify the employment requirements for personnel, as well as establish policies to promote local employment, retention and skills development, as well as personnel remobilisation plans.
- **Soil and Erosion Management Plan:** To prevent soil loss and sedimentation by managing clearing and topsoil, stabilising slopes and drainage, and applying erosion controls, thereby protecting water quality, enabling successful rehabilitation, and ensuring compliance.
- **Stakeholder Management Plan:** To systematically identify and engage I&APs, meet consultation/reporting obligations, integrate stakeholder feedback into Project decisions, and maintain the social license through transparent, ongoing communication.
- **Surface Water Management and Monitoring Plan:** To separate clean and dirty water, maintain stormwater controls and freeboard, protect the Orange River, monitor quality/flows at defined points, and implement trigger-based corrective actions.
- The management of surface water in the project area and the supply of water for processing are integral components of the infrastructure required to support mining and processing operations. Five categories of water are typically encountered at mining sites of which management will align to these categories:
 - Non-contact water (NC) – Run-off from undisturbed catchments;
 - Clean water (CW) – Water from pit-de-watering boreholes and restored / rehabilitated areas;
 - Contact clean water (CC) – Run-off from mining disturbed catchment areas with some sediment pick-up, sources including inert waste, pit-de-watering sumps, and restored areas;
 - Contact dirty water (CD) – Run-off from mining disturbed catchment areas with potential for contamination; sources include mineralised waste; and
 - Process water (P) – Water that has passed through the process or come into contact with process water.
- **Traffic Management Plan:** To manage safe movement of construction, operational and decommissioning traffic on- and off-site, define haul routes and public road interfaces, implement speed controls, signage and road maintenance, and record/resolve traffic incidents.
- **Vegetation Clearance Protocol:** To limit clearing to the demarcated footprint, phase works to avoid sensitive seasons, conduct pre-clear surveys and rescue/relocation of protected flora and fauna, maintain riparian/buffer no-go zones to reduce habitat loss and erosion potential while meeting permit conditions.
- **Water Abstraction Protocol:** This should be developed to support NamWater in the maintenance of abstraction conditions in the operational and decommissioning phases of the Project. This plan must ensure abstraction only within licensed surplus-flow windows, protect downstream users and environmental flows, and maintain compliance through metering and reporting. The contents of this Plan must be guided by any water resource and water demand studies conducted outlining favourable conditions that trigger abstraction.
- **Noise and Vibration Management Plan:** To monitor and control noise and vibration from plant, vehicles and blasting, schedule high-noise activities for daytime, implement engineering controls, meet applicable guideline levels, and manage grievances.

- **Biodiversity Management Plan, including Alien and Invasive Species Management and Biodiversity Offset Plan:** To avoid, mitigate and offset habitat loss and species harm, manage permits/relocations, protect sensitive habitats and riparian buffers, manage artificial habitats (off channel storage dam) and prevent the spread of invasives such as *Prosopis* sp.
- **Rehabilitation, Decommissioning and Closure Plan:** Translate rehabilitation objectives into site-specific tasks with timelines and measurable acceptance criteria to achieve timely restoration of safe, stable, vegetated landforms; and plan and implement decommissioning and closure activities, including safe dismantling and removal of infrastructure, license/permit updates or surrender, financial provision, and post-closure monitoring, maintenance, and stakeholder engagement, to minimise residual environmental and social risks.
- **Storage Dam Specific Management Plan:** Updated Dam Breach Analysis (DBA), O&M manual for the operational phase that addresses surveillance, monitoring and maintenance must be developed.
- **TSF Specific Management Plan:** Tailings Dam Breach Analysis (TDBA), TSF Operational Procedures and emergency response and preparedness plans need to be developed.
- **Influx Impact Management Plan:** To develop and implement a strategic framework designed to mitigate the negative social, environmental, and health impacts caused by rapid, project-induced migration into the area through managing labour influx, support local community services, and foster sustainable development by collaborating with government authorities and addressing strain on infrastructure.
- **Integrated Waste Management Plan (IWMP):** Avoid generating waste as far as practicable; where avoidance is not possible, segregate all waste streams (including sewage and hazardous wastes) and prioritise minimisation, re-use and recovery (including recycling and composting), where these are not feasible, ensure legal, environmentally sound disposal to prevent pollution and nuisance. Separate waste at source in colour-coded, labelled containers and transfer to a dedicated on-site waste management area for sorting and temporary storage before removal to appropriate facilities. Store to prevent discharge using impervious floors, weather protection, no stormwater ingress, and bunding of liquids to 110% of the largest container, with spill kits and fire prevention in place.
 - **Construction phase:** deploy mobile segregation stations at work fronts and remove segregated wastes routinely.
 - **Operational phase:** manage industrial and hazardous streams, including fuels, oils, chemicals and reagents, paints and solvents, acids and alkalis, detergents and resins, brine, batteries, lamps, e-waste, tyres, scrap, clinical waste, and sewage solids and sludge, with compatibility segregation and closed, labelled containers. Use only licensed transporters and permitted receiving facilities and keep manifests and disposal or recycling certificates. Prohibit open burning and burial. Any incinerator must operate under required permits and emissions controls, and ash must be classified and disposed appropriately. Sewage will be conveyed by gravity to an on-site treatment plant sized for daily loads. Treated effluent will be reused for dust suppression, vehicle washing, irrigation of rehabilitation areas, firefighting, and process water where quality complies with applicable standards. Sludge will be dried in lined beds located downslope of the plant with leachate control and used on rehabilitated landforms if compliant, or disposed of at a permitted facility. Provide training for employees and contractors, conduct routine inspections and audits, track and report monthly generation, recycling and disposal volumes, and integrate with spill response and surface and groundwater protection plans.

