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ENVIRONMENTAL MANAGEMENT AND REHABILITATION PLAN (EMRP)

Exploration of Dimension Stone on Exclusive Prospecting License (EPL) 5393 in the Erongo Region, Namibia

MEFT APPLICATION NO.:	APP-002971
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List of Abbreviations	
CFP	Chance Finds Procedure
DEFA	Department of Environmental and Forestry Affairs
EA	Environmental Assessment
ECC	Environmental Clearance Certificate
EIA	Environmental Impact Assessment
ESA	Environmental Scoping Assessment
EMP	Environmental Management Plan
EMA	Environmental Management Act
EPL	Exploration Prospecting License
I&APs	Interested and Affected Parties
IUCN	International Union for Conservation of Nature
MAWLR	Ministry of Agriculture, Water & Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
MLIEC	Ministry of Labour, Industrial Relations and Employment Creation
MME	Ministry of Mines and Energy
MWT	Ministry of Works and Transport
NHC	National Heritage Council of Namibia
OGGC	OMAVI Geotechnical and Geo-environmental Consultants
PPE	Personnel Protective Equipment
TA	Traditional Authority

1 INTRODUCTION

Omavi Geotechnical and Geo-Environmental Consultants cc were appointed by Best Cheer Investment Namibia to conduct a site-specific Environmental Scoping Assessment (ESA) and draft an pragmatic Environmental Management and Rehabilitation Plan (EMRP) for the proposed exploration for dimension stone quality rocks on Exploration Prospecting License (EPL) 5393.

Best Cheer Investment Namibia proposes to undertake prospecting, on Exclusive Prospecting License (EPL) 5393, for suitable natural rocks such as granite and marbles which could be quarried for the production of dimension stone.

The content of this EMRP is in adherence to the regulations stipulated in the Environmental Management Act, 2007 (Act No 7 of 2007) Regulation No 30 of 2011.

The EMRP essentially aims to provide the proponent with measures to address the environment effects that have been identified in the ESA report and to provide possible mitigation measures / recommendations to address these effects, as well as measures to enhance potential positive impacts.

The EMRP starts by providing brief description of project activities, inputs and outputs, scope, purpose and limitations of the EMRP. This is followed by the roles and responsibilities of management, employees and contractors (as applicable) for the effective implementation of the EMRP.A summary of relevant governing legislation and policy and is addressed thereafter. An outline of potential impacts that have been identified for each relevant activity, and details of the specific mitigation/ enhancement and management measures that will be implemented, including an implementation strategy and performance criteria to be adopted are also addressed. Lastly, monitoring and reporting requirements, including a process for implementation of corrective actions is discussed. The EMP ends with recommendations and conclusions.

1.1 Project Background and Location

The concerned EPL is located in the Karibib constituency, approximately 27 km south of the town of Usakos, and has a total surface area of 661 Ha. The EPL overlies Farm Kubas No. 77 and borders Farm Ubib No. 76 to the north, Farm Etusis No. 75 to the East, Farm Gamikaub West. No 115, Farm Dorstrivier No. 15 to the South and Farm Tsawisis No. 95 to the West. The area under study is not located within a Communal Conservancy or Protected area. The area can be accessed via the existing B2 Trans Kalahari Highway and district gravel roads D1914 and D1952, as well as via numerous smaller farm car tracks. Evidence of historical small scale quarrying within the EPL sugegsts that the project area is NOT prestine.

The exploration activities will predominantly entail the following:

- Desktop review of the site geology,
- Field evaluation with detailed geological mapping and hand specimen sampling,
- Rotary core drilling, and
- Test quarrying

The regional locality map and zoomed in aerial map of EPL 5393 are shown in **Error! Reference source not found.** and **Error! Reference source not found.** below. The corner coordinates of the EPL area are summarized in **Error! Reference source not found.**.

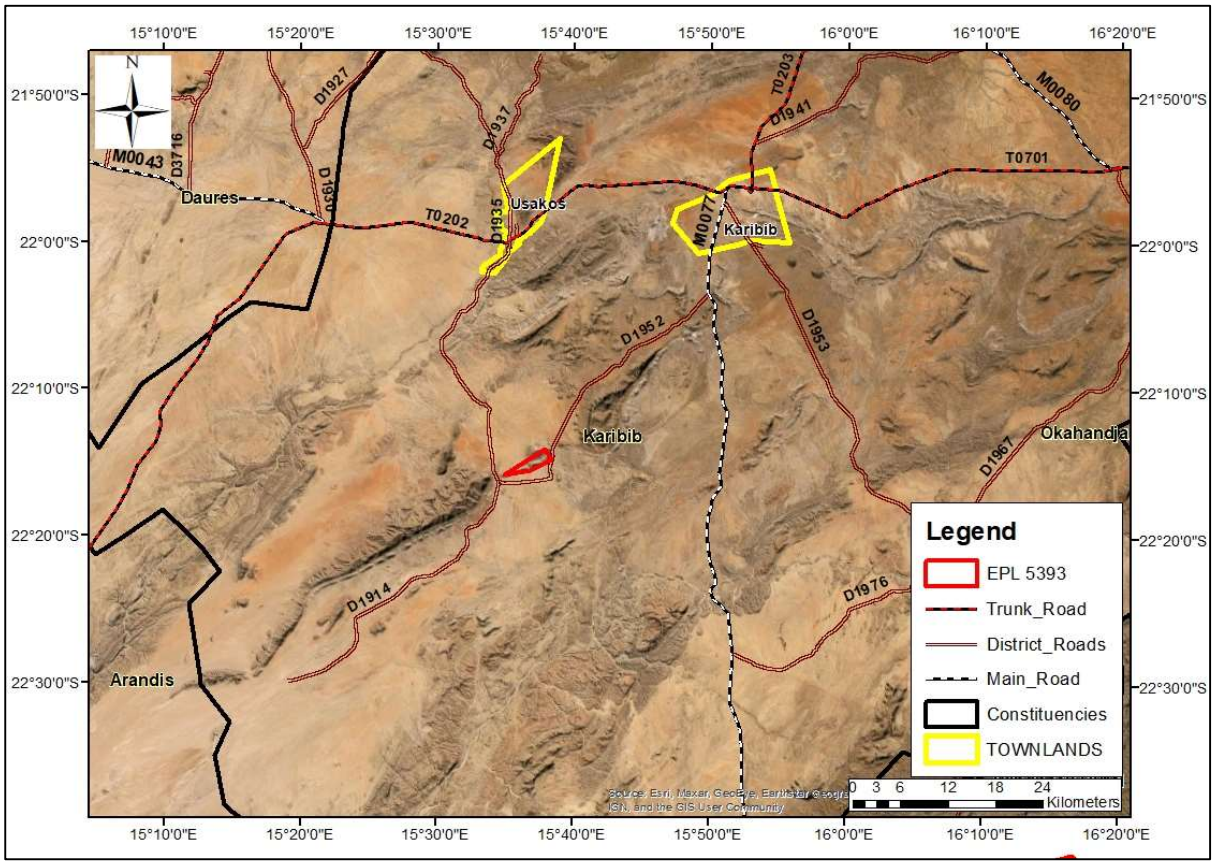

Figure 1-1: Regional locality map of EPL 5393.

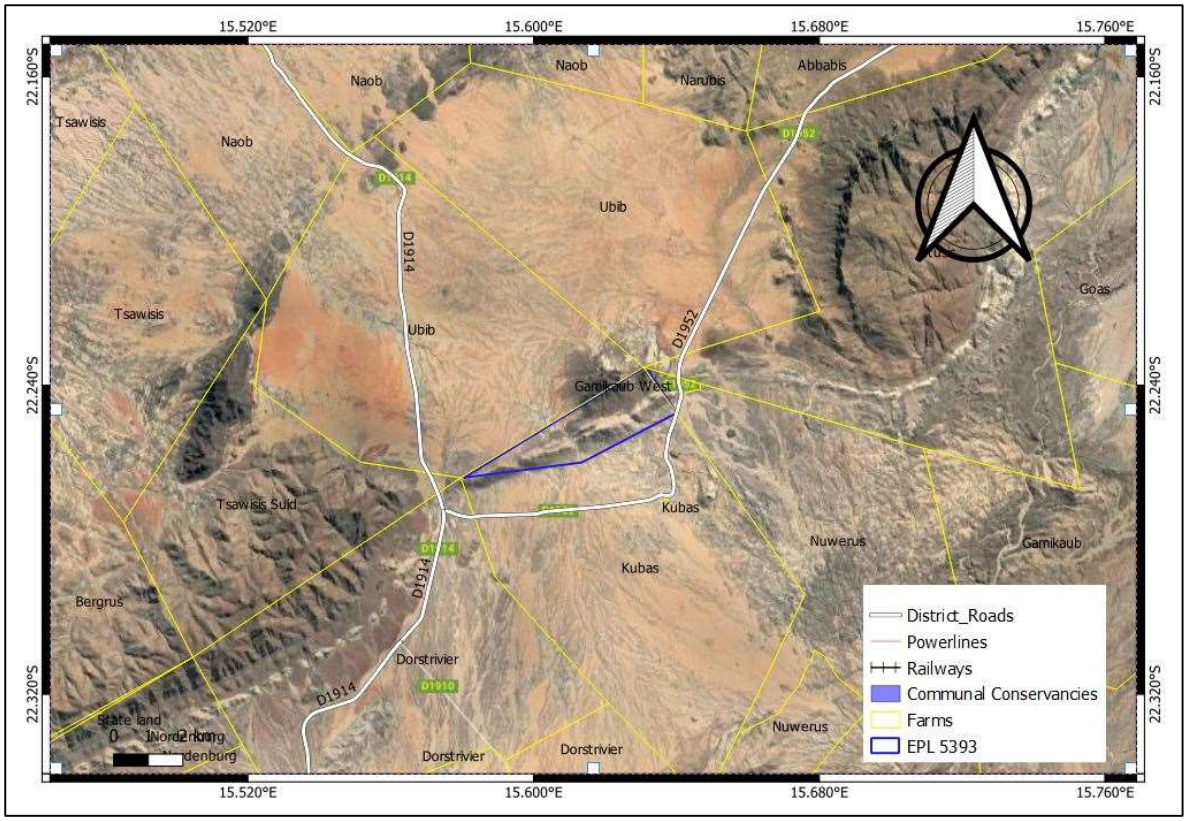

Figure 1-2: Zoomed in aerial photograph of EPL 5393 in relation to the surrounding farms.

Table 1-1: Approximate GPS Site Boundary Coordinates of EPL 5393.

- 22.264062° S	15.580886° E
- 22.235739° S	15.631515° E
- 22.247323° S	15.640115° E
- 22.260078° S	15.613826° E

1.2 Ownership and Land Tenure of the License Area

The proponent for the proposed project is Best Cheer Investment Namibia who intends to explore for dimension stone quality marble and granite on EPL 5393. A public portal known as The Namibia Mining Cadastral Portal (https://portals.landfolio.com/namibia/) provides a spatial view and the status of EPL . **Error! Reference source not found.** below provides the overview of EPL 5393 as shown on the portal.

