

Updated Environmental Management Plan (EMP)

**The Processing of Overburden Dump on Mining Claim No. 71519 at Farm Goabeb
No. 63 near Usakos in the Erongo Region**



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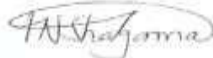
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LIST OF ABBREVIATIONS

ABBREVIATION	MEANING
DEAF	Department of Environmental Affairs and Forestry
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
SHE Officer	Safety Health & Environment Officer
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
HSE	Health, Safety and Environment
MC	Mining Claim
MEFT	Ministry of Environment, Forestry and Tourism
MME	Ministry of Mines and Energy
NHC	National Heritage Council of Namibia
PPE	Personal Protection Equipment

1 INTRODUCTION

1.1 Background and Project Location

Christian Nissen (the Proponent) owns Mining Claim (MC) No. 71519 (MC-71519) on Pos 3 of Farm Goabeb No. 63 (Government Farm) located about 10km north of Usakos in the Erongo Region - Figure 1-1 and Figure 1-2. The MC which has potential for industrial minerals was granted to the Proponent by the Ministry of Mines & Energy (MME) on the 3rd of August 2020 and expired on the 2nd of August 2023. Thus, the MC is currently pending renewal with MME, which is subjected to a valid environmental clearance certificate. The MC covers an area of 17.7236 hectares (Ha) (177,236m²). The activities on the MC entail the processing of overburden dump using materials currently available in a stockpile (hill) onsite by Hidrox Namibia Mineral Processors CC. The dump is approximately 2000m² in area size and contains about 17,000 ton of rock blasted from the hill. The Industrial minerals such as wollastonite, calcite and quartz are present in the hill outcrop (dump) within the MC which includes the old excavation of the quarry. The dump formed from the excavated material by the previous unknown occupiers of the site is visible onsite.