- **Post Closure Sustainable Development Plan:** To support social and workforce transitioning develop a plan for each social development programme inclusive of communications strategies (share updates on timelines and activities), job reductions (legal requirements, layoffs etc) and retraining programmes (focussing on dependent groups).

4.2.2 TRAINING AND AWARENESS PROGRAMME

Conduct site induction and awareness training for all contractors and employees. The induction training should be inclusive of the following:

- Relevant Namibian legislation.
- The contents of the EIA and EMP.
- Conditions to the ECC and the contents of the Notification of Decision.
- The importance of cultural heritage, their sensitivity, avoidance of no-go zones, the Chance Find Procedure and the management procedures herein.
- Spill management and protocols/procedures.
- Wildlife conservation and species of conservation importance with established protocols.
- Risks of erosion and procedure for reporting incidents.
- Alien species management requirements and reporting of colonisation/proliferation.
- The impacts of contamination of groundwater and surface water resources and mitigation measures to prevent contamination.
- The impacts of over-abstraction from the Orange River.
- Occupational (and community) health and safety.

4.2.3 INCIDENT REPORTING

An incident reporting programme should be implemented that records all non-compliances with the EMP as well as other relevant incidents that may be of material value. The following aspects are key to include in the incidence reporting mechanism under this EMP:

- Non-compliances with the contents of the EMP or any of the management plans / protocols in section 4.2.1.
- Spills (hydrocarbons, hazardous chemicals, etc), remediation measures and outcome.
- Fauna: Loss, injury, death, relocation.
- Flora: Relocation, damage, destruction.
- Water: Spillages, leakages or over-abstraction events.

4.2.4 MONITORING PROGRAMME

Monitoring requirements for the successful implementation of this EMP and for obtaining legal compliance are presented within Table 4-4. The monitoring described below is appropriately aligned to the requirements of the Haib Copper Mine throughout the construction, operational, decommissioning and closure phases. The table below will need to be updated with any specific licence requirements as per each license issued for the facility, such as Consumer Installation Certificates for fuel storage, Explosive Magazine License, Grave Relocation Permits, etc. Table 4-4 below, as well as the EMP tables (Table 4-1, Table 4-2 and Table 4-3) must be updated as the relevant licenses/permits/certificates are issued to incorporate any specific conditions mentioned.

Table 4-4: Monitoring Requirements

Aspect / Type	Monitoring Parameter	Monitoring Method / Description	Frequency
Pollutants	General Pollutants	Maintain an Environmental Pollutant Register inclusive of airborne emissions, water pollutants and waste/residues	As below
Stormwater and Soil Erosion	Erosion of rehabilitated slopes	Visual inspections for the formation of gullies, soil loss, and removal of vegetation.	Monthly during concurrent rehabilitation activities and decommissioning phase
	Storage dam leakage	Inspection of drainage pathways and erosion control measures.	
Air Quality	Particulate Matter (PM _{2.5} and PM ₁₀)	Filter-based sampling and real-time continuous monitoring.	Quarterly
	Sulphur Dioxide (SO ₂)	Ambient air quality monitoring in accordance with IFC (2007) and South African National Ambient Air Quality Standards (SA NAAQS) guidelines.	Monthly
	Nitrogen Dioxide (NO ₂)		
	Dust Fallout	Dust deposition gauges measuring 30-day average dust fallout.	Quarterly
		Conduct analysis of dust fallout to understand contamination of land and surface water bodies through dust fallout.	
Rehabilitation	Vegetation establishment	Visual and photographic assessment of planted vegetation on rehabilitated slopes.	Quarterly
	Vegetation cover	Assessment of vegetative cover on rehabilitated areas.	Annual inspection