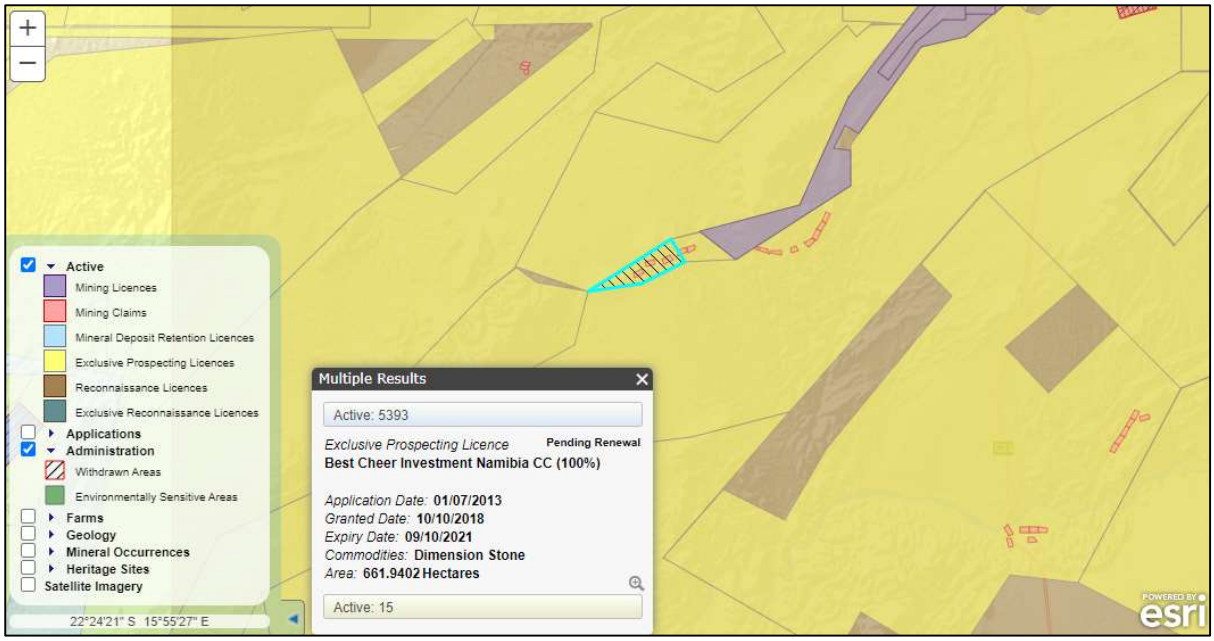

Figure 1-3: EPL 5393 on portal (https://portals.landfolio.com/namibia/).

1.3 Purpose of the Environmental Management and Rehabilitation Plan (EMRP)

The fundamentals of any Environmental Management and Rehabilitation Plan (EMRP) are to firstly formulate measures which will mitigate adverse impacts on various environmental receptors, which have been identified during the ESA. Secondly, to protect environmental resources to the extent practical, while optimising the possible positve impacts. Lastly, to formulate measure that would ensure that the value of environmental components is maintained and possibly enhanced during the proposed operations to the extent practical.

It should be noted, that, the Environmental Management and Rehabilitation Plan (EMRP), is one of the most important outputs of the environmental assessment process .

In adherence to legislation, Regulation 8 of the Environmental Management Act's (EMA) (Act no. 7 of 2007) and the 2012 Environmental Impact Assessment Regulations require that a draft Environmental Management Plan (EMP) be included as part of any Environmental Impact Assessment (EIA) process. The term "draft" has context in this regard to emphasize that the document (i.e. the EMP) remains a working document throughout which is to be revised and updated on a continuous basis during the operational phase of a project as more data and information is gathered. This practice ensures that the document remains relevant to its intend at any given point in time.

The EMRP has been developed for the management of the following main activities:

- **Site establishment**
  - Site establishment and setting up of the exploration camp site will consist of clearing and creation of access tracks to targeted sites,
  - preparation of current ground conditions to pave way for the installation of support infrastructures such as temporary water storage tanks, installation of temporary fences for designated domestic and industrial waste storage, and
  - placement of mobile containers or prefabricated structures for accommodation, ablution facilities, and storage space.
  - Mobilization of drill rig(s) and earth moving plant to the concerned project area
- **Operational phase**
  - topsoil stripping;
  - rotary core drilling and recovery of rock core;
  - test quarrying and extraction of sample blocks;
  - logging and storage of rock core;
  - storage, sorting and haulage of sample dimension stone blocks to processing facilities in Karibib for further beneficiation;
  - processing of sample blocks into finished products to assess furnishing quality to establish rock unit parameters (e.g., polishing, patterns, etc); and
  - export final products from the sample blocks to international markets to test the market, pricing and demand of product.
- **Decommissioning and rehabilitation**
  - Decommissioning of activities means the period that prospecting activities have ceased, and areas disturbed by exploration activities are to be either reclaimed, restored and rehabilitated, or are to be fenced off and preserved for more continuous quarrying upon the granting of a valid mining license.
  - Sites are to be rehabilitated to acceptable limits and restored to as close as possible to the surrounding natural environment.

The EMRP shall be ammended bi-annually to ensure that at any given time it talks to the prevailing conditions and ongoing project activities. This will be in consultation with the Proponent and regulatory authorities by:

- Ensuring compliance with current national legislation and standards for the protection of the environment.
- Limiting potential impacts on biodiversity.
- Ensuring that the Proponents operations are managed efficiently and effectively to reduce or avoid negative impacts and enhance positive impacts of the operations.

- Keeping all interested and affected parties (I&Ps) informed of the proposed exploration activities through the implementation of forums for open communication and constructive dialogue.
- Conserving soil resources by means of stripping, stockpiling and managing topsoil where practicably possible.
- Minimizing potential for dust emissions through the implementation of dust control measures and selective test quarrying (e.g., avoiding zones of weak rock associated with high dust generation potential, etc).
- Minimizing the potential for noise and vibration disturbance in surrounding areas.
- Undertaking rehabilitation to the extent practical during the prospecting period.
- Suggesting best practice control methods to minimize and avoid the environmental pollution, damage and destruction associated with the operations of the project.
- Monitoring and auditing the performance of the operation in applying such controls throughout the life cycle of the project.
- Ensuring that appropriate environmental training is provided to responsible operational personnel, and
- Delegating responsibilities to different project personnel.

The EMRP is a legally binding document, whereby, the Proponent fully understands the legal and policy requirements as holder and operator of the EPL. The ESA report shoul be used to compliment and supplement the EMRP where more understanding is required. Contravention of the provisions of this EMP may face imprisonment and/or a fine as stipulated under the Environmental Management Act of 2007.

1.4 The Environmental Consultant

OMAVI Geotechnical & Geo-environmental Consultants (OMAVI) is a multi-disciplinary Geological and Environmental Management Consulting Entity, operating within the Republic of Namibia. OMAVI delivers cutting edge Environmental Assessment, Monitoring, Management Consulting Services; Geological Studies; Social Impact Assessments; Waste Management Planning; Development of Environmental Management Systems, as wells as all matters related to the management and coordination of the EIA Process.

OMAVI Geo-technical & Geo-Environmental consultants (hereinafter referred to as OMAVI) were appointed by Best Cheer Investment Namibia as independent environmental consultants to conduct the Environmental Assessment for the proposed activities and submit the required documents in support of the application for an Environmental Clearance Certificate (ECC) to the Environmental Commissioner. The EMRP is a key document required in the application of an ECC.

OMAVI believes that a balance between development and environmental protection can be achieved by considerable and strategic planning of project activities, understanding how each activity will interact with the receiving environment, and ensuring transparent engagements between all parties involved in a project.

1.5 Limitations of the Draft Environmental Management Plan (EMP)

The limitations of the Draft Environmental Management Plan (EMP) are as follows:

- This report has been compiled at a scoping level with baseline information obtained from literature review, field observations, and from scientific and indigenous knowledge and experience of the EAP and various I&APs who actively participated in the public participation process for this project. One specialist study was conducted to identify, acknowledge and assess potential impacts on the archaeological/ heritage components of the receiving environment.
- The proposed activities and site boundary /coordinates received from the proponent as well as the appropriate industry guidelines adopted are assumed to be current and valid at the time of compilation of the ESA and EMRP reports.
- This EMP has been compiled on the fundamental assumption that there will be no significant changes to the proposed project activities or the affected socio-economic and land use aspects of the environment between the time of compiling this EMP, and implementation of the proposed activities that could alter the baseline information and planned impact enhancement or mitigation measures. For any reason that the scope of works changes, the impacts will have to be reassessed and mitigation measures provided in view of that.

2 PROJECT ACTIVITIES, INPUTS AND OUTPUTS

2.1 Project Activities and Inputs

The proposed exploration activities on will largely involve the following:

- Establishment of exploration camp at a designated area within the EPL; creation of small access track roads from the district road D1914 and D1942, and also, setting up of exploration camp to selected mountain ranges and rock exposures within EPL 5393;
- Surface clearing and grubbing of boulders, vegetation and/ or top soil to access less weathered and less fractured bedrock at depth in areas where bedrock is not well exposed;
- Stripping ad stockpiling of topsoil close to where such excavations are made for latter usage in rehabilitation earthworks;

- Rotary core drilling to establish the thickness, colour consistency and fracture frequency of the targeted rock and;
- Cutting out of sample granite and marble blocks by means of butterfly blade cutting technology. This will be done to extract sizable blocks that can be cut and polished into slabs, counter tops and or tiles for deployment to target markets to test the market's demand and price.

Where results from core drilling and extraction of sizable sample blocks from butterfly cutting yield positive results (i.e., where the rock mass is found to be of good quality in terms of colour, texture, patterns and fracture frequency), such areas will be demarcated for possible mining at a later stage upon the granting of a mining license.

Contrary to the above, where exploration results suggest that the targeted rock mass is not desirable / economically viable, immediate rehabilitation of any drilled and or test quarried sites by means of butterfly cutting will be implemented to restore the conditions of those sites to acceptable levels. Rehabilitation work will predominantly entail closing off excavations, covering up the surfaces of such areas with in situ topsoil and boulders, and running rippers along access roads to those sites to loosen up the traffic compacted soils before closing such roads off.

It should be noted that immediate and continous rehabilitation will take place and should be easily achievable, as the evaluation of a rock mass quality would be performed instantly on site through visual assessment of core and sample blocks from drilling and test quarrying by the proponent's geologist. This practice will in turn make it possible for immediate and timely decisions to be made on whether a particular site or outcrop should be closed up and rehabilitated or be preserved for possible quarrying at a later stage.

The above-mentioned prospecting activities are expected to proceed for the duration of the validity period of the prospecting license (i.e. 3 years), after which a decision will be made as to whether the proponent shall proceed to mining phase or switch to complete decommissioning based on the prospecting results obtained and economic feasibility of mining. Decommission will entail the dismantling of all infrastructures, restoring landscape of all disturbed areas to acceptable levels that blend in with the surrounding environment and subsequent disbursement of seed rich topsoil over reclaimed areas to stimulate revegetation.