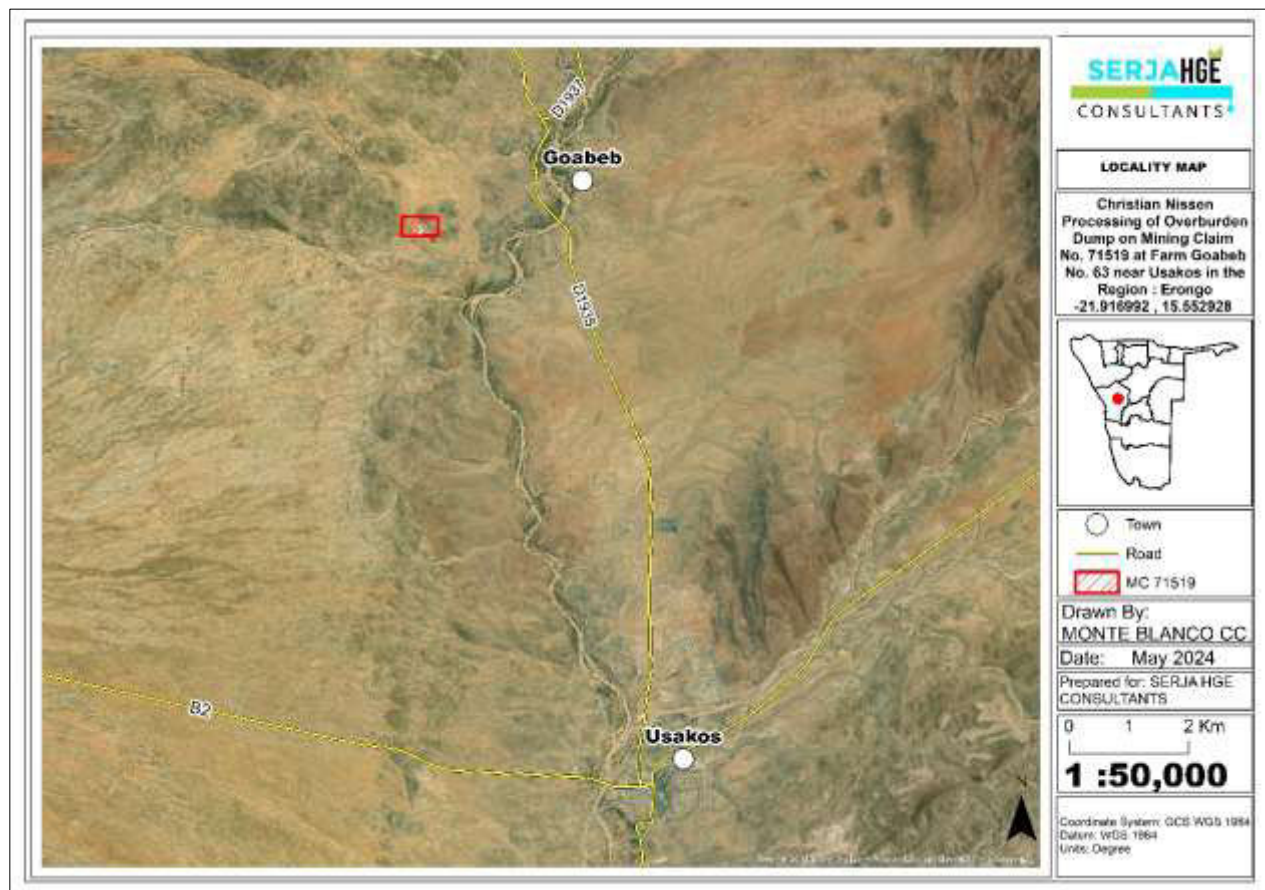


Figure 1-1: Locality map for MC-71519 near Usakos in the Erongo Region

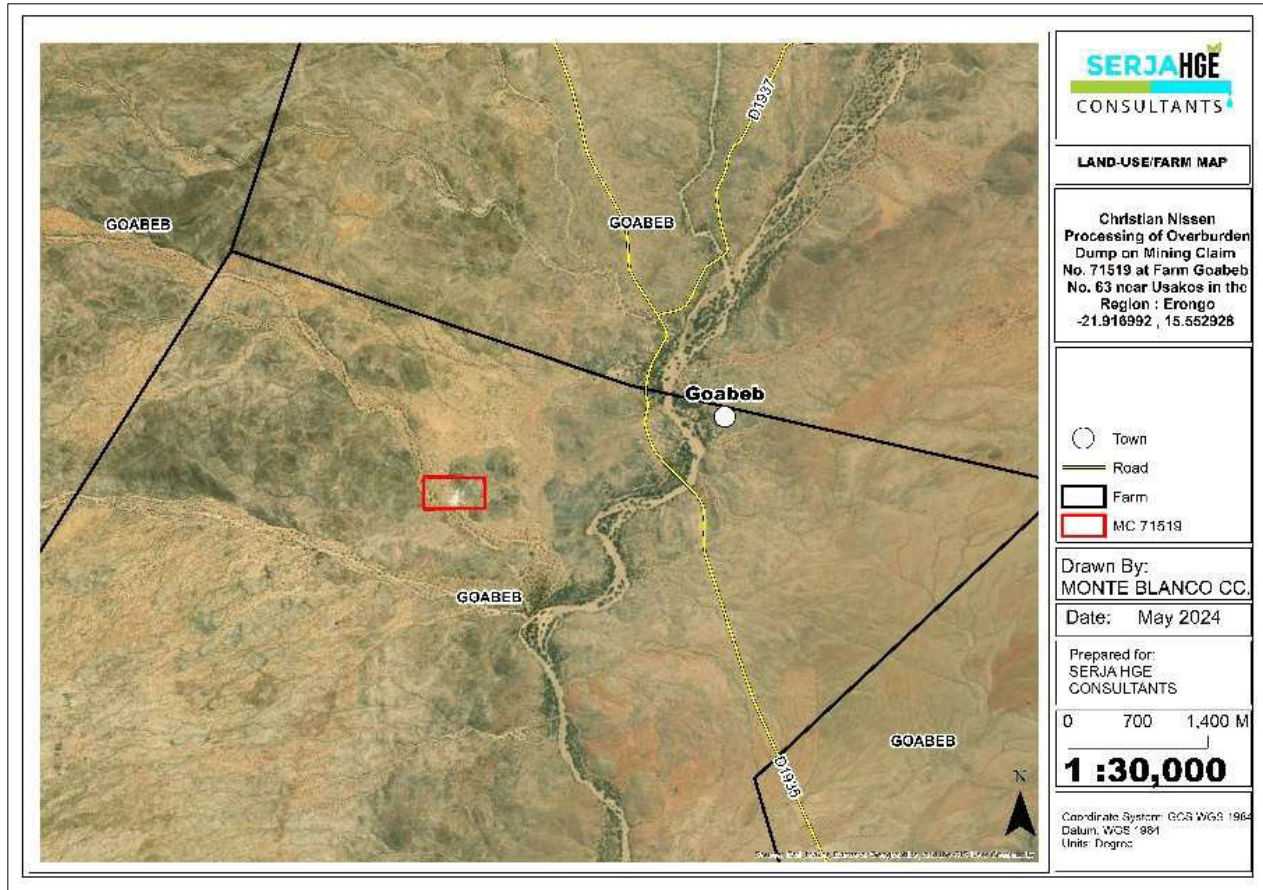


Figure 1-2: Land use map for MC-71519 on Pos 3 of Farm Goabeb No. 63 near Usakos, Erongo Region

The project and associated activities are listed in the Environmental Impact Assessment (EIA) Regulations (2012) of the Environmental Management Act (EMA) No. 7 of 2007 that may not be undertaken without an Environmental Clearance Certificate (ECC) and that the ECC needs to be renewed every three years:

The associated listed activities in the EIA Regulations include:

ASSOCIATED MINING AND QUARRYING ACTIVITIES (PROCESSING OF OVERBURDEN FROM OLD MINING WORKS)

- Listed Activity 3.1 The construction of facilities for any process or activities which requires a license, right of other forms of authorization, and the renewal of a license, right or other form of authorization, in terms of the Minerals (Prospecting and Mining Act, 1992).
- -Listed Activity 3.2 other forms of mining or extraction of any natural resources whether regulated by law or not.
- -Listed Activity 3.3 Resource extraction, manipulation, conservation, and related activities.

To fulfil this requirement, the mining claim was issued an ECC on the 11th of June 2020 upon approval of an Environmental Management Plan (EMP). The ECC expired on the 11th of June 2023, and has not been renewed yet. Hence, the need to. The copy of the expired ECC is attached hereto as Appendix A.

Therefore, for the project to remain compliant to the environmental legislation and ensure sustainability, the ECC renewal should be applied for (accompanied by an updated EMP) and submitted to the Environmental Commissioner at the Ministry of Environment, Forestry and Tourism (MEFT)).

To ensure a continued compliance with the EMA and its 2012 EIA, Christian Nissen appointed Serja Hydrogeo-Environmental Consultants CC, independent Environmental Consultants to apply for the ECC renewal, accompanied by an updated EMP.

The updated EMP would include information of what may have changed between the date of ECC issuance to date as well as the confirmation of actual implementation of the environmental management and mitigation measures recommended upon approval of the first EMP. The updated EMP is then submitted to the Environmental Commissioner at MEFT for ECC renewal consideration.

1.2 The Aim of this EMP

This document has been compiled to inform the Ministry of Environment, Forestry and Tourism (MEFT) of what has happened on the project site since the issuance of the expired ECC to date to enable the renewal of the ECC. The aim is also to report on the progress of actual work done on site, implementation of the environmental management and mitigation measures of potential impacts identified.

For the project to remain compliant with the environmental legislation and ensure sustainability, a new ECC should be applied for by launching an application with MEFT for evaluation and consideration of renewing the ECC.

The ECC renewal is aimed at ensuring that the project activities are undertaken in an environmentally friendly and sustainable manner. This is done by ensuring effective implementations of environmental management and mitigation measures recommended in the previously approved EMP to minimize the adverse identified impacts while maximizing the positive impacts. Not only by the mere implementation of these measures, but also bi-annual monitoring of this implementation through audit and project activities' compliance exercises on site throughout the project life cycle and validity of the ECC over time.

Subsequently, to comply with the EMA and its 2012 EIA Regulations, the Proponent appointed an independent Environmental Consultant to undertake the necessary tasks for their ECC renewal. The required tasks include assessing of the site, checklist the status of the implementation of the old EMP/management and mitigations, compiling an updated EMP and submitting the ECC renewal application and EMP to the competent and regulatory authority, respectively.

The short description of the current operational site activities is presented under the next chapter.

2 DESCRIPTION OF CURRENT ACTIVITIES ONSITE

The project activities entail the processing of overburden dump using materials that is currently available in a stockpile at the site from old mining works (excavation of quartz) within the mining claim as shown in Figure 2-1 below. The dump is approximately 2000m² in area size and contains about 17,000 ton of rock blasted from the hill. The targeted commodities in the dump are industrial minerals such as wollastonite, calcite and quartz in the hill outcrop.