Aspect / Type	Monitoring Parameter	Monitoring Method / Description	Frequency
			during seasonal period of peak biomass
Biodiversity – Terrestrial	Alien invasive plant species	Inspection for the presence and spread of alien invasive plant species within the Project footprint.	Annual inspection during seasonal period of peak biomass
	Wildlife mortality	Recording of any wildlife mortality incidents.	Monthly, or as incidents occur
Biodiversity – Aquatic Ecosystems	Community Assemblages – Aquatic Biomonitoring	Monitor aquatic biodiversity for alterations in community assemblages.	Bi-annually
Heritage Resources	Heritage site demarcation	Visual inspection to ensure no-go areas are maintained, and demarcations remain visible.	Monthly
Surface water	Surface water monitoring network	Monitoring of surface water at points at the off channel storage dam and along the Orange River to monitor water quality parameters.	Monthly
	Surface water quality parameters	Sampling and analysis against the pre-development baseline and the Namibian Drinking Water Quality Guidelines (Ministry of Agriculture, Water and Land Reform, 2023), including the below parameters.	Monthly

Aspect / Type	Monitoring Parameter	Monitoring Method / Description			Frequency
		Parameter	Ideal Drinking Water Quality	Acceptable Drinking Water Quality	
		pH	6 – 8.5	6 – 9	
		EC (mS/m)	80	300	
		Turbidity (NTU)	0.5	2	
		TDS (mg/l)	1 000	2 000	
		Total Hardness (mg/l)	400	1 000	
		Cl ⁻ (mg/l)	100	300	
		F ⁻ (mg/l)	0.7	1.5	
		SO ₄ ²⁻ (mg/l)	100	300	
		NO ₃ ⁻ (mg/l)	6	11	
		NO ₂ ⁻ (mg/l)	0.1	0.15	
		NH ₃ (mg/l)	0.3	0.5	
		PO ₄ ³⁻ (mg/l)	25	100	
		Na (mg/l)	100	300	
		K (mg/l)	25	100	
		Mg (mg/l)	30	70	
		Ca (mg/l)	80	150	
	Surface water quantity	Monitoring freeboard of surface water ponds and Surface Water Attenuation Dams (SWADs).			Daily

Aspect / Type	Monitoring Parameter	Monitoring Method / Description				Frequency
	Surface water – wastewater discharge	Sanitary wastewater discharged to land must comply with the effluent quality standards in Annexure 11 (Part 8, Regulation 67, Government Gazette Notice No. 8187 of 29 August 2023), including those presented below.				Quarterly, or as specified by the license
		Parameter	Unit	Special Standard (95 th percentile)	General Standard (95 th percentile)	
		Temperature	°C	Not more than 10 °C above recipient water body	Not more than 10 °C above recipient water body	
		Turbidity	NTU	< 5	< 12	
		pH	-	6.5 - 9.5	6.5 - 9.5	
		Colour	mg/L Pt	< 10	< 15	
		Smell	-	No offensive smell	No offensive smell	
		Electrical Conductivity (25 °C)	mS/m	< 75 mS/m above intake potable water quality	< 75 mS/m above intake potable water quality	
		Total Dissolved Solids (TDS)	mg/L	< 500 mg/L above intake potable water quality	< 500 mg/L above intake potable water quality	
		Total Suspended Solids (TSS)	mg/L	< 25	< 100	
		Dissolved Oxygen	percent saturation	> 75	> 75	
		Radioactivity	-	Below ambient level of recipient water body	Below ambient level of recipient water body	