Machinery such as the portable drill and air compressors will be powered by a diesel engine powered generator. Diesel for the power generator and all mobile plant will be stored on site, on a 2500L to 3500L trailer mounted diesel tank. Water supply for domestic consumption and drilling plus test quarrying operations will be sourced from Usakos or Karibib, and carted to site in a water bowser by a designated contractor via existing gravel roads. Approximately 10 000L of water will be carted to site on a weekly basis during initial exploration (i.e. during the drilling phase). Once exploration gradually progresses to test quarrying, the weekly water demand is anticipated to increase to approximately 60 000L per week depending on the discontinuity and fracture frequency of the rock masses be drilled or cut, etc. This water will also be carted to site from Usakos or Karibib to support the mining activities. Some of the water used during the drilling and butterfly cutting processes will be recycled and reused for the same purpose, thereby alleviating the burden on the water supply source. A portion of the water carted to site and recovered during the recycling process will be used to load sprayers on the blade cutters for dust suppression purposes.

One (1) 5 000L storage water tank will be installed near the exploration camp for domestic water supply, and will be re-filled as and when the need arises. Another two or three 2 500L tanks will be mounted to trailers and these will be used to supply water at active drilling and or test quarrying sites.

Sizable (up to 10 m^3) blocks extracted from selected sites during test quarrying will be transported on flatbed interlink trucks to processing facilities in Karibib for further beneficiation before being dispatched to target markets to permit evaluation of the product's demand and price. In order to minimize the likelihood of unnecessary ground disturbance, intrusive exploration activities such as drilling and test quarrying will be confined to areas with outcrop or shallow bedrock exposures.

It is anticipated that between 7 and 10 people will work on the site during normal operations.

2.2 Project Outputs

The final products from the proposed prospecting program shall include the following:

- A refined site or EPL specific geological map with clearly labelled targeted rock units for prospective quarrying.
- Core recovered from exploration drill holes.
- Sizable sample dimension stone blocks for further processing to help test their market demand.
- A feasibility study memorandum stipulating viability for continuous quarrying as informed by exploration results.

3 EMRP IMPLEMENTATION AND RESPONSIBILITIES

In accordance with the EIA regulations of 2012 and best practice requirements stipulated under the Environmental Principles for Mining in Namibia (ECC, 2019), the main parties that are responsible for specific aspects of the EMRP's implementation or to who the responsibility reports are the:

- The Proponent Representative / Project Manager.
- Exploration Manager.
- Safety, Health and Environment (SHE) Officer.
- Public Relation Officer (PRO).
- Sub-Contractor(s) and Technical Consultants.
- The affected Community and Conservancies.

As the proposed activities are classed as small to medium scale, in relation to large scale exploration programs typically associated with metallic commodities, in practice, it is highly possible that these roles may be assigned and performed by one or two persons only, provided that they are qualified and have the necessary experience.

A list of specific roles and responsibilities to be fulfilled by each position is provided below.

3.1 The Proponent Representative / Project Manager

The Proponent bears the ultimate responsibility for the proposed exploration activities and is therefore responsible for the overall compliance of the project activities to the environmental laws and regulations applicable to the project. The Proponent shall appoint a Proponent's Representative (PR) / Project Manager (PM) with the following responsibilities with respect to the EMRP implementation:

- Act as the site project manager and overall implementing agent.
- Ensure that all the necessary environmental authorizations and permits have been obtained prior to and during the operations.
- Assist the exploration team in finding environmentally responsible solutions to challenges that may arise.
- The PR has the authority to issue finds for transgressions of basic conduct rules and/or contravention of the EMP.
- Reprimanding, disciplining, suspension or expulsion of contractors failing to comply or show consideration for environmental aspects related the EMP.
- Maintain open and direct lines of communication between the landowners and Proponent, as well as identified Interested and Affected Parties (I&Aps) with regards to environmental matters,

- Planning, attending and coordinating regular site meetings and inspections as may be required for the proposed exploration program,
- Formally report all environmental incidences and
- Attending meetings with relevant authorities

3.2 Environmental Inspectors

To ensure conformance with state and local regulations and ordinances, the Environmental Inspectors in the Ministry of Environment, Forestry and Tourism (MEFT) are mandated to perform the following tasks as far as this project is concerned:

- Monitor and enforce the implementation of the EMRP through regular visits and inspections of the operations.
- Inspect, record and investigate any violations, pollution sources, spills, disposals facilities and systems.
- Report violations promptly and recommend corrective actions.
- Examine validity of permits, licenses, applications and bi-annual environmental reports submitted by the proponent to ensure compliance with state and local regulations. All monitoring and rehabilitation results/ evidence will be included in the bi-annual report, and;
- Conduct inspections of the rehabilitation area and give guidance regarding rehabilitation progress.

3.3 Exploration Manager

The duties of the Exploration Manager or his nominated authority are as follows:

- Familiarize themselves with the requirements of the EMRP.
- Monitor and enforce employees and contractors' compliance with the environmental specifications and enforce adherence.
- Communicate all environmental related incidents with the environmental Inspectors and distribute internally to avoid repeats.
- Maintain a record of activities relevant to the environmental management,
- Monitoring and the enforcement of the environmental management specifications on a day-to-day basis. Any violation of the environmental specifications shall be recorded and agreed on disciplinary measures taken.
- Ensure that bi-annual environmental audits and reports have been completed and submitted to the relevant authorities.
- Facilitate the undertaking of an annual review of the EMRP and amending the document when necessary (with input from the SHE Officer).

- Maintain open and direct lines of communication between the Employer, SHE Officer, Contractors and all I&APs with regards to environmental matters.
- Stop operations at specific sites and report any archaeological/ heritage chance finds to the National Heritage Council as promptly as possible.

3.4 Safety, Health and Environmental (SHE) Officer

The SHE Officer will be obligated to carry out the following responsibilities:

- Assist the Exploration Manager in ensuring that the necessary environmental authorizations and permits have been obtained for the decommissioning and closure stage
- Planning, conducting and signing off site inductions for workers and visitors on-site.
- Organize for an independent internal audit on the implementation of and compliance to the EMRP to be carried out half way through the decommissioning and closure stage; audit reports to be submitted to the PM;
- Conduct environmental monitoring as per EMRP requirements.
- Jointly review the EMRP and recommend additions and/or changes to the EMRP document on a continuous basis with the Project Manager, landowners and appointed consultant.
- Advise the PM on the removal of person(s) and/or equipment not complying with the specifications of the EMP.
- Developing area-specific safety, health and environmental procedures for all active sites, as well as quick SHE checklists that workers and visitors/ contractors may use for conducting rapid risk assessments for specific jobs.
- Recording and reporting all SHE related incidences on site.
- Ensure availability of all relevant PPE on site.
- Attend regular site meetings as part of the decommissioning and closure stage.

3.5 Public Relation Officer (PRO)

The Public Relation Officer will be responsible for the following tasks:

- Develop public relation campaigns and media relation strategies.
- Serve as the Proponents spokesperson by facilitating communication between the local communities, landowners, authorities and other land users.
- Address inquiries from the media, local communities and other parties and manage PR issues.
- Collaborating with project personnel and maintaining project-related open communication among personnel.

- Ensuring timely communication or notices (to directly affected farmers) of any drilling and test quarrying activities scheduled to take place too close to homesteads.

3.6 Sub-Contractor(s) and Technical Consultants

Responsibilities of sub-contractors and technical consultants will include the following:

- Comply with the relevant legislation and the EMRP;
- Submission to Best Cheer Investment Namibia of the following Management Plans, Procedures and Manuals specifically related to the jobs they have been appointed for:
    - Emergency Preparedness and Response
    - Waste Management Procedures
    - Health and Safety Procedures
- Ensure adequate environmental awareness training for senior site personnel.
- Attend regular site meetings and environmental inspections.

3.7 The affected Community

Farm owners shall have the following responsibilities:

- Monitor implementation of the EMRP.
- Actively participate in stakeholder forums.
- Make use of the grievances platforms put in place by the proponent to communicate issues to the Proponent and/ or to relevant authorities.
- Report illegal compliance.
- Sanction poor performance and non-compliance where appropriate through direct engagements with the PM to rectify non-compliance issues. And if no action is taken raise such issues with the relevant competent authorities.
- Jointly resolve disputes between them and the proponent.

3.8 Archaeology: Chance Finds Procedure (CFP) Implementation Roles

Chance Finds Procedure developed by the Namibian National Heritage Council (NHC) dictates that the below personnel be assigned the following responsibilities:

3.8.1 Machine Operator

- Must exercise due caution if archaeological remains or suspects of such are found.
- Must ensure that access routes deliberately avoid zones of rich habitats, such as drainage channels, etc
- Must immediately stop any earthworks if suspect remains are discovered and immediately report to the SHE Officer and Exploration Manager.

3.8.2 Drilling and Test Quarrying Foreman

- Must secure such a site and advise Exploration Manager timeously
- Must determine safe working boundary and request inspection from the NHC

3.8.3 Archaeological Specialist from the NHC

- Must inspect, identify, provide guidance on way forward, and recover or preserve any remains.

The Proponent is responsible to ensure all personnel are trained on all the company Health, Safety and Environment (HSE) policies relevant to the site, and the various impact management measures stipulated in this report. Such training shall be provided before any activities commence on the ground. Where the capacity of the personnel is insufficient the Proponent must take up the responsibility to build capacity especially where compliance to HSE issues is lacking.

4 ENVIRONMENTAL MANAGEMENT FRAMEWORK AND ACTIONS

This chapter starts off by highlighting the statutory framework applicable to the proposed mineral prospecting life cycle in terms of permitting for certain project activities. This is followed by placing prominence on the proposed impact enhancement and mitigation measures appropriate for each activity on the receiving environment. Mitigation is the purposeful implementation of decisions or activities designed to reduce the undesirable impacts of the proposed exploration activities on affected environment.

Through the implementation of this EMRP, Best Cheer Investments Namibia, will minimize and maximize the negative and positive effects respectively, of its operations on the receiving environment directly or indirectly associated with the proposed exploration activities. This is reflected in sections 4.2 and 0 . Where impacts cannot be avoided, measures are provided to reduce or manage the significance of these impacts.

The management actions proposed herein are a ''translation'' of the impact enhancement and mitigation measures recommended in the Environmental Scoping Report.

4.1 Applicable Legislation: Authorisation (Permits and Licenses)

The constitution of Namibia encourages sustainable use of resources. Article 95 of the Constitution of Namibia indicates that the State shall actively promote and maintain the welfare of the people by adopting policies aimed at the effective utilization and maintenance of ecosystems, essential ecological processes and biological diversity of Namibia's resources.

The legal framework and obligations (legislations, policies, and guidelines) that govern the mineral prospecting and mining sector in Namibia, as far as decision-making that affect the environment are discussed within this section. At the time of compiling this report the Minerals (Mining and Prospecting) Act of 1992 was being amended.

Table 4-1 below summarises Acts and Policies that ensure that a relatively high level of environmental protection is called for in respect of pollution control, waste management, public participation in decision-making that affects the environment, the precautionary principle and the principle of preventative action, the principle of 'the polluter pays' and the constitutional principles that promote sustainable development in Namibia.