Figure 2-1: The overburden dump (hill outcrop) within MC-71519

The project is localised, and therefore considered a small scale activity. It should be noted, pre-current operations, the site has been a brown field, i.e., the project activities are based on re-working (processing) previous operations' dump (excavating into the hill and stockpiled materials). The site operations are a 5-days week, consisting mainly of crushing and screening the tailings. The process flow of the site operations is shown in Figure 2-2 below. The majority of the stockpile is removed from site and may be considered a form of rehabilitation of the old mine site. Apart from the removal of the stockpile no other form of rehabilitation is envisaged:

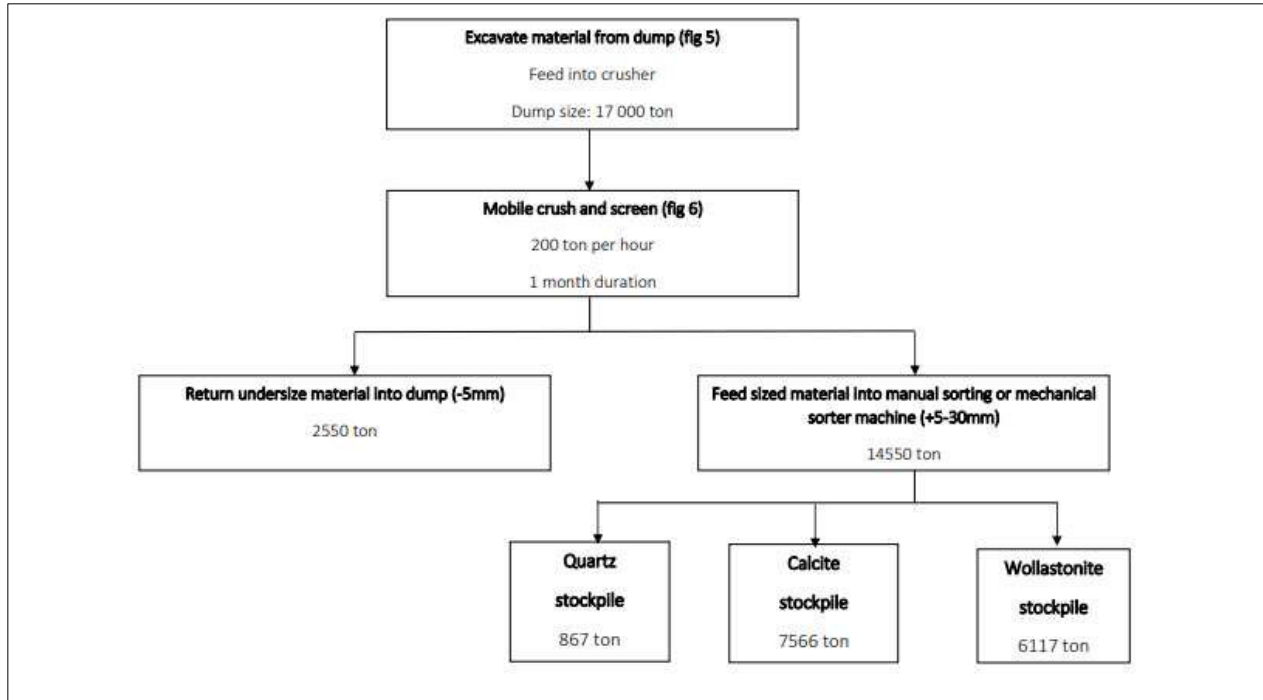


Figure 2-2: The description of the process flow for site activities

The main products are stockpiled and packaged into 1 ton woven bags for transportation off site (as shown above).

2.1 Services Infrastructures and Resources

The following supporting services and infrastructure are used onsite:

- Project personnel: the project employs eight people comprising 1 operator, 1 fabricator, 1 site manager and 5 general workers.
- Equipment, machinery and vehicles: these include 1 motor vehicle, 1 TLB, 2 jaw crushers, 1 impact crusher, 2 ball mills, 2 vibrating screens, and 6 conveyor belts. The machinery is powered by diesel. Photos of the TLB machine and conveyor belts are shown in Figure 2-3.



Figure 2-3: Some of the site machinery and equipment (the TLB and conveyor belt system)

- Power supply: The site operations are supplied by solar and diesel. There is a generator onsite that is used as a power supply back up.
- Water supply: water is supplied by the Usakos Municipality and carted to site a Jojo water storage tank. About 2,500 litre is used per month for drinking, washing, equipment cleaning and for maintaining the equipment.
- Supporting structures (administration buildings): There is 1 mobile office, 2 mobile toilets, 1 storage container and 1 tea room.
- Fuel Supply for machinery and equipment: The machinery and equipment are supplied with diesel stored in a self-bunded fuel tank (2,500 litre tank) on trailer for storage and dispensing of diesel. The onsite fuel tank is to ensure an interrupted fuel supply to the operations.

- Sanitation: sewage is managed through the two mobile toilets onsite. The waste is collected in a septic tank which is emptied periodically as and when the need arises by a designated service provider.
- Solid waste: managed onsite using designated solid waste bins that are collected weekly and disposed of at the dumpsite.
- Site accessibility (roads): The project site is accessible from the D1935 and D1937 gravel roads (on the eastern side of the Mining Claim) via farm roads in the area.
- Workers and accommodation: Employees live in Usakos (town) and are transported to site daily by motor vehicle, i.e., commute to work/site. Therefore, no need for onsite accommodation.
- Occupational health and safety: All project workers are equipped with appropriate and adequate personal protective equipment (PPE) as shown in Figure 2-4 . For minor occupational injuries, there is a first aid kit onsite and major ones are referred to Usakos Health facilities. The site manager administers first aid to the team when needed.



Figure 2-4: Some of the site workers wearing PPE while conducting a wollastonite inspection

- Accidental Fire management: There is no fire extinguisher onsite. However, this needs to be considered for the site as there is potential risk of accidental fires owing to the operation and handling of machinery that utilizes flammable substances (diesel).
- Warning and Hazard signage: there are no warning or cautionary signage onsite, and this needs to be improved. This includes putting up signage such as: *“no smoking near fuel products”, no open fire allowed onsite, falling rocks, wearing of PPE is mandatory onsite*”, etc.

3 LEGAL FRAMEWORK: OPERATIONAL PERMITTING AND LICENSES

The project's activities are undertaken in a biophysical and social environment. These activities or some of them may even at minimum impact some of these environmental components. It is therefore necessary to consider the legislations and legal requirements governing the project and its associated activities.

The main legal framework presented herein is that of Namibia for the relevant project component under the scope of this document and this is regarding the authorizations and permitting for project activities as presented in Table 3-1.

Table 3-1: List of applicable legislation where required, permits or licenses for the project activities

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Environmental Management Act EMA (No 7 of 2007)	Requires that projects with significant environmental impacts are subject to an environmental assessment process (Section 27).	The EMA and its regulations should inform and guide this EA process. ECC Renewal: An ECC should be renewed every 3 years prior to its expiry date (at least one month before expiry date).
Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878) Regulated under the Ministry of Environment, Forestry and Tourism	The details principles which are to guide all EAs.	An application for the transferring of the ECC to another Proponent should be done with the Office of the Environmental Commissioner at DEAF. The contact details at DEAF are as follows: Mr. Timoteus Mufeti: Environmental Commissioner Tel.: +264 61 284 2701
	Details requirements for public consultation within a given environmental assessment process (GN No 30 S21). The details the requirements for what should be included in an Environmental Scoping Report (GN No 30 S8) and an EIA report (GN No 30 S15) were already incorporated in the initial reports submitted for the expired ECC in 2015.	The project is already in its operational phase. However, if necessary and required, constant consultations and engagements with the interested and affected parties (stakeholders) should be continued. In case of grievances raised by the neighbouring land users to the Proponent, this should be addressed and resolved amicably.