Aspect / Type	Monitoring Parameter	Monitoring Method / Description				Frequency
		Biological Oxygen Demand (BOD)	mg/L	< 10	< 30	
		Chemical Oxygen Demand (COD)	mg/L	< 45	< 100	
		Detergents (soap)	mg/L	< 0.2	< 3	
		Fat, Oil and Grease (individual)	mg/L	Nil (below detection)	< 2.5	
		Phenolic compounds (as phenol)	mg/L	< 0.01	< 0.10	
		Aldehydes	ug/L	< 50	< 100	
		Adsorbable Organic Halogens (AOX)	ug/L	< 50	< 100	
		Ammonia as N (NH ₄ -N)	mg/L as N	< 1	< 10	
		Nitrate as N (NO ₃ -N)	mg/L as N	< 15	< 20	
		Nitrite as N (NO ₂ -N)	mg/L as N	< 2	< 3	
		Total Kjeldahl Nitrogen (TKN)	mg/L as N	< 18	< 33	
		Chloride (relative to intake)	mg/L as Cl	< 40 above intake	< 70 above intake	
		Sodium (relative to intake)	mg/L as Na	< 50 above intake	< 90 above intake	

Aspect / Type	Monitoring Parameter	Monitoring Method / Description				Frequency
		Sulphate (relative to intake)	mg/L as SO ₄	< 20 above intake	< 40 above intake	
		Sulphide (as S)	mg/L as S	< 0.05	< 0.5	
		Fluoride	mg/L as F	<= 1.0	<= 2.0	
		Cyanide (free)	ug/L as CN	< 30	< 100	
		Cyanide (recoverable)	ug/L as CN	< 70	< 200	
		Soluble orthophosphate as P	mg/L as P	< 0.2	<= 3.0	
		Zinc	mg/L as Zn	<= 1	<= 5	
		Aluminium	ug/L as Al	< 25	< 200	
		Antimony	ug/L as Sb	< 5	< 50	
		Arsenic	ug/L as As	< 50	< 150	
		Barium	ug/L as Ba	< 50	< 200	
		Boron	ug/L as B	< 500	< 1000	
		Cadmium	ug/L as Cd	< 5	< 50	
		Chromium VI	ug/L as Cr(VI)	< 10	< 50	
		Chromium (total)	ug/L as Cr	< 50	< 1000	
		Copper	ug/L as Cu	< 500	< 2000	
		Iron	ug/L as Fe	< 200	< 1000	

Aspect / Type	Monitoring Parameter	Monitoring Method / Description				Frequency
		Lead	ug/L as Pb	< 10	< 100	
		Manganese	ug/L as Mn	< 100	< 400	
		Mercury	ug/L as Hg	< 1	< 2	
		Nickel	ug/L as Ni	< 100	< 300	
		Selenium	ug/L as Se	< 10	< 50	
		Strontium	ug/L as Sr	< 100	< 100	
		Thallium	ug/L as Tl	< 5	< 10	
		Tin	ug/L as Sn	< 100	< 400	
		Titanium	ug/L as Ti	< 100	< 300	
		Uranium	ug/L as U	< 15	< 500	
		Hydrocarbons (BTEX)	ug/L	Below detection level	Below detection level	
		Organo-metallic compounds (e.g., methyl-mercury, TBT)	ug/L	Below detection level	Below detection level	
		Residual chlorine	mg/L	< 0.1 (recipient-dependent)	< 0.3 (recipient-dependent)	
Groundwater Quality and Levels	Groundwater levels	Monitor borehole network for signs of alterations in groundwater levels.				Monthly
	Monitoring borehole network coverage	Monitoring of boreholes within the proposed Project area, particularly those associated with the tailings facility, heap leach pad, WRDs and stockpiles and water storage dam, as well as along the Orange River to monitor subterranean flow close to the river.				Initiate pre-construction, then quarterly throughout