Table 4-1. Applicable legislations in terms of permitting requirements for the proposed activities

Legislation	Relevance to Project	Contact Details for obtaining Permits
Environmental Management Act 2007 Environmental Impact Assessment (EIA) Regulations (EIAR) (GG No. 4878)	Activities listed in Government Notice (GN) No. 29 of GG No. 4878 require an Environmental Clearance Certificate (ECC). The amendment, transfer, or renewal of the ECC (EMA S39-42; EIAR Regs19 & 20). Amendments to this EMP will require an amendment to the terms and conditions of the ECC. Bi-annual environmental monitoring and audit reports shall be submitted to MEFT. **The ECC needs to be renewed every 3 years.**	**Mr Timoteus Mufeti (Ministry of Environment, Forestry and Tourism's Department of Environmental Affairs and Forestry (DEAF)** **Tel: (061) 284 2739**
The Water Act 54 of 1956 The Water Resources Management Act No. 11 of 2013 (unpromulgated)	The Water Act 54 of 1956 was formulated to consolidate and amend the laws relating to the control, conservation and use of water for domestic, agricultural, urban and industrial purposes; to make provision for the control, in certain respects, of the use of sea water for certain purposes; for the control of certain activities on or in water in certain areas. **Provision of water from Karibib for industrial use may require a water use permit from the Department of Water Affairs (DWA): Directorate of Water Resources Management. The Act also includes aspects such as the prevention of water pollution, protection of water resources, and efficient use of water**	**Mr Franciskus Witbooi (Deputy Director: Water Policy and Water Law Administration.** **Tel: (061) 208 7158**
Mineral Prospecting & Mining Act (Act No. 33 of 1992)	Section 38 (1): Applications for renewal of registration of EPLs. The Proponent should ensure that all the necessary permits/authorisations/ contracts (e.g. EPL license, Environmental Contract and Pro-forma Forms, etc) for activities to be conducted on the EPL are obtained from the Ministry of Mines & Energy (MME)'s Mine Directorate.	**Mr Erasmus Shivolo (Mining Commissioner)** **Tel: 061 284 8167** **E:** Erasmus.Shivolo@mme.gov.na

Legislation	Relevance to Project	Contact Details for obtaining Permits
	Section 48 of this Act stipulates that an EMP is one of the conditions of prospecting license and that a license holder shall apply "good mining practices". Section 54(2): details provisions pertaining to the decommissioning or abandonment of a mine / explored sites because of related activities.	
Road Traffic and Transport Act 52 of 1999 and its 2001 Regulations	Provides for the control of traffic on public roads and the regulations pertaining to road transport, including the licensing of vehicles and drivers. **The transportation of sample blocks from the EPL site to processing factories in Karibib and Walvis Bay shall be undertaken in such a manner that traffic loads do not exceed those stipulated under the relevant regulations of the Namibian Roads Authority.**	**Mr Elina Lumbu (Roads Authority – Specialist Road Legislation)** **Tel.: (061) 284 7027**
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)	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". If there is fuel stored or is intended to be stored on site, the relevant petroleum products storage licenses/permits should be applied for from the Petroleum Affairs at the Ministry of Mines and Energy. A temporary permit for the storage of petroleum products should be applied for at the Ministry of Mines and Energy	**Carlo Mcleod (Ministry of Mines and Energy: Acting Director – Petroleum Affairs** **Tel.: (061) 284 8291** **E: Carlo.McLeod@mme.gov.na** **OR** **Mr. Tupa Iyambo (Chief Petroleum Inspector)** **Tel: 061 284 8300** **Email:** **Tupa.Iyambo@mme.gov.na**
Forestry Act (No. 12 of 2001)	Permits are required for the removal of protected plants species. **In the case of any protected species found on the EPL 5393, a permit should be applied for the removal of such flora.**	**The nearest Forestry and Wildlife conservation Office (Ministry of Environment, Forestry and Tourism)** **The Director:** **Tel: (061) 284 2518**
Nature Conservation Ordinance No. 4 of 1975 (as amended)	Permits are required for the removal of protected plants species. **In the case of any protected species found on the EPL 5393, a permit should be applied for the removal of such flora.**	
National Heritage Act (Act No. 27 of 2004)	The Act makes provision for the protection and conservation of places and objects of heritage significance and the registration of such places and objects. Part V Section 46 of the Act prohibits removal, damage, alteration or excavation of heritage sites or remains, while Section 48 sets out the procedure for	**Mrs. Erica Ndalikokule (Director) – National Heritage Council of Namibia** **Tel:(061) 301 903**

Legislation	Relevance to Project	Contact Details for obtaining Permits
	application and granting of permits such as might be required in the event of damage to a protected site occurring as an inevitable result of development. Part VI Section 55 Paragraphs 3 and 4 require that any person who discovers an archaeological site should notify the National Heritage Council. Section 51 (3) sets out the requirements for impact assessment. The archaeological and heritage study did not find any high-risk heritage aspects with a potential to be disturbed by the exploration activities (**Appendix D**). It is recommended that **a buffer of 50 meters** on all the sites observed within the project area.	
Labour Act 11 of 2007Health and Safety Regulations (HSR) GN 156/1997 (GG 1617).	The Labour Act, Act 6 of 1992 came into operation in 1992, and a comprehensive set of legal rules covering the health and safety of employees at work came into operations in 1997. On the 31st of December 2007, the new Labour Act, Act 11 of 2007, was promulgated in Namibia and came into operation on the 1st of November 2008. The regulations of 1997 remain valid. The Labour Act, Act 11 of 2007 deals with the redundancy of human resources and sets out the procedures to be followed in the event of dismissals for operational reasons or retrenchment, as well as requirements for severance payments and other benefits. These aspects apply also in the case of mine closure. The project proponent must adhere to all applicable provisions of the Labour Act and the Health and Safety regulations in terms of employee benefits, occupational health and safety, dispute resolution measures, retrenchments and employee benefits, etc.	**No permit is required, but adherence to the Act's Relevant Regulations is mandatory on the part of the project proponent to avoid labour protests, ensure good working relationships and legal actions related to labour issues.**
Usakos Town Council: Solid and Hazardous Waste Management Regulations: Local Authorities 1992	The Waste Management Regulations of Usakos Town Council should be adopted. The Proponent should familiarize themselves with the specific Karibib Town Council Regulations with regards to managing waste (both solid and liquid) on the project sites and where to dispose it. This will also entail the process to apply for permission to dispose of waste on designated landfill/waste sites within the nearest municipality	**Environmental Health Department, Usakos Town Council** **P.O. Box 67, Usakos, Namibia** **Tel:** **+264 64 530 023**

Legislation	Relevance to Project	Contact Details for obtaining Permits
Biodiversity Related Legislation	The Convention on Biological Diversity aims to pursue the conservation of biological diversity and the sustainable use of its components. Namibia signed the treaty on biological diversity in 1992 and ratified it in 1997. The convention deals with key aspects such as the protection of sensitive habitats; the maintenance of species and ecological processes, such as surface hydrology and groundwater movement; the prevention of secondary impacts and unnecessary collateral damage; monitoring; the avoidance of adverse impacts on biodiversity, wherever possible; and rehabilitation where avoidance is not possible. Plant species are protected by various mechanisms in Namibia, including the Nature Conservation Ordinance No. 4 of 1975 and the Nature Conservation amendment Act (Act 5 of 1996). The Nature Conservation Ordinance No. 4 of 1975, as amended, provides for the declaration of protected areas and for the specific protection of scheduled species where they occur. A permit from the MET is required for the removal or destruction of protected species. Species and numbers/quantities involved need to be specified. The conservation of terrestrial birds and animals in Namibia is also governed by this legislation.	**The nearest Forestry and Wildlife conservation Office (Ministry of Environment, Forestry and Tourism)** **The Director:** **Tel: (061) 284 2518**
Health and safety: Public Health Act (No. 36 of 1919)	Section 119 states that "no person shall cause a nance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nance or other condition liable to be injurious or dangerous to health." This therefore requires the proponent to ensure that any possible nance in the form of noise, dust levels, visual impacts are limited to acceptable levels as provided for under the relevant regulations of this Act	The Proponents and all its employees should ensure compliance with the provisions of these legal instruments. **No permit or license required, but adherence to the Act's Relevant Regulations is highly recommended.** **Relevant contact Details to ensure compliance:** **- Ms. Aune Mudjanima** **(Director for Labour Inspectorate)** **Tel: 061 206 6111** **- Ms. Petrina Ndhidengwa**

Legislation	Relevance to Project	Contact Details for obtaining Permits
		(Deputy Director for Occupational Safety and Health) **Tel: 061 206 6111**
Other relevant legislature which may be considered and adopted to ensure compliance to best practice include: • Drainage Regulations of Windhoek Municipal Council (Sewerage and Drainage Regulations published under General Notice No. 312 of 11 November 2010) • Noise Control Regulations of Windhoek Municipal Council (General Notice No. 77 of 30 March 2006).		

4.2 Impact Enhancement/ Mitigation Actions AND Monitoring

The impact management actions are provided hereunder in Table 4-2. An overlap of impacts between the operational and decommissioning stage of the project has been considered, however, the impacts have not been separated to distingh various phases of the project. The impact management actions in Table 4-2 outline the following aspects:

- Environmental aspects impacted and the potential impacts for which management actions are required;
- Proposed impact enhancement/ mitigation measures;
- Key performance indicators for monitoring success levels of management actions;
- Responsible person(s) for implementing the proposed management actions;
- Resources required for implementing management actions and monitoring and;
- Implementation timeframes for the proposed management actions.