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
<p>Minerals (Mining & Prospecting) Act No. 33 of 1992 Regulated under the Ministry of Mine and Energy (MME)</p>	<p>-Section 52 requires mineral license holders to enter into a written agreement with affected landowners before exercising rights conferred upon the license holder.</p> <p>-Section 52(1) mineral licence holder may not exercise his/her rights in any town or village, on or in a proclaimed road, land utilised for cultivation, within 100m of any water resource (borehole, dam, spring, drinking trough etc.) and boreholes, or no operations in municipal areas, etc.), which should individually be checked to ensure compliance.</p> <p>-Section 54 requires written notice to be submitted to the Mining Commissioner if the holder of a mineral license intends to abandon the mineral license area.</p> <p>-Section 68 stipulates that an application for a mineral license shall contain the particulars of the condition of, and any existing damage to, the environment in the area to which the application relates and an estimate of the effect which the proposed prospecting operations may have on the environment and the proposed steps to be taken to prevent or minimize any such effect.</p> <p>-Section 91 requires that rehabilitation measures should be included in an application for a mineral license.</p>	<p>The Proponent should carry out an assessment of the impact on the receiving environment. The Proponent should include as part of their application for the mining claim, measures by which they will rehabilitate the areas where they intend to carry out mining activities.</p> <p>The Proponent should ensure that all necessary permits/authorization for the Mining Claim (including timely renewals and required reports) are obtained from and submitted to the MME</p> <p>Mrs. Isabella Chirchir (Mining Commissioner)</p> <p>Tel: +264 61 284 8251</p>
<p>Soil Conservation Act (No 76 of 1969)</p> <p>Regulated under the Ministry of Agriculture, Water and Land Reform</p>	<p>The Act makes provision for the prevention and control of soil erosion and the protection, improvement and conservation of soil, vegetation and water supply sources and resources, through directives declared by the Minister.</p>	<p>Duty of care must be applied to soil conservation and management measures must be included in the EMP. This is mainly aimed at soil disturbance through unnecessary creation of new tracks and pollution from project related activities.</p>

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
<p>Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)</p> <p>Regulated under the Ministry of Mine and Energy (MME)</p>	<p>Regulation 3(2)(b) states that “No person shall possess or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area”</p>	<p>If the Proponent intends on keeping 600 litres or more of fuel onsite, a Permit (consumer installation certificate) to store fuel in that volume should be obtained from the Petroleum Affairs at the MME. Care must be exercised when handling hydrocarbon products onsite.</p> <p>Mr. Carlo Mcleod: Acting Director of Petroleum Affairs & Deputy Director: Compliance, Regulations and Economics Tel: +264 61 284 8291</p>
<p>Pollution Control and Waste Management Bill</p> <p>Regulated under the Ministry of Environment, Forestry and Tourism</p>	<p>The bill aims to “prevent and regulate the discharge of pollutants to the air, water and land” Of particular reference to the Project is: Section 21 “(1) Subject to sub-section (4) and section 22, no person shall cause or permit the discharge of pollutants or waste into any water or watercourse.”</p> <p>Section 55 “(1) No person may produce, collect, transport, sort, recover, treat, store, dispose of or otherwise manage waste in a manner that results in or creates a significant risk of harm to human health or the environment.”</p>	<p>The Proponent and their workers should continue with the good waste management work (directly or indirectly) to ensure that the waste does not cause environmental threat and risk.</p> <p>No permit or license required.</p>
<p>Public Health Act (No. 36 of 1919)</p>	<p>Section 119 states that “no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.”</p>	<p>The Proponent and all its employees should ensure compliance with the provisions of these legal instruments.</p> <p>No permit or license required.</p>
<p>Health and Safety Regulations GN 156/1997 (GG 1617)</p>	<p>Details various requirements regarding health and safety of labourers.</p>	

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Public and Environmental Health Act No. 1 of 2015 Regulated under the Ministry of Health and Social Services	To provide a framework for a structured uniform public and environmental health system in Namibia; and to provide for incidental matters.	
National Heritage Act No. 76 of 1969: Regulated under the Ministry of Education, Arts and Culture	Call for the protection and conservation of heritage resources and artefacts. Should any archaeological material, such as bones, unknown graves, old weapons/equipment etc. be found within the site boundary, work should stop immediately, and the National Heritage Council of Namibia must be informed as soon as possible. The Heritage Council will then decide to clear the area or decide to conserve the site or material	The contact details at National Heritage Council (NHC) of Namibia Mrs. Erica Ndalikokule – NHC Director Tel: +264 61 301 903
Labour Act (No. 6 of 1992) Regulated under the Ministry of Labour, Industrial Relations and Employment Creation	Ministry of Labour, Industrial Relations and Employment Creation is aimed at ensuring harmonious labour relations through promoting social justice, occupational health and safety and enhanced labour market services for the benefit of all Namibians. This ministry ensures effective implementation of the Labour Act No. 6 of 1992, specifically its Regulations, No. 156 Labour Act, 1992: Regulations relating to the health and safety of employees at work	The Proponent should ensure that the site operations, and maintenance works, do not compromise the safety and welfare of workers. No permit or license required.

4 ENVIRONMENTAL MANAGEMENT ACTION PLANS CHECKLIST

This chapter presents the potential impacts that were identified at the time the environmental clearance was issued, the environmental management actions (measures) recommended and the implementation checklist (status of EMP implementation). It is under this chapter that the Environmental Consultant indicates whether the Proponent has been maintaining the implementation of management and mitigation actions plans on site to manage and mitigate the significance of the adverse potential impacts stemming from the current project phase and associated activities.

4.1 Key Potential Impacts

The main potential impacts identified are as follows:

Positive

- Local socio-economic development through employment creations to locals (primary, secondary and tertiary)
- Generation of income and self-employment by the Proponent, while employing others
- Procurement of local goods and services to the project by local businesses to generate their income for improved livelihoods.
- Boosting of the local economic growth and regional economic development.
- The payment of revenue from operations, thus, adding tax revenues to government fiscus and a new source of foreign currency.
- Skills development and training of employees.

Negative (Adverse)

- Physical land / soil disturbance,
- Impact on local biodiversity (fauna and flora) and habitat disturbance,
- Potential impact on water resources and soils owing to pollution from fuels, oil, grease and possible improper handling of wastewater
- Dust generation from excavating material from the dump and from screening and crushing as well as from vehicle movement. This has an impact on local air quality,
- Fire hazards (accidental fire outbreaks)
- Potential occupational health and safety risks,
- Noise associated with project activities and movement and operating heavy machinery onsite,
- Vehicular traffic safety & impact on local roads,
- Environmental pollution (littering), and
- Archaeological and cultural heritage impact

4.2 EMP Implementation Roles and Responsibilities

This section is presentation of the roles of different parties involved in the project cycle (for its current phase (operations and maintenance)) and their respective responsibilities towards the implementation of the EMP.