Aspect / Type	Monitoring Parameter	Monitoring Method / Description	Frequency																																																
			abstraction activities																																																
	Groundwater numerical model	Update the groundwater numerical model once 2 years of water qualities and levels are available as outputs from the groundwater monitoring programme. The updated model must provide updates to the mine water balance and closure assessment.	Post 2 years of monitoring / As required																																																
	Groundwater quality parameters	Sampling and analysis against the pre-development baseline and the Namibian Drinking Water Quality Guidelines (Ministry of Agriculture, Water and Land Reform, 2023), including the below parameters. <table> <tr> <th>Parameter</th><th>Unit</th><th>Ideal Drinking Water Quality</th><th>Acceptable Drinking Water Quality</th></tr> <tr> <td>pH @ 20 °C</td><td>pH</td><td>6.0 to 8.5</td><td>6 to 9</td></tr> <tr> <td>Electric Conductivity @ 25 °C</td><td>mS/m</td><td>< 80</td><td>< 300</td></tr> <tr> <td>Total Dissolved Solids (treated surface water)</td><td>mg/L</td><td>< 500</td><td>< 2 000</td></tr> <tr> <td>Total Dissolved Solids (groundwater)</td><td>mg/L</td><td>< 1000</td><td>< 2 000</td></tr> <tr> <td>Ammonia</td><td>mg/L</td><td>< 0.2</td><td>< 0.5</td></tr> <tr> <td>Barium</td><td>mg/L</td><td>0.5</td><td>< 2</td></tr> <tr> <td>Calcium</td><td>mg/L</td><td>< 80</td><td>< 150</td></tr> <tr> <td>Chloride</td><td>mg/L</td><td>< 100</td><td>< 300</td></tr> <tr> <td>Fluoride</td><td>mg/L</td><td>< 0.7</td><td>< 1.5</td></tr> <tr> <td>Magnesium</td><td>mg/L</td><td>< 30</td><td>< 70</td></tr> <tr> <td>Nitrate</td><td>mg/L</td><td>< 6</td><td>< 11</td></tr> </table>	Parameter	Unit	Ideal Drinking Water Quality	Acceptable Drinking Water Quality	pH @ 20 °C	pH	6.0 to 8.5	6 to 9	Electric Conductivity @ 25 °C	mS/m	< 80	< 300	Total Dissolved Solids (treated surface water)	mg/L	< 500	< 2 000	Total Dissolved Solids (groundwater)	mg/L	< 1000	< 2 000	Ammonia	mg/L	< 0.2	< 0.5	Barium	mg/L	0.5	< 2	Calcium	mg/L	< 80	< 150	Chloride	mg/L	< 100	< 300	Fluoride	mg/L	< 0.7	< 1.5	Magnesium	mg/L	< 30	< 70	Nitrate	mg/L	< 6	< 11	Quarterly
Parameter	Unit	Ideal Drinking Water Quality	Acceptable Drinking Water Quality																																																
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Aspect / Type	Monitoring Parameter	Monitoring Method / Description				Frequency
		Nitrite	mg/L	< 0.1	< 0.15	
		Potassium	mg/L	< 25	< 100	
		Sodium	mg/L	< 100	< 300	
		Sulphate	mg/L	100	< 300	
		Aluminium	µg/L	25	100	
		Antimony	µg/L	5	50	
		Arsenic	µg/L	10	50	
		Beryllium	µg/L	2	5	
		Bismuth	µg/L	250	500	
		Boron	µg/L	300	500	
		Bromide	µg/L	500	1 000	
		Cadmium	µg/L	5	10	
		Chromium Total	µg/L	50	100	
		Cobalt	µg/L	250	500	
		Copper	µg/L	500	2 000	
		Cyanide (free)	µg/L	20	50	
		Cyanide (recoverable)	µg/L	70	200	
		Iron	µg/L	200	300	
		Lead	µg/L	10	50	
		Manganese	µg/L	50	100	
		Mercury	µg/L	1	2	

Haib Minerals (Pty) Ltd
PROPOSED MINING ACTIVITIES FOR THE HAIB COPPER PROJECT
ENVIRONMENTAL MANAGEMENT PLAN

Aspect / Type	Monitoring Parameter	Monitoring Method / Description						Frequency
			Nickel	µg/L	50	150		
			Selenium	µg/L	10	50		
			Thallium	µg/L	5	10		
			Tin	µg/L	100	200		
			Titanium	µg/L	100	300		
			Uranium	µg/L	3	15		
			Vanadium	µg/L	100	500		
			Zinc	µg/L	1 000	5 000		
Environmental Management Plan (EMP)	Refer to Section 3.							

4.2.5 GRIEVANCE REDRESS MECHANISM

A preliminary/conceptual grievance procedure for the Project is compiled below based on desktop-level information. This Procedure should be expanded/updated prior to the start of construction.

4.2.5.1 INTRODUCTION

The impacts (both positive and negative) of the proposed Mine can potentially affect the lives of surrounding communities, thus giving rise to grievances. These potential grievances may relate to any aspect of the Project. They might be felt and expressed by a variety of parties, including individuals, groups, communities, entities, or other parties affected or likely to be affected by the social or environmental impacts of the Project.