Table 4-2. Management Actions for the Operational and Decommissioning Phases of the Project

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
ADVERSE IMPACTS						
Test quarry wall instability	-Slope instability in open pits as a result of test quarrying after heavy rains	-visual slope stability assessment of test quarry walls by a suitably qualified engineering geologist or geotechnical engineer on a regular (say upon opening of any quarry) for all test pits or quarries deeper than 5 m to assess stability of quarry slopes or walls, and recommend stabilization measures where necessary	- frequency of jointing, discontinuities, dip direction and filling of prominent fractures in the rock mass - Assess if the fractures daylight into cutting -Assess likely indications of slope failure: slumping, gullying, rockfall etc.	-Proponents Representative / Project Manager (holds overall responsibility) -Geotechnical Engineer/ Geotechnical Consultant (2nd in charge)	Technical Staff (Geotechnical Engineer)	As soon as any test pit or quarry deeper than 5 m has been opened, or and as and when signs of ground instability are detected/ observed
Soils	-Destruction of soil structure through excavation and traffic – induced compaction -Accelerated soil Erosion on access tracks, cleared areas, top soil stockpiles either due to removal of vegetation cover or loosened soil structure	-Top soil overburden should be stockpiled in designated areas during development of exploration camp as well as during test quarrying to avoid uncontrolled erosion and mixing with unfertile subsoils -Use subsoils to backfill worked areas, and place fertile topsoil as cover on top -Minimize disturbed footprint as much as practically possible at any given time by targeting sites with exposed bedrock or sites with little soil cover -Avoid creation of new tracks to minimize soil compaction as much as possible. All	-Record any evidence of new traffic tracks outside of designated access and haul roads by means of photographs -Record evidence of new erosion gullies (photographs) -Record evidence of soil contamination	-Health and Safety Officer -Hired soil scientist	-Technical Staff (Soil Conservation Scientist to offer training and monitor depth profiles as well as contamination levels)	-Throughout the operational phase -Once every 6 months for monitoring depth of soil profile and contamination levels in areas of high runoff and areas of active exploration

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
	-Soil Contamination and Pollution	traffic should stick to access roads provided and or meant for the project operations -Scoop up polluted or contaminated soils and transport them to designated landfills or waste sites in Karibib or Uis. -Enforce punishment for non-compliance in the form of disciplinary hearing -Soil conservation training to staff and contractors during inductions	-Bi-annual site wide evaluation on the effectiveness of erosion control efforts including erosion control structures - Monitor depth of soil profile and contamination levels every 6 months in areas on runoff, as well as near drill and test quarrying sites			
Land Use	-Changes in land use due to creation of test quarries and erection of exploration camp infrastructure - Conflicts between exploration activities, small stock farming and biodiversity conservation Possible conflict with small scale miners in the area	-Compensate affected farmers for lost agricultural/ grazing land during to temporary fencing, and if footprint is significant - Close up all test quarries and drillholes in areas where prospecting results are unsuccessful to minimize risk of unwanted trapping of animals or animal fatalities - At sites envisaged for continuous quarrying fence test quarries off to avoid unwanted trapping of animals or animal fatalities	-Affected farmers effectively communicated with on any pits or sites of danger (e.g. sites of active drilling and test quarrying) - Farmers or the communal conservancies effectively and timeously compensated for any animal fatalities arising	-Site Project Manager (holds overall responsibility) -PRO (2nd in charge)	-Funds or Equity to compensate affected farmers and communal conservancies, and to acquire fencing material -Labour force to temporarily fence off sites	-Compensation can be once off or throughout the life of the operation -Fencing to be completed soon as a decision on the suitability of the rock mass for continuous quarrying has been made

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
		-Compensate farmers or the communal conservancies for any animal fatalities induced by exploration activities -Maintain a clearance buffer to any sensitive sites of conservation, farming, residence and small scale mining importance	from prospecting activities -Sites envisaged for continuous quarrying temporarily fenced off			
Topography and Landscape	-Changes in topography and landscape due to test quarrying	-Test quarrying must be spatially constrained to small footprints so as not to create massive openings in the ground -Backfill and landscape test quarries not meant for continuous quarrying -Minimize disturbed footprint at any given time by limiting cleared or stripped sites to those where drilling and test quarrying shall take place -Have designated stockpile areas for top soils and overburden. Preferably such sites should be concealed from highly active roads	-Annual site wide evaluation on the effectiveness of rehabilitation of test quarry and drilling sites, spoil areas, stockpile areas; and the spatial extent of cleared ground at sites of active exploration. - Recommended that at any given time cleared ground at active prospecting sites must NOT extent beyond 20 to 30m from the edge of the test quarry footprint.	-Proponents Representative / Project Manager (holds overall responsibility) -SHE Officer (2nd in charge)	-Funds for ongoing site reclamation and rehabilitation -Earthmoving plant to backfill worked areas; spread topsoil over worked areas; and grade rehabilitated areas to acceptable natural slopes	-Ongoing throughout the operational phase

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
		-Maintain one access road to and from each test quarry or drill site				
Vegetation and Habitats	-Removal of vegetation during site clearing, drilling and test quarrying -Destruction of vegetation/ habitats by uncontrolled veld fires, excessive dust and illegal firewood collection - Potential introduction of alien plant species due to increased flow of external traffic in the area - Possible hindrance of plant growth due to compacted soils, dust cover on plants , etc	-Minimize disturbed footprint as much as practical at any given time -Before clearing each site hire an independent botanist to inspect the area for any protected plant species. If any identified, obtain removal permits from the Directorate of Forestry prior to removal -No smoking should be allowed near refuelling depots or any other area where fuel , oil are used or stored -Restrict movement of vehicle and machinery to existing roads and tracks to prevent unnecessary damage to vegetation -No onsite vegetation should be cut or used for firewood related to the project's operations. The Proponent should provide firewood for onsite camping workers from authorized firewood producer or sellers	-Keep record of names and photographs of all protected plant species identified by independent biodiversity specialist prior to clearing any site -Monitor the following parameters for all rehabilitated areas: % vegetative cover/ density; vertical structure of vegetation; plant health; richness and abundance of indicator species; type and extent of erosion; presence and extent of invasive alien plants -Record all illegal activities related to destruction of	-Site Proejct Manager (holds overall responsibility) -SHE Officer -Local community and Contractors	-Funds for flora restoration program -Technical Consultants to help with monitoring restoration progress and implementation of flora restoration plan	-Ongoing throughout the operation

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
		-Draft a vegetation restoration plan -Encroacher bush cut during site development may be stockpiled and sold to local charcoal or firewood producers -Minimize dust cover on vegetation proximal to drilling sites by fitting dust filters onto the drill rigs -Rip traffic compacted ground after exploration to encourage flora growth - Avoid unnecessary affecting areas viewed as important habitat – i.e. Ephemeral River and its network of tributaries of ephemeral rivers; clumps of protected tree species - Where tracks have to be made to potential exploration sites off the main routes, the routes should be selected causing minimal damage to the environment – e.g. use the same tracks; cross drainage lines at right angles; avoid placing tracks within and along drainage lines; avoid collateral damage (i.e. select routes that do not require the unnecessary	vegetation such as illegal cutting of trees			

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
		removal of trees/shrubs, especially protected species) - Avoid development and associated infrastructure in sensitive areas – e.g. Ephemeral River, in/close to drainage lines, cliffs, boulder and rocky outcrops in the area, etc. This would minimise the negative effect on the local environment especially unique features serving as habitat to various species				
Waste Management	-Solid waste pollution due to littering, cut vegetation, and storage of domestic and industrial (scrap metal; empty containers; used tyres, oils, grease and mechanical spares) waste on site -Solid waste pollution due to stockpiling of waste rock, cleared vegetation -Waste pollution due to usage and storage of	-A site specific Solid Waste Management procedure should be drafted during site development and updated as the site developed and as drilling and test quarrying progresses -A record of all types of waste generated and disposed from site is to be kept on site -All industrial solid waste should either be disposed off at designated waste disposal sites in Karibib, or be sold off to used equipment dealers, or simply given away. The necessary permits should be obtained where neccessary. All industrial waste should be stored in secure fenced off areas	-Site wide evaluation of the general condition of all waste storage sites must be conducted as part of the bi-annual environmental audits -A register of all waste generated on site is kept on site -All waste disposal permits from relevant authorities are available on site	-SHE Officer	-Funds to acquire waste storage bins/ drums; and transport all waste from the site -Funds to hire an independent environmental consultant to conduct bi-annual environmental audits	Ongoing throughout the exploration phase

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
	reagents, fuels and lubricants on site	-Used tyres may be painted and used to mark the edges of roads, bends and accidental blind spots -Waste separation at source will be enforced by availing clearly labelled or differently coloured general waste (paper, plastic, organic waste) rubbish bins at all working areas. These must be emptied fortnightly at the nearest registered waste dumping site -All hazardous waste such as oil drums and grease should be stored in secure fenced off and sealed drums. Such areas must also have a concrete floor for spillage containment purposes. Used oils and grease must sold or donated to recycling companies -Poor quality waste rock is to be stockpiled in designated areas away from runoff pathways, and must be used as backfill during rehabilitation -Ensure that sewage from portable sanitation facilities complies with the				

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
		relevant sewage management regulations highlighted in section 4.1				
Indigenous Fauna	-Forced migration of fauna due to physical disturbance/ destruction of habitats, increased noise levels and increased dust in the area -Impended free movement of fauna due to physical obstructions (fences, test quarries, camp, etc) -Threats to wildlife from illegal hunting, possible poaching and poisoning from consumption of drilling fluids or oils -Threats to animal life due to risk of collisions with vehicles	-Minimize impact on animal migration by not fencing off large areas -Minimize animal fatalities from collisions with vehicles by limiting speed limits to 50 km/hr -Site personnel shall refrain from killing/poaching or snaring or intentionally disturbing local animals that may be found on and around the working areas. -Personnel are not allowed to kill or in any way disturb local livestock -All wild animals found to be causing trouble at the working areas are to be reported to the relevant directorate at the MEFT, and shall only be removed from site by authorized personnel from such directorates -Limit exposure of reptiles and birds to toxic substances such as oils by ensuring these are stored in sealed containers, and fencing off such storage areas	-Keep records of all illegal hunting activities; vehicle-animal collision incidences; animal poisoning through consumption of hazardous substances -Record all incidences of animal fatalities arising from prospecting activities (e.g. collisions, trapping in fences or open test quarries, etc) -Do animal counts at strategic locations within the EPL area every 6 months as part of the bi-annual environmental audit	-SHE Officer	-Funds to hire an independent environmental consultant to conduct bi-annual environmental audits -Funds to fence off storage areas	Ongoing throughout the prospecting phase

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
Air Quality	-Dust generated from drilling, stripping and test quarrying operations, and traffic flow on access roads -Increased emissions of toxic gases from increased traffic flow in the area and other machinery such as diesel generators	-Apply a thin layer of crushed aggregates as cover on prominent access roads nearn farm houses to minimize dust generation -Locate stockpiles not in the predominant wind direction of homesteads - Cover vehicles carrying dusty overburden materials to prevent materials being blown from the vehicles -Set speed limits to 50 km/hr to minimize the creation of fugitive dust within the project boundary -Limit vehicle idling and keep vehicles well maintained to minimize particulate and gaseous emissions -All drill rigs to be used must be fitted with dust capture or filters -Reduction in unnecessary traffic volumes; -Use of wet suppression during cutting operations at test quarrying sites -All personnel onsite to wear appropriate PPE	-Monthly dust level monitoring by installing dust fall-out down-wind from prominent access roads, at farm houses and selected test quarrying sites -Continuous monitoring for ambient dust/ particulate (PM10 and PM2.5) -All employees must do a mandatory health check every 6 months to monitor impact on their respiratory systems	-SHE Officer	-Funds to implement the dust and air quality monitoring program, including the bi-annual personnel health checks -Technical Specialists (Air quality)	Ongoing throughout the exploration phase

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
Noise	-Increased nance due to increased noise from drilling, excavation works, test quarrying work, and movement of plant -Increased noise due to increase number of people in the area	- During the operational phase, when noise levels are anticipated to be less variable, the frequency of monitoring will be reduced to annual surveys, with spot-checks of 1 hour's duration during the daytime and night-time at receptors conducted monthly. Additional 24-hour surveys will be conducted should noise complaints be received - A communications plan will be enacted to communicate the results of the monitoring to nearby residents and to record and investigate any noise complaints. -Limit all drilling and test quarrying operations to day time	- Measured levels will be recorded in a log and checked for compliance with the evaluation criteria stipulated under appropriate standards such as SABS or BS 5228	- SHE Officer	-Funds to implement the noise monitoring program, including purchasing of simple equipment -Technical Specialists (noise and ground vibrations)	Ongoing throughout the exploration phase