This EMP informs all relevant parties listed below and everyone employed at the site as to their duties in the fulfilment of the legal requirements for the processing of overburden dump. This is done to prevent and mitigate the potential negative environmental impacts. All parties should note that obligations imposed by the EMP are legally binding in terms of the Environmental Clearance granted by MEFT to:

- Ensure compliance with regulatory authority stipulations and guidelines which may be local, provincial, national, and/or international.
- Verify environmental performance through information on impacts as they occur.
- Provide feedback for continual improvement in environmental performance.
- Identify a range of mitigation measures which could reduce and mitigate the potential impacts to minimal or insignificant levels.
- Detail specific actions deemed necessary to assist in mitigating the environmental impact of the project.
- Create management structures that addresses the concerns and complaints that may be raised by interested and affected parties (I&APs) with regards to the project; and
- Establish a method of monitoring and auditing environmental management practices during the project.

The roles and responsibilities of all parties involved in the effective implementation of the EMP are set in Table 4-1.

Table 4-1: The persons and institutions responsible for the Implementation of the EMP

Responsible person or institution	Responsibility
Christian Nissen (Proponent)	-Managing the implementation of the EMP and updating and maintaining it when necessary. -Management and monitoring of individuals and/or equipment on-site in terms of compliance with the EMP. -The implementation of and compliance with the environmental management measures proposed in this document. -Ensuring compliance with relevant environmental and related authorisations and license conditions.
Site Manager	-Ensure that relevant commitments contained in the EMP Action Plans are adhered to. -Ensure relevant staff is trained in procedures entailed in their duties.

Responsible person or institution	Responsibility
	<ul style="list-style-type: none"> -Maintain records of all relevant environmental documentation for the project. -Reviewing the EMP annually and amending the document when necessary. -Issuing fines to individuals who may be in breach of the EMP provision and if necessary, removing such individuals from the site. -Cooperate with all relevant interested and affected parties/stakeholders. -Management and facilitation of communication between the Proponent and Interested and Affected Parties (I&APs), where required. -Development and management of schedules for daily activities
<p>Safety, Health & Environmental (SHE) Officer (this role can also performed by the Site Manager)</p>	<ul style="list-style-type: none"> -Make sure that the provisions of the EMP as well as the environmental authorization are complied with onsite. The SHE Officer must be fully conversant with the Environmental Impact Assessment, Environmental Management Plan and environmental legislations, specifically the Environmental Management Act No. 7 of 2007 and its 2012 EIA Regulations. -Issue instructions to the Proponent where environmental considerations call for action need to be taken. -Submit regular written reports, ensuring that activities on site comply with all relevant environmental legislation, monitoring and verifying that adverse environmental impacts are kept to a minimum. -Conducting monthly site inspections with reporting for the activities undertaken on all site areas with respect to the implementation of the EMP (monitor and audit the implementation of the EMP). -Advising the Proponent on the removal of person(s) and/or equipment not complying with the provisions of the EMP. -Making recommendations to the Proponent with respect to the issuing of fines for contraventions of the EMP. -Undertaking an annual review of the EMP and recommending additions and/or changes to the document. -Maintain records of all relevant environmental documentation.

Responsible person or institution	Responsibility
Project workers and contractors	They have a personal responsibility to aid in the implementation of the EMP while present and working on site. Therefore, they will be required to adhere to the relevant management and mitigation measures to collectively protect the environment and promote environmental sustainability.

4.3 EMP Auditing Based on Observations and Required Actions

The evaluated and compliance status in Table 4-2 has been done to check EMP compliance (the implementation of the management and mitigation measures (action plans)) with regards of what has been happening on site between when the ECC was issued (June 2020), when it expired in June 2023 to when then ECC renewal application was done (May 2024).

As mentioned above, has. Where further recommendations or action plan is required to improve environmental sustainability and ensure compliance with legal requirements, this is also indicated in Table 4-2.

4.4 EMP Requirements Compliance Status (Current Activities)

The environmental management measures (actions) have been checked for compliance with regards of what has been happening onsite since June 2020 when the actual site operations commenced. The management actions are categorized as per implementation by the Proponent as follows:

- **Fully Compliant** – the Proponent undertook or has been undertaking the project activity/ies according to the environmental management action recommended, therefore complies with the EMP requirements.
- **Compliant** - the Proponent undertook or has been undertaking project the activity/ies according to the recommended environmental management actions, but not fully. An action plan would be expected to change such status from “Compliance” to “Full Compliance”.
- **Non-Compliant** – the Proponent did not undertake or has not been undertaking the project activity/ies (or some of the activities) as per the recommended environmental management actions in the EMP. The Proponent’s commitment for improvement is required in this case to achieve full compliance or progressive partial compliance in the next EMP implementation check.

Table 4-2: Operations and Maintenance - EMP Compliance between June 2020 and May 2024 as well as further mitigation measures

Aspect	Activity	Current EMP Implementation Efforts	Compliance Status	Additional recommended mitigation measures
OPERATIONAL PHASE AND MAINTENANCE ASSOCIATED ACTIVITIES				
EMP and training Implementation	Training and awareness of the EMP to workers	-The workers are informed of their responsibility to the environment as well as their health and safety (as part of employment induction)	COMPLIANT	-Workers should be trained on the EMP requirements and refresher training offered annually.
ECC	The validity of the ECC	-The ECC has expired but the application for renewal has been submitted to MEFT.	PARTIALLY COMPLIANT	-The next ECC renewal application should be applied for at least one month before expiry date and not after expiry date.
Reporting system on monitoring aspects of operations and maintenance as outlined in the EMP	Reporting	-Establish a reporting system to report on aspects of operation and maintenance. -Keep monitoring reports (bi-annual reporting) on file for submission with ECC renewal applications	NON-COMPLIANT. This has been explained to the Site Manager by the Environmental Consultant for improvement	-Environmental Monitoring/Audit Reports should be compiled (bi-annually or annually) depending on the conditions of the new ECC.
Labour and Recruitments	Appointments	-Contractors appointed and employees hired have entered into agreements. -Locals are employed for the operations (from the Farm and Usakos area).	FULLY COMPLIANT	-None
Communication between the Proponent and farm residents	Poor communication resulting in conflict between farm residents and Proponent on land use or inconveniences caused by the project activities	-Communication with farm residents is kept open. Residents are also encouraged to submit any grievances.	FULLY COMPLIANT	-A clear communication Plan and channel which should include a grievance mechanism should be developed and communicated to the farm residents. -A complaints register should be kept onsite and issues (complaints or grievances) logged should be solved amicably and ensure that they do not re-occur.