With this in mind, and in following international best practices trends, the Proponent (in this case Haib Minerals (Pty) Ltd) is required to establish suitable mechanisms, resources, personnel and budget to manage Project-related grievances via a Grievance Management Procedure.

4.2.5.2 NOTIFICATION

Directly and indirectly affected parties / communities will be notified of the Grievance Management Procedure. Notification of the Grievance Management Procedure will take place at all information-sharing meetings.

4.2.5.3 KEY ELEMENTS

The key elements of a robust Grievance Management Procedure include the following:

- An agreed and disclosed grievance submission and response procedure
- Clear rules, performance criteria and lines of accountability
- A hierarchy of response and resolution
- Fair, objective and consistent application of the Grievance Management Procedure
- A mechanism that ensures that women, vulnerable groups or minorities are considered, and privacy is ensured.

4.2.5.4 GRIEVANCE MANAGEMENT OFFICER AND OFFICE

The responsibility for implementing the Grievance Management Procedure will be delegated to an employee within Haib Minerals, or a formally appointed third party, hereafter referred to as the Grievance Management Officer. The Grievance Management Officer must have the necessary skills, training, and disposition that lend themselves to community liaison work; and will be expected to receive, record, track, and resolve grievances.

A Grievance Management Office should be in place at the Project site once mobilisation for construction commences. It is understood that during the planning phase of the Project, it will not be possible to have a Grievance Management Office on site and that the Grievance Officer will therefore, at a minimum, be required to visit the site and Settlement Office (Noordoewer) on a monthly basis.

4.2.5.5 ORGANISATION

The grievance management structure and procedure might be organised as follows:

- It is recommended that the Grievance Management Office adopts a monthly turnover rate for complaints in which receipt of the complaint/suggestion will be acknowledged within 15 days and issues will be resolved within 30 days.
- Where required, the Grievance Management Officer needs to be available to visit the site within short notice to address grievances that are more urgent and/or pressing in nature.
- Verbal submissions may be made to the Settlement Office in Noordoever first, but the grievance must then be directed to the Grievance Management Officer, who will record the grievance on a Grievance Report Form that includes the following information:
 - Case number
 - Date the complaint was reported
 - Complainant's name and contact details
 - Nature of the complaint
 - Department designated to investigate and resolve complaint(s)
 - Follow-up action / corrective action
 - The final outcome
 - Any information on the case closure, including the date
- A register of grievances is to be maintained by the Grievance Management Officer
- Where possible, grievances will be addressed directly by Haib Minerals. If wider consultation is necessary, grievances will be forwarded to a third party. This third party should be neutral, well-respected, and agreed upon by both Haib Minerals and the affected parties. These may include public defenders, legal advisors, legal Non-Governmental Organisations (NGOs), or university personnel.
- As a last resort, aggrieved parties have a right to take legal action.

4.2.5.6 RECORDS

The record of grievances will be held electronically and in hard copy in the Haib Minerals or Haib Minerals' offices. This will be available for scrutiny by I&APs (within limits of protecting the privacy of complainants). The record will reflect the following:

- Date and nature of grievance (or comment).
- Source of the grievance (name and contact details).
- Date and nature of acknowledgement of receipt.
- Department designated to investigate and resolve the grievance.
- Details of actions taken to resolve the grievance.
- Status box to indicate whether the grievance has been resolved or not. Resolved and unresolved grievance records will be filed appropriately.
- Minutes of all follow-up meetings with affected parties.

4.2.5.7 MONITORING AND REPORTING

Haib Minerals, or Koryx Copper, will monitor grievances routinely as part of the broader management of the Project. Good record keeping of complaints raised throughout the life of the Project must be maintained and managed.

4.2.6 STAKEHOLDER ENGAGEMENT PLAN

4.2.6.1 INTRODUCTION

The Stakeholder Engagement Plan (SEP) sets out how Haib Minerals will inform, consult and involve I&APs throughout the Project life cycle, in compliance with Namibian law and aligned to good international industry practice.

4.2.6.2 KEY ELEMENTS

The SEP must address key social elements such as:

- Inclusive, accessible engagement (local languages; gender- and vulnerability-sensitive).
- Regular, accurate disclosure of plans, risks, monitoring results and incidents.
- Two-way communication with feedback tracked to closure.
- Clear interface with the Grievance Mechanism for complaints and disputes.
- Respect for local customs and leadership.
- Data privacy and consent for personal information.