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
Surface Water Resources	-Pollution of surface water resources through hydrocarbon spillages in runoff areas and contamination of small streams in the area as a result of contact with drilling fluids or inadequate sanitation facilities resulting in reduced water quality -Poor recovery and recycling of water from drilling and test quarrying operations can put pressure on the external water source -Creation of test quarries in or near river streams may impend flow until such depressions are filled, thereby negatively impacting downstream water supply	- The prospecting program activities shall be designed such that test quarrying operations do not encroach on any significant watercourses traversing the project site. Buffers of 200m shall be maintained around main surface water courses, and if the project proceeds to mining phase such buffers must be delineated more accurately using the predicted extent of the 1% annual exceedance probability (i.e., the 1 in 100-year) flood event. - Maximise the recycling and reuse of external water during drilling and test quarrying operations. This will minimise water demand from the external sources -Install and maintain efficient oil and grease traps or sumps at refuelling areas, and making emergency spill scoops readily available -Attenuate surface runoff by using on-site storage and water management infrastructure (e.g. storage sumps, low	-Implement quarterly surface water quality monitoring. Target levels to comply with the threshold values stipulated for Article 21 Permit from the Ministry of Agriculture, Water and Land Reform. This will primarily involve monitoring of pH, EC and turbidity	- SHE Officer -Contractor (water supply contractor)	-Funds to implement the water quality monitoring program -Technical Specialists to delineate buffers (Water Specialist)	Ongoing throughout the exploration phase

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
		gradient ditches, clean water diversion ditches) -Store effluent waste water in designated septic tanks at the exploration site and regularly drain this by hiring a registered waste water management entity -Install adequate toilets fitted with well-sealed septic tanks at the exploration camp - Apply erosion controls such avoiding leaving open excavations in streams and river beds to minimize sediment runoff				
Groundwater Resources and use	-Pollution of groundwater resources from seepage of drilling fluids, contact water from test quarries, un-procedural discharge of waste water, and contamination by entrance of external substances through unsealed drill holes	-Due to the shallow nature (<30 m) of the planned drilling and test quarrying activities, it is highly unlikely that any groundwater will be intercepted during. Hence the impacts on groundwater resources are perceived to be low. -Seal off unused boreholes Monitor water quality at existing community boreholes over a 1 year period and	-Implement quarterly groundwater water quality monitoring program at existing community boreholes focusing on the following parameters: pH, and electrical conductivity. Compare water quality values with baseline values	- SHE Officer	-Funds to implement the monitoring program -Technical Specialists (Hydrogeologist)	Ongoing throughout the exploration phase

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
		establish any adverse changes in water quality	established at start of exploration drilling and test quarrying.			
Occupational Health and Safety	-Short to Long-term safety risks which could result in disabilities or fatalities -Short to Long-term health effects from dust and noise -Increased risk of HIV/ AIDS infections to vulnerable women and children due to influx of people to the area	-Proponent must avail adequate and appropriate PPE to all workers and visitors. All active/ working sites should have adequate first aid kits as well as first aid trained personnel -Resources (both human and financial) are provided for the Environmental Awareness and Training, Regular Safety, Health and Environment meetings - Awareness on HIV/AIDS among workers and community members is raised -Timeously recording and reporting of all health and safety incidences, and promptly take necessary actions	-Annual health screening of workers -Bi-annual health and safety audits done	-Production Site Manager (holds overall responsibility) -Contractors - Community Members -SHE Officer	-Funds to acquire PPE, health and safety monitoring equipment; and to pay for employee medical services -First Aid training for at least 2 personnel at each active site	Ongoing throughout the exploration phase

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
		-A risk assessment must be performed and documented prior to commencement of any drilling, rock cutting, or lifting operation and signed off by the site foreman and SHE Officer -Develop an MOU with Healthcare Centres in Karibib or Usakos for regular medical check-up of workers -Enforcement of speed limits and sanctions for any personnel found in violation of speed limits, including senior staff and contractors' and sub-contractors' employees -Appropriate signalling of moving heavy machinery in the form of flashing lights and reverse sounding alarm -All drivers to be given safety inductions and awareness training focussing on speed and conflicts between pedestrians and animals, dust and gaseous emissions				

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
		-Proper screening of appointed security personnel to ensure they are not compromised - As per the Labour Act (Act 6 of 1992) and SABS 10083 (2004) workers will need to be protected against dust and noise in the work place. SABS 10083 (2004) requires that noise levels in the work place (as defined and measured in accordance with that standard) should not exceed 70 to 85 dBA. If this limit is reached, then a noise zone must be declared. A noise zone has special requirements for protective equipment and for training of exposed personnel. - Dust will be released into the air at test quarrying, soil stockpile sites and access roads. SABS 1929 (2005) provides the following standards for PM10 particulate matter - Used tyres that may be generated on site, that could contain pooled water and act as breeding ground for mosquitos, will be				

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
		transported to designated waste disposal sites in Karibib regularly - Implement a no-tolerance policy regarding the use of alcohol and workers should submit to a breathalyser test upon reporting for duty				
Farm Security	-Security threats to farmers due to increased farm access and possible influx of unemployed people to the area -Security threats to Best Cheer Investment Namibia personnel due to the isolated locality of the exploration camp	-The proponent will work with the farmers to develop and implement a neighbourhood watch regime -Install solar powered flood lighting at the exploration camp to ensure high visibility during the night -Keep a dog at the exploration site for security reasons	-Record and report (timeously) nature of all theft, security threat injury related incidences - Have a complaints log which is accessible to community members, and must be reviewed monthly by the PM and SHE Officer, and the pertinent issues logged and monitored	-Proponents Representative / Project Manager (holds overall responsibility) -SHE officer - Community members - Site Foreman	-Funds to procure security services and security equipment such as flood lights	Ongoing throughout the exploration phase

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
Visual Damage	-Adverse visual impact caused by lighting at night -Degradation in natural aesthetic value from close range due to presence of open test quarries, containers, overburden stockpiles, and earth moving machinery	-Progressively rehabilitate test quarries where poor quality rock is encountered. Rehabilitation must include restoration n of surrounding grassland and bushland -Lighting from flood lights at the exploration camp must be focussed around this site only so as not to cause lighting pollution at night	-	-Site Foreman	-	-
Heritage/ Archaeology	-Possible destruction of unforeseen heritage/ religious/ cultural/archaeological sites -Dust caused by stripping and overburden removal may settle on rock arts, and potential conceal such rock arts; thereby making them highly susceptible to destruction	-All known heritage/ cultural/ archaeological sites must be marked out by the proponent and shown to all throse involved prior to commencement of works; and ultimately be protected and preserved - Prior to stripping the site foreman must conduct a visual inspection of the site for any features of archaeological/ heritage/ religious importance. - Encourage and avail resources for Site foremen and Exploration Manager to	-Records of all archaeological/ heritage/ religious sites or features identified	- Proponents Representative / Project Manager (holds overall responsibility) -Site foreman -PRO -Community Members	-Technical Specialists (Historian/ Archaeologist)	Ongoing throughout the exploration phase

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
	- Possible alteration or disturbance of heritage resources detected outside the EPL area such as the old post office buildings, old railway line, etc during the construction of access tracks to the license area	attend any trainings on the recognition of archaeological/ heritage features in the field - Access routes should maintain a 1 km buffer from any archaeologically sensitive sites -Apply the chance find procedure documented above to any sites found by chance				
Poaching of Wildlife	Illegal hunting of wildlife (poaching) by exploration workers	-Prohibition of hunting / taunting and engaging of wildlife around project site. -Site personnel should refrain from killing/poaching or snaring or intentionally disturbing local animals that may be found on and around the exploration site. -Personnel are not allowed to kill or disturb local livestock.	-Report any project personnel found to be poaching wildlife in the area to the nearest Police Station or Ant-Poaching Unit.	-Proponents Representative / Project Manager (holds overall responsibility) -PRO -Site foreman	-	Ongoing throughout the exploration phase
Public Disputes/ Grievances	-Risk of compromised relationships between Project owners, the affected communities and leadership of the	-Have a complaints logbook. Monitor community grievances, take necessary actions and provide feedback to complainants	- Monitor community grievances and provide feedback on a monthly basis	-Proponents Representative / Project Manager	-	Ongoing throughout the exploration phase

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
	Best Cheer due to the Proponents non-compliance to recommended environmental practices as set out in the EMP, littering or any other prohibited activities	- If exploration yields successful results a Community Development Plan must be developed jointly by Investment, the TA, affected community and the communal conservancies - Exploration camp if required should be established in close consultation with the land owners	- Conduct community perception surveys annually. This must include questions in relation to local perception of the proponent's performance in environmental and social management as well as effectiveness of the proponent's communication channels	(holds overall responsibility) -PRO -Site foreman		
POSITIVE IMPACTS						
Stringent implementation of the EMRP	-Strick and deliberate implementation of the EMRP will ensure that preventative and proactive environmental management measures are implemented	- Conditions set out in the EMRP are included in all tender specifications for goods and services that need to be procured - Senior staff and senior contractors are aware of, and practice the EMRP	- Conduct bi-annual environmental audits to evaluate extent of implementation and compliance to the EMRP, and adopt corrective measures for aspects in the	- Proponents Representative / Project Manager -SHE Officer -PRO -Contractors	-Resources (financial and independent consultants/ auditors) to implement enhancement measures	Throughout the exploration phase

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
	-Will help establish an independent and skilled human resource base within the affected communities on aspects of prospecting for good quality rocks, and monitoring and channels to enforce compliance to environmental regulations on their farms	requirements, thereby giving a positive example to everyone else -Give recognition to environmentally acceptable behaviour -Conduct bi-annual environmental audits to facilitate ease of ECC renewal	EMRP which could not be fully implemented			
Biophysical and physiographical environment	- Improvement in regulatory measures and their implementation thereof – regulatory measures will help offset adverse impacts, for instance, by restricting activities allowed in sensitive areas (e.g. near river channels where habitats are expected to be more diverse). Such restrictions can also help protect over exploitation of natural resources such as	- Collective establishment of operational buffers by the affected communities/ conservancies and the proponent to set and maintain specific operating buffer distances to sensitive areas within the EPL boundaries (e.g. drainage channels, archaeological/ heritage sites, etc.) - Stringent enforcement of such buffers by Environmental Inspectors	- As part of the bi-annual environmental audits evaluate whether such buffers have been maintained	- Exploration Manager -PRO - SHE Officer - Environmental Inspectors - Leadership of affected communities/ conservancies	- Human resources to jointly establish and demarcate the boundaries of such operational buffers before commencement of operations	- Throughout the exploration phase