Aspect	Activity	Current EMP Implementation Efforts	Compliance Status	Additional recommended mitigation measures
Management system in Health, Safety and Environmental	Health, Safety & Environment Management systems and measures should be in place.	<ul style="list-style-type: none"> -There are safety and health warnings onsite. -There are no signs for safety and warning pasted onsite. 	PARTIALLY COMPLIANT	<ul style="list-style-type: none"> -The site should be equipped with safety and warning signs, despite the size of the operations.
Occupational health and safety	Health, safety and environment(HSE)	<ul style="list-style-type: none"> -There is a furnished first aid kit and one personnel knows how to administer first aid. -There are some basic documents for HSE are on file but need to be improved. -There are sufficient Personal Protection Equipment (PPE) for workers ranging from overalls, safety boots, and others as necessary. -PPE is appropriately worn by site workers. 	FULLY COMPLIANT	<ul style="list-style-type: none"> -Induction training for all who enter the site is required. -The SHE Officer/Site Manager should implement the EMP and oversee occupational health and safety as well as general environmental related compliance at the site. -Regular safety meetings should be held to serve as constant reminders. -The sex health education awareness should be included in annual refresher trainings. -Have emergency plans, equipment, and personnel in place to deal with all emergencies. -Emergency Response Plan and HSE Manuals should be developed. -Adequate protection and indemnity insurance cover for incidents. -Ensure that adequate emergency facilities are available onsite and knowledge of administering is provided to some workers. -Equipment that must be locked away onsite and placed in a way that does not encourage criminal activities. -Security personnel and or Site Manager should remove anyone portraying disruptive behaviour on and around the site to ensure safety.

Aspect	Activity	Current EMP Implementation Efforts	Compliance Status	Additional recommended mitigation measures
				<p>-A register of all incidents must be maintained daily. This should include measures taken to ensure that such incidents do not re-occur.</p> <p>-Avail adequate and appropriate PPE to all workers and where necessary, for visitors.</p> <p>-Timeously recording and reporting of all health and safety incidences.</p>
Enhanced skills and economic development promotion	<p>People need skills to perform their jobs.</p> <p>Development of people and technology are key to economic development</p>	<p>-The employed locals are employed for some skilled works and unskilled, thus, gaining skills in their respective jobs.</p>	FULLY COMPLIANT	<p>-Continue the employment of local and nearby residents and immediate areas around Farm Goabeb and from Usakos Town for jobs that they are capable of.</p> <p>-Promote the procurement of goods and services opportunities by local businesses (in Usakos and immediate Karibib), and if not locally available, Erongo Region based businesses should be prioritized.</p>
Soils	<p>-Soil compaction, erosion and pollution</p>	<p>-No signs of soil compaction observed onsite because the site surface.</p> <p>-Vehicles are making use of provided access roads to and within the site.</p> <p>-There are no signs of soil pollution onsite.</p>	COMPLIANT	<p>-Adjacent areas to the project site within the site area should not be disturbed.</p> <p>-Continue using existing tracks such as access roads to minimize the footprints on the soils over time. Therefore, project vehicles should only make use of such provided access roads.</p> <p>-Ensure that when areas outside the project site boundaries are disturbed by project related activities, rehabilitation should be conducted immediately once the activity has been completed.</p> <p>-Any future oils spills on the ground should be cleaned up as soon as possible to ensure that it does not infiltrate further into the ground to pollute soils and groundwater.</p>

Aspect	Activity	Current EMP Implementation Efforts	Compliance Status	Additional recommended mitigation measures
<p>Water resources (specifically groundwater) and soil contamination</p>	<p>Porous surface sediments and fractured rock units can provide ready pathways for contaminants such as unwanted hazardous and ecologically detrimental substances to seep down to the water table or after being washed away by surface flow during heavy rainy seasons.</p> <p>Accidental spills of fuel, and other chemicals used on site might occur.</p>	<p>-The soils onsite do not have any spills from oils or fuels.</p> <p>-There are oil drip trays onsite to ensure that any oil spill on the interlocks is washed down the separator for proper disposal.</p> <p>-Sewage is well-handled through a closed system (sewer reticulation system) to ensure that it does not get on the soils and contaminate it.</p>	<p>FULLY COMPLIANT</p>	<p>-All precautions are to be taken to prevent contamination of the soil as this could enter the ecosystem.</p> <p>-Proper training of project personnel would reduce the possibility of the impact occurring, especially with onsite soil contamination.</p> <p>-Any fuel spills must be reported, and remediation action taken.</p> <p>-Contaminated soil must be transported away from the site to an approved, appropriately classified waste disposal site. Contaminated soil should be remediated.</p>
<p>Water resources use</p>	<p>Water is mainly for drinking, washing, equipment cleaning and maintaining equipment</p>	<p>-Water is used sparingly and only 2,500 litres is used per month.</p> <p>-There are no sign of water wastage onsite.</p> <p>-The processing of the dump material is dry process (no need for water). Water is barely required for dust suppression of airborne dust from excavator (TLB) and screening plant operations.</p>	<p>FULLY COMPLIANT</p>	<p>-Continue water saving awareness to workers.</p> <p>-Water should be re-used and recycled, where possible.</p> <p>-Inspect the water storage tank daily to ensure that leaks are detected on time for action, preventing wastage.</p>

Aspect	Activity	Current EMP Implementation Efforts	Compliance Status	Additional recommended mitigation measures
		<p>-Water use is minimal, and only in cases where it is necessary and effective in reducing airborne dust, by water sprayer.</p>		
Littering and waste management	<p>-The waste management at the site.</p>	<p>-There are currently no signs of litter on and around the site.</p> <p>-Solid waste is contained and disposed of at the solid waste site in Usakos.</p> <p>-Waste is properly contained in respective bins and area for disposal by the relevant waste collectors.</p>	FULLY COMPLIANT	<p>-The continued management of different waste and their disposal to their appropriate waste management facilities is highly encouraged.</p>
Waste generation	<p>There is a generation of both general, and human waste onsite.</p> <p>Potential soil polluted by fuel handled onsite especially from accidental fuel spills from the fuel tank and or leaks from vehicles or equipment should be treated as hazardous waste</p>	<p>-The site is equipped with suitable and marked waste bins and dispose at approved municipal site.</p> <p>-Solid waste is properly sorted and disposed of accordingly. The solid waste is disposed of at the dumpsite in Usakos.</p> <p>-Sewage is managed through onsite mobile toilets connected to septic tank to better manage it and properly disposed of (emptied) by service provider.</p> <p>-Site personnel (workers) are provided with waste management awareness training, starting at inductions.</p>	FULLY-COMPLIANT	<p>-Maintain the regular removal of waste to maintain visual orderliness</p> <p>-Dry waste is at risk of increasing the dust / litter impact so should be removed regularly. Recycling of solid waste should be encouraged to minimise the amount of waste that ends up piled up at dumpsites</p> <p>-The waste should continue to be disposed of at approved and appropriate waste facilities</p>