4.2.6.3 NOTIFICATION

The SEP must incorporate notification measures, such as but not limited to:

- Disclose the SEP, focal contact points and engagement schedule at information-sharing meetings and via local channels (notice boards, radio, WhatsApp/SMS).
- Notify stakeholders of the Company's participation in Orange River water user forums and other coordinated sessions.
- From construction start, display notice boards at Traditional Authority and Settlement Offices (Noordoewer) with engagement dates and grievance channels.
- Public meetings, small-group briefings, one-on-ones with directly affected parties, participation in water user forums, site open days, printed factsheets/posters, local-language radio, WhatsApp/SMS groups.

4.2.6.4 RECORDS

Records of engagements must be maintained, including:

- Maintain a stakeholder register (contacts, preferred channels/languages), engagement log, meeting minutes and an action/commitment tracker.
- Store records electronically at the Project office; make non confidential summaries available to I&APs.

4.2.6.5 MONITORING AND RECORDING

The monitoring and reporting of engagements must include:

- Number of engagements and attendance (disaggregated), percentage of commitments closed on time, timeliness of incident notifications, participation in water user forums, grievance acknowledgement/resolution rates.
- Summarise engagement outcomes and the minimum feedback items listed above in quarterly (construction) and bi-annual (operations) stakeholder updates and in annual public environmental and social performance summaries.
- Review and update the SEP annually and after material changes (e.g., major incident, licence changes), incorporating lessons from grievances, audits and stakeholder feedback.

4.2.7 ARCHAEOLOGICAL CHANCE FIND PROCEDURE

A conceptual chance find procedure for cultural heritage resources is provided below, which will be tailored and incorporated into the site-specific CHMP.

4.2.7.1 SCOPE

The “chance finds” procedure covers the actions to be taken immediately upon the discovery of a heritage site or item (such as stone tools, human remains, historical wartime artefacts, etc.), to its investigation and assessment by a trained archaeologist or other appropriately qualified person.

4.2.7.2 COMPLIANCE

The “chance finds” procedure is intended to ensure compliance with relevant provisions of the National Heritage Act (27 of 2004), especially Section 55 (4): *“a person who discovers any archaeological objectmust as soon as practicable report the discovery to the Council”*. The procedure of reporting set out below must be observed so that heritage remains reported to the NHC are correctly identified in the field.

4.2.7.3 RESPONSIBILITY

- Operator: To exercise due caution if archaeological remains are found
- Foreman: To secure site and advise management timeously
- Superintendent: To determine safe working boundary and request inspection
- Environmental Manager: To appoint archaeologist to investigate the site
- Archaeologist: To inspect, identify, advise management, and recover remains.

4.2.7.4 PROCEDURE

- Actions by a person identifying archaeological or heritage material:
 - If operating machinery or equipment, stop work
 - Identify the site with flag tape
 - Determine GPS position if possible
 - Report findings to foreman.
 - Actions by foreman:
 - Report findings, site location and actions taken to the superintendent
 - Cease any works in the immediate vicinity.
 - Actions by superintendent:
 - Visit the site and determine whether work can proceed without damage to the findings
 - Determine and mark the exclusion boundary
 - Site location and details to be added to the Project GIS for field confirmation by the archaeologist.
 - Actions by the archaeologist:
 - Inspect site and confirm addition to Project GIS
 - Advise NHC and request written permission to remove findings from the work area
 - Recovery, packaging and labelling of findings for transfer to the National Museum.
 - In the event of discovering human remains:
 - Actions as above
-

- Field inspection by an archaeologist to confirm that remains are human
- Advise and liaise with NHC and the Namibian Police
- Recovery of remains and removal to National Museum or National Forensic Laboratory, as directed.

Monitoring and reporting should include the following:

- Monitor compliance with this EMP and record any chance finds or incidents related to heritage features through incident reporting.
- Report findings and compliance updates to the NHC of Namibia every six months.

4.2.8 ARCHAEOLOGICAL NO-GO PROCEDURE

The subsections below provide the basis for the No-Go Procedure, which will be formally updated by Haib Minerals prior to the construction phase for inclusion into the site-specific CHMP.