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
	water, wood and animals by, for instance, prohibiting hunting and collection of firewood					
Employment and technical skills transfer	-Long term Employment opportunities with associated improvement in livelihoods for youth from Karibib and Usakos areas, especially if the economic prospects are found -Transfer of administrative and technical skills	-Regular and accessible (transparent) dissemination of the human resources and employment policy to affected communities -Encourage complaints of inequality and discrimination in job, and then self-correct -The employment of local residents and local companies should be a priority.	-For every key job occupied by a foreign national evaluate skills learned by local under-study at the end of each production year - Job seekers must submit proof of having lived in the area for a minimum of 3 years	-Site Project Manager (holds overall responsibility) -SHE Officer - Contractors - Community members	-Avail human resources and time to provide on the job training	Ongoing throughout the project duration
Local Empowerment and Procurement Opportunities	- Empowerment of Previously Disadvantaged Persons through procurement of services to local contractors -Opportunities for local companies to procure support services such as	-Procure support services (cleaning, cooking, machinery maintenance, security and product transportation services from local previously disadvantaged contractors) -Stipulate a preference for local contractors in its tender policy. Preference to local contractors should still be based on competitive business principles and salaries	-On an annual basis review contracts awarded for support services to assess number of local previously disadvantaged contractors who benefited from such a process	-Proponents Representative / Project Manager -Exploration manager (holds overall responsibility) -PRO Officer	-	Ongoing throughout the project

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
	cleaning, permitting, cooking, security services, plant hire, and supply of mechanical spares	and payment to local service providers should still be competitive - Develop a database of local businesses that qualify as potential service providers and invite them to the tender process - Stipulate that local residents should be employed for temporary unskilled/skilled and where possible in permanent unskilled/skilled positions as they would reinvest in the local economy - Must ensure that contractors adhere to Namibian Affirmative Action, Labour and Social Security, Health and Safety laws. This could be accomplished with a contractual requirement stipulating that monthly proof should be submitted indicating payment of minimum wages to workers, against their ID numbers, payment of social security and submission of affirmative action data		-Affected community		
Financial benefits to jurisdiction authorities	-Financial benefits to the private farmers in the form of surface lease fees	-Ensure that affected TAs are reasonably compensated either in cash or through equities or through surface rentals	-Evaluate mode and magnitude of compensation during the bi-annual environmental audits	-Exploration Manager (holds overall responsibility) -PRO	-Funds for compensation	Once off or ongoing (on monthly basis) throughout the project duration

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
				- Leadership of affected communities		
Awareness raising and environmental education	-Through the inclusive implementation of the EMP the proposed exploration project has the potential to increase public appreciation of environment and sustainable development and to spread awareness of environmental protection and opportunities by bringing people into closer contact with environmental conservatisms and inspectors.	- The proponent shall incorporate the principles and practices of sustainable development from the project onset by including cleaner production techniques focused at minimizes environmental impacts during the project life cycle - The proponent shall provide environmental information and awareness raising among workers, local community and visitors to the operation of the environmental consequences of their actions during the project life cycle - The development of the proposed project will help in raising local awareness of the financial value of natural and cultural resources and can stimulate interest (among local communities) to become more and more involved in mineral resource prospecting	- Evaluate evidence of environmental protection training and awareness activities during bi-annual environmental audits	- Exploration Manager - PRO - SHE Officer - Contractors/ Technical Consultants - Leadership of affected conservancies	- Funds to conduct trainings and awareness raising	Ongoing throughout the project
Revenue for Government	-Revenue collection for government through taxes and EPL License levies	-The proponent must pay all relevant taxes applicable under the constitution of the Republic of Namibia	- Evaluate payment of such taxes and levies during the bi-annual environmental audits	-Proponents Representative / Project Manager (holds overall responsibility)	-	Ongoing throughout the duration of project

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
Proactive Environmental Planning and Management	Proactive planning helps to make choices between conflicting land uses, or to find ways to make them compatible. By planning proactively by, for instance, linking the proposed mine development to the support of local community farming and tourism development as well as identifying and establishing linkages to potential SME business development the proposed project will have a more tangible impact in terms of environmental management, and improved quality of life of the local people	- Planning to use of environmentally friendly technologies and methods, designs and activity choices will immensely diminish pressure on natural resources. Other planning measures that could contribute to improved environmental management include: • Designing the exploration program to be labour intensive • Making use of solar for lighting • Planning for generation of different waste, thereby helping to plan proactively for waste minimization and management A complete practical Guide on Cleaner Production Strategies is Available at the Department of Environmental Affairs, Ministry of Environment, Forestry and Tourism.	- Evaluate evidence of pro-active environmental planning and management during bi-annual environmental audits	- Intellectual capacity to design and plan the exploration program with aspects of environmental protection and management in mind - Funds to implement environmentally friendly designs and methods	-Proponents Representative / Project Manager - Technical Consultants - SHE officer - Farmers - Contractors	Prior to commencement of drilling and test quarrying
EMRP implementation and associated training to ensure effective implementation	- Ensures that adverse impacts are mitigated and positive ones enhanced - Protects landowners against deterioration of their farm land and	An EMRP non-compliance penalty system should be implemented on site. The Proponent should appoint a PM, PRO and SHE Officer to manage the implementation of the EMP and monitoring program.	All required Plans and systems are compiled and in place Safety, Health and Environmental (SHE) Officer is appointed	Proponent	Records of EMP implementation Plans and Systems	Pre-exploration (project activities)

Aspect	Impact	Mitigation / Enhancement Measure(s)	Key Performance Indicator (KPI)	Responsible Party	Resources	Timeframe of management action(s)
	depletion of their land value					

4.3 Rehabilitation Measures during decommissioning

This subsection considers rehabilitation measures that should be adhered to when exploration activities have ceased or have been completed by the Project Proponent. The decommissioning techniques provided below are crucial to ensure that rehabilitation of the environment is optimized. Decommissioning and rehabilitation shall involve the following sites:

- All temporary work camps setup should be dismantled, and the area rehabilitated to as far as practical and to acceptable levels.
- Where drilling and test quarrying may be conducted but ultimately yield poor exploration results to substantiate continuous quarrying. Access roads to such sites will also have to be decommissioned and rehabilitated and the boreholes capped or backfilled with loose material.
- Sort, screen, collection and disposal of waste to the nearest solid waste disposal facility.

Table 4-3 provides management requirements for rehabilitation and decommissioning.

Table 4-3. Rehabilitation Measures for sites that may be decommissioned prior to continuous quarrying

ENVIRONMENTAL ASPECT	REHABILITATION ACTIONS	COMPLETION CRITERIA
	-All surface infrastructure areas affected by the project will be re-vegetated using local plant species. The following revegetation measures will be implemented over such sites:	- Exotic weed and alien species are not observed to be elevated in abundance when compared to the regional setting as reported by a trained independent botanist

ENVIRONMENTAL ASPECT	REHABILITATION ACTIONS	COMPLETION CRITERIA
Revegetation	Prepare surface rehabilitation areas for the natural establishment of vegetation by undertaking the following: • Rip disturbed footprint to a depth of approximately 500 mm with suitable agricultural equipment to alleviate compaction; • For areas that are heavily compacted (container platforms, access roads), rip with construction equipment to a depth of at least 1 m, and over-rip with agricultural equipment in order to create suitable conditions for vegetation establishment; spread stockpiled topsoil; and ameliorate soils as required. • Allow for natural establishment of a viable self-sustaining vegetation community, in keeping with the surrounding natural environment, or establish pioneer vegetation species as per findings of dedicated rehabilitation trials to be run from the start of the project; and • Undertake vegetation monitoring (including % recovery of vegetation) post decommissioning to quantify site restoration and rehabilitation success	-Monitoring sites are established on site (1 every 10 ha) and surrounding sites (at least four representative control sites outside the EPL). Flora species diversity in rehabilitated areas must be representative of control sites. Vegetation density of monitoring sites are at least 80% when compared to the average of the control sites.
Contaminated Soils	-Undertake a site-wide contaminated soil investigation to determine the nature and extent of contamination, the sources of contamination and to identify appropriate remediation measures: -Rehabilitate moderately to severely contaminated (inorganically contaminated) soils as follows: • Excavate contaminated material to a depth of 500 mm and remove and dispose off at the Usakos or Karibib waste dump site(s). - Rehabilitate moderately to severely contaminated (organically contaminated) soils as follows:	-Inorganically contaminated soils are safely disposed of at designated waste dump sites in Karibib or Usakos, subject to granting of relevant permits if applicable -Organically contaminated soils are effectively treated and compositions are restored to acceptable levels once compared with control sites in terms of heavy metal enrichment, hydrocarbon content, etc

ENVIRONMENTAL ASPECT	REHABILITATION ACTIONS	COMPLETION CRITERIA
	• Treat organic contamination by means of biological remediation via the establishment of a bioremediation site and monitor soil quality against a selected control site.	
Surface Infrastructure and Equipment	**Infrastructure for Potential Beneficial re-use** • Compile an inventory of infrastructure and equipment to potentially remain on site while awaiting mining license. These must be aligned to end land use plan; • Obtain legal authorisations from local authority for infrastructure and plant to remain on site while awaiting mining license and; • Relocate exploration camp equipment to final designated site within the EPL as per the results of the exploration program **Surface infrastructure to be removed** • Remove all assets/equipment that can be profitably removed for salvage or resale; • Dismantle/demolish infrastructure if project will not proceed to quarrying; • Decontaminate hazardous waste storage tanks and containers at a dedicated decontamination bay in Karibib or Usakos; • Demolish and excavate any concrete foundations for container platforms to 1 m below ground level. Alternatively and in appropriate instances the concrete slabs of "clean" infrastructure (not processing infrastructure) can be covered with a 1 m soil cover as part of site re-profiling and integrated into the surrounding topography; • Backfill excavations of disturbed test quarry footprint areas through a controlled cut to fill action;	-Formal transfer of exploration camp infrastructure and exploration/ quarrying plant off site, or to the new site that will be utilized during the active quarrying phase -Independent sign-off by a qualified engineer confirming the safe and stable condition of all transferred infrastructure -All other infrastructure decommissioned to ground level and removed from site

ENVIRONMENTAL ASPECT	REHABILITATION ACTIONS	COMPLETION CRITERIA
	• Shape and profile the disturbed surface areas to match surrounding topography and to ensure free drainage, thus limiting run-off erosion; • Stabilise disturbed areas to prevent erosion and sediment mobilisation in the short to medium term until a suitable vegetation cover has been established; • Rip disturbed footprint to a depth of approximately 500 mm with suitable equipment to alleviate compaction; and • Establish vegetation species that mimic the surrounding flora by collecting seed from pristine bush, shrub and grass land and actively spreading stockpiled top soil before the next wet season **Measures relating to support Infrastructure** • Obtain legal authorisations for infrastructure to remain and to be transferred from the local authority; • In addition Identify and donate equipment to affected communities/ conservancies that can be reused and/or recycled • Dismantle any overland pipelines and salvage; • Seal open ends of buried pipelines, drill holes and fully cover with nothing exposed **Measures relating to transport Infrastructure** • Agreements will be put in place between Best Cheer Investment Namibia cc and local farmers as well as the relevant authorities as to which of the newly created access roads must remain post decommissioning of certain areas for beneficial use by the farmers	