Aspect	Activity	Current EMP Implementation Efforts	Compliance Status	Additional recommended mitigation measures
Pollution of water resources	Product spillages and eventually runoff of polluted water can be washed into surface water and eventually into aquifers, cause groundwater pollution	<p>-The site is well looked after, i.e., no signs of fuel spillage.</p> <p>-The fuel storage tank is installed in a self-bunded and impervious double layer on a trailer to minimize and even prevent surrounding soil and groundwater pollution.</p>	FULLY COMPLIANT	<p>-Spill control preventive measures should be in place onsite to manage soil and groundwater contamination.</p> <p>-Site areas where hydrocarbons are intensively handled such as tanks refilling, the surface should be covered with a temporary impermeable plastic liner (e.g., an HDPE liner), to prevent any spillages from getting into direct contact with the soils and prevent eventual infiltration.</p> <p>-All wastewater and hydrocarbon substances and other potential pollutants associated should be contained in designated containers onsite and later disposed of at nearby approved waste sites.</p> <p>-In cases of accidental fuel or oil spills on the soils from site vehicles, machinery and equipment, the polluted soil should be removed immediately and put in a designate waste type container for later disposal at an approved suitable waste site.</p> <p>-The servicing and washing of hydrocarbon contaminated vehicles and equipment should be done at a dedicated area, where contaminants are prevented from contaminating soil or water resources.</p>

Aspect	Activity	Current EMP Implementation Efforts	Compliance Status	Additional recommended mitigation measures
Vehicular Traffic use and Safety	The site is located off the local gravel district roads such as D1935 and D1937 and operations may potentially have some impact on the movement of traffic to the site.	<ul style="list-style-type: none"> -The project vehicles only make use of the existing access road to the site. -All project related motor vehicle drivers have the required licenses to do operate these vehicles. -There are sufficient parking bays for vehicles onsite. 	FULLY COMPLIANT	<ul style="list-style-type: none"> -The project vehicles should avoid creation of new tracks. -The vehicles should be driven at the speed of 40km/hr when on the access road and onsite. -No person shall drive or use any vehicle on site whilst under the influence of alcohol or any other narcotic substance or in such a way that is dangerous to human life or that may cause damage to any property or the environment.
Accidental Fires	Outbreak of an uncontrolled fire due to the fire sparks caused by the operating machinery or presence of open fires created on onsite.	<ul style="list-style-type: none"> -Safety talks and job hazard analysis are done and provided to all new workers and during refresher trainings. -Personnel (workers) are aware of the danger of fire and avoiding activities that may result in fire outbreaks. -There is no fire extinguisher onsite -No clear and visible signage on NO OPEN FLAMMABLES, NO SMOKING NEAR FUEL TANK, etc. 	PARTIALLY COMPLIANT	<ul style="list-style-type: none"> -The site should be equipped with at least 2 fire extinguishers. This needs to be considered for the site as there is potential risk of accidental fires from operations and handling of machinery that utilizes flammable substances (diesel). -All personnel must be sensitised about responsible fire protection measures and good housekeeping such as the removal of flammable materials including rubbish, dry vegetation, and hydrocarbon-soaked soil from the vicinity of the site. Regular inspections should be carried out to check for these materials at the site. -Train 2-3 workers on basic firefighting skills (use fire extinguishers onsite) in case of accidental fire outbreaks.

Aspect	Activity	Current EMP Implementation Efforts	Compliance Status	Additional recommended mitigation measures
Dust and gaseous emissions	Dust generated during the operations is expected from loading, crushing and screening of overburden materials on site. Dust can also be generated from gravel roads, particularly on windy days. Operations are carried out ventilated areas, thus, tolerable levels for dust.	<ul style="list-style-type: none"> -There are no air quality issues observed onsite. However, this may be expected at times when dust can emanate from problematic areas onsite (where dust emission is prevalent during some days of the operations). -The dust in the air is monitored within 2km radius of operations. -There is minimum vehicle movement onsite (1 motor vehicle). -Water is used on the problematic road and working areas to suppress dust if at high levels. -Workers are provided with dust masks. 	FULLY COMPLIANT	<ul style="list-style-type: none"> -Regular dust suppression (using a reasonable amount of water) should be implemented when dust becomes an issue onsite (untarred access). -Vehicles should be driven at 40km/hr when on the site access untarred road to prevent dust generation. -Vehicles and machinery should not be left idling. -A complaints register of dust generated from site related activities must be maintained.
Noise	Noise impact to site workers, surrounding communities (farm residents)	<ul style="list-style-type: none"> -There are no complaints of noise. -The operations are limited to day shift only to consider the 6 farmstead residents that may be impacted by noise. These farmsteads are between 400m and 2km distanced from the site. 	FULLY COMPLIANT	<ul style="list-style-type: none"> -Heavy vehicles and machinery should not be left idling when not in use. -Avoid excessive and undue noise on and around the site. -Operations should continue to be undertaken during the 5 working days only and between 8am and 5pm.
Impact on biodiversity (fauna and flora) and ecosystem	Impacts on the ecosystem from the project related activities and vehicle movements may lead to land degradation, and killing/harming of local animals.	<ul style="list-style-type: none"> -The site is on a communal farm rural with visible vegetation cover. Therefore, the site area maybe be frequented by local farm livestock and wildlife in the area for grazing. -The dump size is relatively small, and therefore very local in extent. 	FULLY COMPLIANT	<ul style="list-style-type: none"> -Operations should be limited within the site boundaries. -All employees should be educated about the value of biodiversity (no killing or snaring and trapping of animals (wildlife and livestock) occurring around the site).

Aspect	Activity	Current EMP Implementation Efforts	Compliance Status	Additional recommended mitigation measures
		<p>-There are no reported and recorded incidents of project workers implicated in the stealing or harming of livestock or poaching of wildlife around the site.</p> <p>-The vegetation onsite and around the site is preserved.</p> <p>-Awareness training of employees to avoid interference with farming activities and to be on lookout for wandering farm animals on the site when driving to, from and around the site.</p> <p>-The operations are kept well within the Mining Claim's boundaries.</p>		<p>-Strict conditions prohibiting harvesting of flora and snaring/stealing of local livestock and illegal hunting of wildlife in the area should be incorporated into employment contracts.</p> <p>-Killing, injuring, capturing, disturbing, or feeding of any animal or remove any part of any wild animal, whether alive or dead is prohibited.</p> <p>-No removal, destroying, damage or disturb of any egg, nest, or burrow on and around the site is allowed.</p>
Archaeology and heritage	Accidental disturbance of archaeological or heritage objects such as artefacts or even unmarked graves that may be discovered while processing the overburden material (given that the dump was formed from previous mining works)	-No discoveries of such nature have been encountered nor recorded onsite yet	FULLY COMPLIANT	<p>-If any archaeological materials or human burials or skeletal remains are uncovered during operations on the dump, and finds must be reported to the NHC (Tel: +264 61 301 903), National Forensic Laboratory (+264 61 240 461) immediately.</p> <p>-A "No-Go-Area" should be put in place where there is evidence of sub-surface archaeological materials, archaeological sites, and graves.</p> <p>-All accidental discoveries shall be reported immediately to the NHC</p>