4.2.8.1 INTRODUCTION

Areas of proposed mining and related activity are subject to heritage survey and assessment at the planning stage. These surveys may identify heritage sites of such outstanding importance as to merit treatment as “no-go” areas, effectively excised from mining operations. A “no-go” area is closed to walking, driving, cutting access tracks or ground disturbance of any kind. Project managers should also ensure that an identified “no-go” area is not accessed by team members during off-duty hours. A “no-go” area may be accessed for purposes of a heritage audit, inspection by the NHC, or legitimate research. The procedure set out here covers the management of “no-go” areas located within the boundaries of the Haib Mine.

4.2.8.2 SCOPE

In the sense employed here, a “no-go” denotes a specific management status, with specific management consequences, of a heritage site that has been identified and sufficiently investigated to establish its particular importance. The process of identification and evaluation is carried out by a trained archaeologist or other appropriately qualified person(s). Conservation of a “no-go” site requires integration of heritage management needs with Mine Management procedures.

4.2.8.3 COMPLIANCE

The “no-go” site management procedure is intended to ensure compliance with the CHMP, which will be based on the relevant provisions of the National Heritage Act (27 of 2004), especially Section 58 (1)(b) site management plans; (2)(c) and (3) “...enclosure of the site,...as need to be kept secure” (h) “...considers necessary or expedient for the conservation and management of the site”.

4.2.8.4 RESPONSIBILITIES

- Environmental Manager: To adequately supervise movement of personnel and/or contractors
- General Manager: To endorse the special status of “no-go” areas in Mining operations
- Archaeologist: To identify, evaluate and document potential “no-go” sites, to advise Management, to formulate site management plans, and to perform site inspections or audits of designated “no-go” sites.

4.2.8.5 PROCEDURE

1. In the course of a field survey, heritage sites are assessed as to their significance as heritage assets. This assessment is the basis of any decision regarding the conservation and management of the site. Sites considered to be highly significant are documented in sufficient detail to justify their possible status as “no-go” areas.
2. A management plan for the “no-go” site will be based on this documentation, which serves as a site “condition assessment” baseline. Site management plans are to include a detailed assessment of the site's sensitivity to both natural (i.e. weathering and erosion) and man-made threats (i.e. uncontrolled access). The site management plan must comply with National Heritage Act, Section 58 (1)(b).
3. The site management plan will indicate the specific protection measures to be applied, from access controls, to soil erosion control measures, to signage, to permissions procedures, to site inspection and audit procedures, all specific to the site concerned.
4. The management plan will indicate the procedure for gaining access to the site and identify the responsible level of management to grant access.
5. The boundary of a “no-go” site will be identified by GPS position by the archaeologist, and a GIS file will be generated for the Project GIS. The boundaries of a “no-go” site will include a buffer zone appropriate to the circumstances, but sufficient to preserve the local setting of the site.
6. The boundary of a “no-go” site will be marked by painted fence-posts placed at inter-visible points, set in concrete footings, and protruding 300 mm from the ground. “No-go” sites are not to be fenced as such barriers impede the movement of wildlife.
7. Corner points of the “no-go” site boundary will have the site number stamped on a metal strip set into the upper surface of the concrete footings.
8. Appropriate signage will be placed at obvious points of access. Signage will be visible regardless of the direction of approach to the site.
9. A site-specific audit of the “no-go” site will be carried out annually, or at shorter intervals if specified by the site management plan and the CHMP.
10. Site audit records are to be maintained with minimum entries of: date of audit; names of participants; site integrity, including details of any changes and causes; recommendations for changes to the site management plan; incident reports; and actions to be taken resulting from incidents.

5.0 CONCLUSION

This Environmental Management Plan was developed for Haib Minerals as part of the application for an ECC for the proposed Haib Copper Mining Project in southern Namibia.

Successful implementation depends on sustained leadership commitment, adequate resourcing, competency-based training, and disciplined execution through the site Environmental Management System. Routine monitoring, audits, and transparent reporting will verify performance and trigger timely corrective actions where required. Ongoing engagement with regulators, neighbouring land users and communities, and the maintenance of an accessible grievance mechanism, will support accountability and continuous improvement.

With approval of the ECC by MEFT and MIME and adoption of this EMP, Haib Minerals can proceed with activities in a manner that minimises environmental harm, protects people and biodiversity, and supports a responsible socio-economic development.

6.0 CERTIFICATION

This report was prepared and reviewed by the undersigned.

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PM initials that this document adheres to the Knight Piésold Quality System:

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Haib Minerals (Pty) Ltd

PROPOSED MINING ACTIVITIES FOR THE HAIB COPPER PROJECT
ENVIRONMENTAL MANAGEMENT PLAN