ENVIRONMENTAL ASPECT	REHABILITATION ACTIONS	COMPLETION CRITERIA
	-Roads that will no longer be used by local communities will be rehabilitated as follows: • Re-establish natural drainage by removing any water abstraction or diversion structures; • Profile to be free draining and emulating the natural surface topography; • Rip access roads to a depth of approximately 300 mm with suitable agricultural equipment to alleviate compaction; and • Establish vegetation species that mimic the surrounding shrub/ bushland by collecting seeds from pristine surroundings and actively planting before the wet season **Measures relating to Electrical Infrastructure** • Remove or relocate any generators and demolish any concrete bases; • Dispose off demolition waste at waste site; • Clean up contaminated soils at the generator site, as required **Measures relating to Mobile Machinery/ Vehicles** Machinery and Vehicles • Identify equipment that can be used for quarrying and/or recycled that will not be salvaged; • Remove remaining equipment offsite for sale or disposal at a nearby registered waste site; and • Clean-up contaminated soils	
Above Ground Openings (test quarries,	• Backfill test quarries where continuous quarrying will not take place; • Place topsoil over backfilled areas;	

ENVIRONMENTAL ASPECT	REHABILITATION ACTIONS	COMPLETION CRITERIA
diversion ditches, drill holes)	• Shape footprint area to be free-draining (aligned to site-wide routing); • Rip area to alleviate compaction; and • Establish vegetation by spreading top soil over • Seal off drill holes	
Surface and Groundwater	Surface and groundwater monitoring must resume during continuous quarrying. The following actions are to be undertaken upon resumption of the project at quarrying phase: <u>For Surface Water</u> • Monthly monitoring of surface water sites for quality – for duration of active quarrying; and • Conduct biomonitoring at selected downstream sites duration of exploration program	-Water samples taken from sampling points downstream of the mine are within the National effluent quality specifications - Water samples taken from representative groundwater monitoring boreholes are within the National effluent quality guidelines
Petroleum Products	• Remove oil drums and petroleum products off site for re-sale/use, and • Clean up contaminated waste	
Solid Waste	• Sort and screen waste produced from the dismantling and demolition of infrastructure; • Crush decontaminated concrete, if required, to reduce uptake in waste cells; • Donate or sell off recycled/salvaged steel to local metal recyclers; and • Dispose of inert demolition waste designated site in nearest towns	

4.4 A Quick Guide on Monitoring the Implementation of the EMRP

The EMRP has been prepared to provide strategies to manage potential significant impacts and monitor the proposed management measures during the operational and decommissioning phases.

To support and ensure that the proposed mitigation measures are effective during the project's lifetime in mitigating potential negative impacts and enhancing potential positive impacts, a monitoring plan must be implemented. The environmental monitoring programme will also ensure compliance to the recommended mitigation measures and best practice environmental standards. Collectively, the environmental monitoring plan/ programme will serve the following purposes:

- Establish performance criteria for relevant concerns.
- Demonstrate compliance with relevant legislative requirements.
- Provide a plan for monitoring, assessing and controlling potential impacts on identified values.
- To establish a baseline, that is, gathering information on the basic site characteristics to establish current conditions;
- To establish long term trends in disturbed systems;
- To make comparisons against a standard or target level.

The following monitoring tools/ techniques are recommended:

- **PHOTOGRAPHS** must be used to provide a record of evidence and verification of compliance with respect to the following aspects:
    - Provision for test quarry slope stability.;
    - Provision for erosion control facilities onsite, e.g. silt traps, re-vegetation works on exposed areas;
    - Provision for dust and noise suppression equipment,
    - Presence of stockpiles for overburden and topsoil, highlighting zones with any evidence of erosion or those requiring protection from erosion;
    - Changes to the landscape of the area;
    - Proper waste management practice onsite, e.g. provision for waste collection bins, general site conditions at the working areas, site office, storage area, workshop, sewage facilities, evident occupational health and safety aspects, and others;
    - Proper transportation management including utilisation of approved routes, allowable vehicles load and other;
    - Evidence for creation of new tracks due to non-compliance.

Further to the above, when photographs are submitted for compliance monitoring, they should be geo-referenced, and be date and time stamped.

- **PERIODIC FIELD CHECKS** must be done during site preparation and operation stage of the drilling and test quarrying activities in order to ensure compliance with the following mitigation measures:
    - Perform a daily visual inspection of test sites and investigate corrective actions where necessary.
    - Evaluations mechanisms are to be based on standards outlined locally and according to best practice;
    - Monitor conditions of access routes and test quarry slopes;
    - Validity of all operating permits such as the ECC, water abstraction permit, etc;
    - Improved working practices/ management procedures at all work sites;
    - Phased test quarrying and rehabilitation progress;
    - Acceptable conditions of man-made structures such as slope protection, drainage diversion and collection systems, ablution facilities, and oil storage facility;
    - Landscaping works post progressive rehabilitation of access roads, test quarries, etc;
    - Compliance to provision of appropriate and adequate PPE;
    - Compliance to recommended safe practice such as holding daily safety meetings and conducting daily inspections on vehicles and plant;
    - Compliance to reporting of all safety, health and environmental incidences through inspection of safety books;
    - Proper compliance to waste management plans;
    - Visual inspection for general housekeeping and good management practices within the site;
    - Effectiveness of dust and noise suppression systems.
- **RECORDS** of exploration activities to ensure compliance with the following mitigation measures:
    - Maintain training register for all inducted personnel;
    - Prepare and implement a self-auditing program (including scope, frequency, reporting regime) for operational and decommissioning phase;
    - Bi-annual environmental reports shall be submitted to the relevant authorities during the operational and decommissioning phase;
    - Record of all safety, health and environmental incidences;
    - Records of monitoring and non-compliance shall be retained;

  - Maintenance of erosion control facilities, e.g. drainage diversion and containment systems, gabions along steep access/ haul road shoulders;
  - Daily working hours;
  - Daily inspection logs for all vehicles and mobile plant;
  - Records of any chance finds in so far as archaeological sites are concerned;
  - Records of any complains launched to Best Cheer Investment concerning the quarry activities;
  - Assessment of whether data records being collected for monitoring purposes are actually being utilized by the proponent to assess trends and continuously improve on the recommended impact management and mitigation measures;
- **MAPS/ LAYOUT PLANS** to indicate locations of key access routes and support structures and all monitoring tools or instruments being utilized during the operational phase. Such layout plans should encompass the following:
  - Boundary fence (if any) of the test quarries that are to be retained for later quarrying;
  - Quarry boundary, slopes and any hazardous geological structures based on regular simple drone surveys and field inspections;
  - Access tracks/ roads;
  - Locality of any waste rock dumps, topi soil stockpiles;
  - Drainage collection and diversion channels;
  - Erosion control structures;
  - As-built outline of all other infrastructures on site such as the mobile container office, workshop, traffic sign boards;
  - As-built positions for all water boreholes;

5 CONCLUSIONS AND RECOMMENDATIONS

Best Cheer Investment Namibia intends to undertake prospecting of dimension stone on EPL 5393 located approximately 27 km south of the town of Usakos. The exploration activities to be undertaken as outlined in this environmental assessment are as follows:

- Geological desktop review,
- Local geological mapping and field evaluation,
- Diamond core drilling, and
- Test Quarrying.

The overall review of the current environmental conditions of the EPL area and the immediate Karibib area revealed that the concerned project area is likely to host significant biodiversity, both floral and faunal, especially in the hills and proximal to drainage channels. The assessment further revealed that significant portions of this biodiversity is endemic, and that the general project area is characterised by a semi-arid and fairly dry climate.

Considering the discrete, spatially constrained and small-scale nature of drilling and test quarrying activities, the adverse impacts of the proposed exploration program on the receiving environment have been assessed to be of a predominantly low to moderate significance level. It was also established that because of this, most of the adverse impacts can be managed and rehabilitation is achievable over the duration of the proposed program. Lastly, on the up side there is potential for the project to materialize into a fully operational quarry which could in turn open up more socio-economic opportunities. For this reason, it is recommended that an Environmental Clearance Certificate be issued for EPL 5393 for the proposed exploration activities to proceed. This recommendation is endorsed on the following terms and conditions:

- All mandatory permits, licenses and approvals for the proposed prospecting activities are obtained. These include permits and licenses for land/farm access and surface land lease; removal of protected plant species where necessary; NHC consent, and all other necessary documentation for ensuring compliance with the specific legal requirements provided in this document.
- Develop a simplified environmental induction and awareness program for all the workforce, contractors and sub-contractors.
- The management actions, monitoring plans and rehabilitation measures in this EMRP are implemented and monitoring conducted as provided in Table 4-2 and Table 4-3.
- The Proponent complies with the legal requirements governing this type of project and its associated activities.
- All the necessary environmental and social (occupational health and safety) precautions provided shall be adhered to.
- The project' SHE Officer (or Environmental Coordinator) should effectively conduct EMRP Compliance Monitoring. An Environmental Audit/Compliance Report shall be compiled bi-annually and submitted to the DEAF at the Ministry of Environment, Forestry and Tourism for archiving. This would make the next ECC Renewal easier because of an in-between track record of monitoring progress prior to the expiry date of the valid ECC.

- An ECC Renewal application should be submitted at least 3 months before the expiry date of the valid ECC to allow time for the evaluation of the ECC Renewal report by the DEAF.

This EMRP should be implemented and amended throughout the project life-cycle, e.g., during the planning of the exploration activities, drilling, test quarrying, and decommissioning. Lastly, this EMRP should be viewed as a framework for integrating mitigation measures and applicable legal tools to ensure both compliance and sustainability.

ANNEXURE: CHANCE FINDS PROCEDURE (AFTER KINAHAN, 2020)

Areas of proposed development activity are subject to heritage survey and assessment at the planning stage. These surveys are based on surface indications alone, and it is therefore possible that sites or items of heritage significance will be found during development work. The procedure set out here covers the reporting and management of such finds.

Scope: The "*chance finds*" procedure covers the actions to be taken from the discovery of a heritage site or item to its investigation and assessment by a trained archaeologist or other appropriately qualified person.

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 …. object ……must 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.

Responsibility:

Proponent:	To exercise due caution if archaeological remains are found
On site Foreman:	To secure site and advise management timeously
Superintendent	To determine safe working boundary and request inspection
Archaeologist	To inspect, identify, advise management, recover remains and delineate clearance buffer

Procedure:

<u>Action by person identifying archaeological or heritage material</u>

a) If operating machinery or equipment stop work

b) Identify the site with flag tape

c) Determine GPS position if possible

d) Report findings to foreman

<u>Action by site foreman</u>

a) Report findings, site location and actions taken to superintendent

b) Cease any works in immediate vicinity

Action by superintendent

a) Visit site and determine whether work can proceed without damage to findings

b) Determine and mark exclusion boundary

c) Site location and details to be added to project GIS for field confirmation by archaeologist

Action by Archaeologist

a) Inspect site and confirm addition to project GIS

b) Advise NHC and request written permission to remove findings from work area

c) Recovery, packaging and labelling of findings for transfer to National Museum

In the event of discovering human remains

a) Actions as above

b) Field inspection by archaeologist to confirm that remains are human

c) Advise and liaise with NHC and Police

d) Recovery of remains and removal to National Museum or National Forensic Laboratory, as directed.