5 ENVIRONMENTAL MONITORING, COMPLIANCE AND AUDITING

To ensure compliance with the legal requirements, minimize potential adverse impacts and improve environmental sustainability, some monitoring activities are recommended for the site. These recommended monitoring exercises are to be implemented as follows:

5.1 Monitoring of EMP Implementation and ECC Renewal

- Environmental (during the validity period of the ECC): Bi-Annual Compliance Monitoring of the EMP implementation should be undertaken throughout the project cycle, i.e., twice a year (every 6 months) throughout the operations. Environmental Monitoring reports are to be compiled and submitted to the DEAF for archiving through provision made on the ECC Portal (once the ECC issued). This practice will make the ECC renewal easier when it is about to expire in future. Therefore, the Proponent should effectively monitor the EMP implementation and submit the monitoring reports to the DEAF. The submission is not only done for record keeping purposes, but also in compliance with the environmental legislation and conditions of the new ECC.
- Environmental Compliance Checklist: To make impact monitoring and EMP compliance easy, the Proponent should keep an Impact-Indicator Checklist that can be used by the SHE Officer/Site Manager and updated every 6 months. If found to be necessary, the checklist should contain the management action recommended in the EMP in a "Questionnaire" format, observations, recommended further action, date of monitoring and next proposed monitoring date.

5.2 Environmental Awareness

The Proponent should ensure that the employees and any third party who carries out all or part of their obligations are adequately trained regarding the implementation of the EMP, as well as regarding environmental legal requirements and obligations. Training may be conducted by the SHE Officer, where necessary.

Environment and health awareness training programmes should be targeted at three distinct levels of employment, i.e., the executive, middle management, and labour. Environmental awareness training programmes shall contain the following information:

- The names, positions, and responsibilities of personnel to be trained.
- The framework for appropriate training plans.
- The summarized content and schedule for the presentation of the training courses.
- The SHE Officer shall ensure that records of all training interventions are kept in accordance with record keeping and documentation control requirements as set out in this EMP. The training records shall verify each of the targeted personnel's training experience.

The recommendations and conclusions made for this document are under the next chapter.

6 RECOMMENDATIONS AND CONCLUSIONS

6.1 Recommendations

The project undertaken on Mining Claim No. 71519 is of small-scale level and activities are well limited within the site boundaries. The Proponent has been compliant with most parts of the old EMP requirements as recommended for the current project phase (operations and maintenance). However, improvements are needed in some areas of implementation. The components of the EMP (management measures) that were recommended for the current project activities have been fully or partially implemented onsite. Thus, improvements is needed for the protection of the environment

There is also non-compliance component on the absence of environmental monitoring records of EMP compliance monitoring (Bi-Annual Monitoring) done for the site since the issuance of the expired ECC. However, the lack of monitoring can be improved going forward, with the assistance of the Environmental Consultant and the Proponent's full commitment and co-operation to improve their commitment to environmental management, regardless of the site of their operations.

Therefore, Serja Consultant are confident that the potential negative impacts associated with the project activities onsite can continue to be mitigated by effectively implementing the recommended management action measures. Furthermore, with more effort and commitment put on implementation monitoring (Bi-Annual Environmental Monitoring and reporting), the protection of the environmental and management of negative impacts can be achieved. It is therefore, recommended that the project and its associated activities be granted a new ECC, and provided that:

- All the management measures (mitigations) recommended herein continue to be implemented effectively with compliance emphasis pointed out in Table 4-2 and where required, improvement should be effectively put in place.
- All required permits, licenses, approvals, and document renewals for the project activities now and in future are obtained as required.
- The Proponent and all their project workers, contractors and or specialists comply with the legal requirements governing their project and its associated activities.
- All the necessary environmental and social (occupational health and safety) precautions provided are adhered to.
- To avoid late renewal of the project ECC, the Proponent' SHE Officer (Site Manager) and or Environmental Consultant should effectively conduct EMP Compliance through Bi-Annual Monitoring and most importantly, ensure timely renewal of the ECC. The ECC renewal application should be submitted at least one month before the expiry date of the valid ECC. This is to allow time for the evaluation of the ECC application and Updated EMP by the DEAF and approval by the Environmental Commissioner.

- The EMP Compliance check (Bi-Annual Monitoring) should be done. The monitoring exercise can be undertaken either by the project SHE Officer and audited by an external independently appointed Environmental Assessment Practitioner (EAP) / Environmental Consultant or just by the EAP when applying for an ECC renewal. However, there should be records of monitoring reports that an EAP can audit for ECC renewal. Therefore, Environmental Bi-Annual monitoring reports shall be compiled for every monitoring and submitted to the DEAF at the MEFT for archiving (via the ECC Online Portal under the valid ECC details). This would make the next ECC renewal easier because of an in-between track record of monitoring prior to the expiry date of the ECC.

6.2 Conclusions

The Environmental Consultant recommends that the expired ECC be renewed so that the Proponent can continue with the project activities and continue to positively impacting the local community and nation through this economic opportunity (particularly the employment to the eight local people).

The site is generally well-kept and equipped with the necessary and required services infrastructure, well-maintained and adheres to the site and activity-specific environmental management requirements. Therefore, the Environmental Consultant hopes that the Proponent will continue to maintain the same commitment towards environmental sustainability, and ensure timely renewal of the ECC.

Therefore, it is crucial for the Proponent, their workers, contractors and or specialists to continue with the effective implementation of the recommended management measures to protect both the biophysical and social environment and promote sustainable development.

**APPENDIX A: COPY OF THE EXPIRED
ENVIRONMENTAL CLEARANCE CERTIFICATE (ECC) -
ECC00707**



REPUBLIC OF NAMIBIA
MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM
OFFICE OF THE ENVIRONMENTAL COMMISSIONER

ENVIRONMENTAL CLEARANCE CERTIFICATE
ISSUED

In accordance with Section 37(2) of the Environmental
Management Act (Act No. 7 of 2007)

TO

Christian Nissen
P O Box 80626, Windhoek

TO UNDERTAKE THE FOLLOWING LISTED ACTIVITY

Processing of Overburden Dump on mining Claim No. 71519 at Farm
Goabeb 63, Karibib, Erongo Region

Issued on the date: 2020-06-11
Expires on this date: 2023-06-11

(See conditions printed over leaf)



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