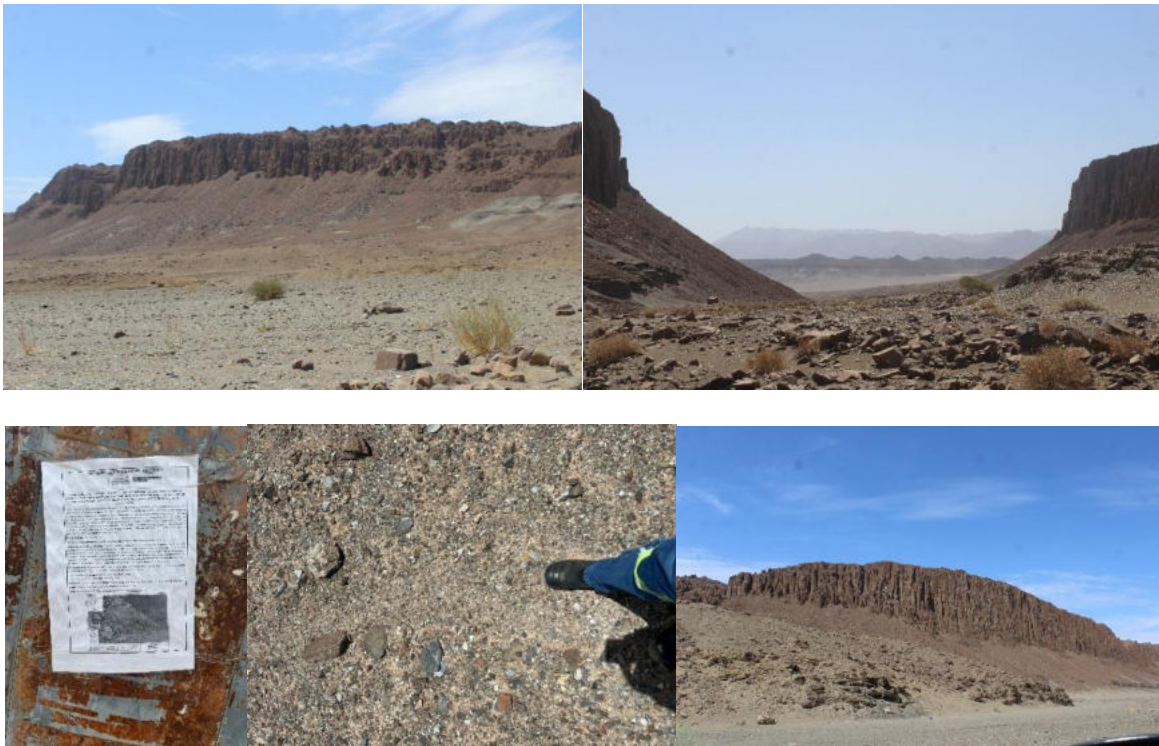


**Draft Environmental Management Plan (EMP)**

**The Proposed Exploration Activities on Exclusive Prospecting License (EPL) No. 9159 near Aussenkehr Settlement in the Iikharas Region, Namibia - An Application for Environmental Clearance Certificate (ECC): Prospecting and Exploration only**



**MEFT Application No.:** APP-004868

**Document Version:** **Draft as prescribed by Regulation 8(j) of the EIA Regulations (2012) – this is a living document that can be updated throughout the project cycle as deemed necessary**


**Proponent:** New Hope Mining CC  
P. O. Box 27161 Windhoek, Nam

**February 2025**

**DOCUMENT INFORMATION**

Title: Draft Environmental Management Plan (EMP) for the Proposed Exploration Activities on Exclusive Prospecting License (EPL) No. 9159 near Aussenkehr Settlement in the Iikharas Region, Namibia  
 - An Application for Environmental Clearance Certificate (ECC): Prospecting and Exploration only

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<b>Signature:</b>	
<b>Date:</b>	07 February 2025

**SERJA' STATEMENT OF INDEPENDENCE**

As the Appointed Environmental Consultant to undertake the Environmental Scoping Assessment (ESA) Study and Preparation of this Draft Environmental Management Plan (EMP) for proposed prospecting and exploration activities on EPL-9159 near Aussenkehr Settlement in the Iikharas Region, Serja Hydrogeo-Environmental Consultants cc declares that we:

- do not have, to our knowledge, any information or relationship with the Proponent (New Hope Mining), the Ministry of Environment, Forestry and Tourism (MEFT)'s Department of Environmental Affairs and Forestry (DEAF) that may reasonably have the potential of influencing the outcome of this Environmental Assessment and the subsequent Environmental Clearance Certificate applied for.
- have knowledge of and experience in conducting environmental assessments, the Environmental Management Act (EMA) No. 7 of 2007 and its 2012 Environmental Impact Assessment (EIA) Regulation as well as other relevant national and international legislation, guidelines, policies, and standards that govern the proposed project as presented herein.
- have performed work related to the ECC application in an objective manner, even if the results in views and findings or some of these may not be favorable to the Proponent.
- have complied with the EMA and other relevant regulations, guidelines, and other applicable laws as listed in this document.
- declare that we do not have and will not have any involvement or financial interest in the undertaking/implementation of the proposed project, other than remuneration (professional fees) for work performed to conduct the ESA and apply for the ECC in terms of the EIA Regulations' requirement as an Environmental Assessment Practitioner (EAP).

**Disclaimer:** Serja Hydrogeo-Environmental Consultants will not be held responsible for any omissions and inconsistencies that may result from information that was not available at the time this document was prepared and submitted for evaluation.



.....

**Signature:**

Fredrika N. Shagama: Principal Environmental Assessment Practitioner & Hydrogeologist

**Date:** February 2025

## TABLE OF CONTENTS

DOCUMENT INFORMATION .....	i
TABLE OF CONTENTS .....	iii
LIST OF FIGURES.....	iii
LIST OF TABLES .....	iii
LIST OF APPENDICES .....	iv
LIST OF ABBREVIATIONS.....	iv
1 INTRODUCTION.....	1
1.1 Project Background and Location .....	1
1.2 Purpose of the Draft Environmental Management Plan (EMP) .....	3
2 BRIEF DESCRIPTION OF THE PROPOSED PROJECT ACTIVITIES.....	4
2.1 Pre-Exploration (Proponent Mandatory) Responsibility .....	4
2.2 Duration of Prospecting and Exploration Works .....	4
2.3 Planned Exploration Methods .....	5
2.4 Exploration Techniques.....	5
2.5 Decommissioning and Rehabilitation of Disturbed Sites .....	5
3 LEGAL FRAMEWORK: PERMITTING AND LICENSES .....	6
4 EMP IMPLEMENTATION RESPONSIBILITIES .....	8
5 ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURES .....	9
5.1 Key identified Potential negative Impacts .....	9
5.2 The Environmental Management Measures and Rehabilitation of Sites .....	10
5.3 The Environmental Monitoring Actions .....	26

**LIST OF FIGURES**

Figure 1-1: The status of EPL-9159 on the Namibia Mines and Energy Cadastre Map Portal ( <a href="https://portals.landfolio.com/namibia/">https://portals.landfolio.com/namibia/</a> ) .....	1
Figure 1-2: Locality Map of EPL-9159 near Aussenkehr .....	2
Figure 1-3: Land use (farm) map of EPL-9159 .....	2

**LIST OF TABLES**

Table 1-1: GPS corner coordinates of EPL-9159 .....	3
Table 3-1: List of legal requirements and permits for the EPL activities.....	6
Table 4-1: The EMP implementation responsibilities for prospecting and exploration .....	8
Table 5-1: The Environmental management and mitigation measures for Planning as well as Prospecting and Exploration activities .....	11
Table 5-2: The Mitigation measures for site rehabilitation .....	25

Table 5-3: Monitoring of Biophysical and Social Aspects referred to in the assessment (modified after Resilient Environmental Solutions, 2019) ..... 27

## LIST OF APPENDICES

- Appendix 1: Chance Finds Procedure (Archaeology & Heritage Action Plan)
- Appendix 2: Marked No-Go areas within the EPL (site areas where exploration activities should not be undertaken)

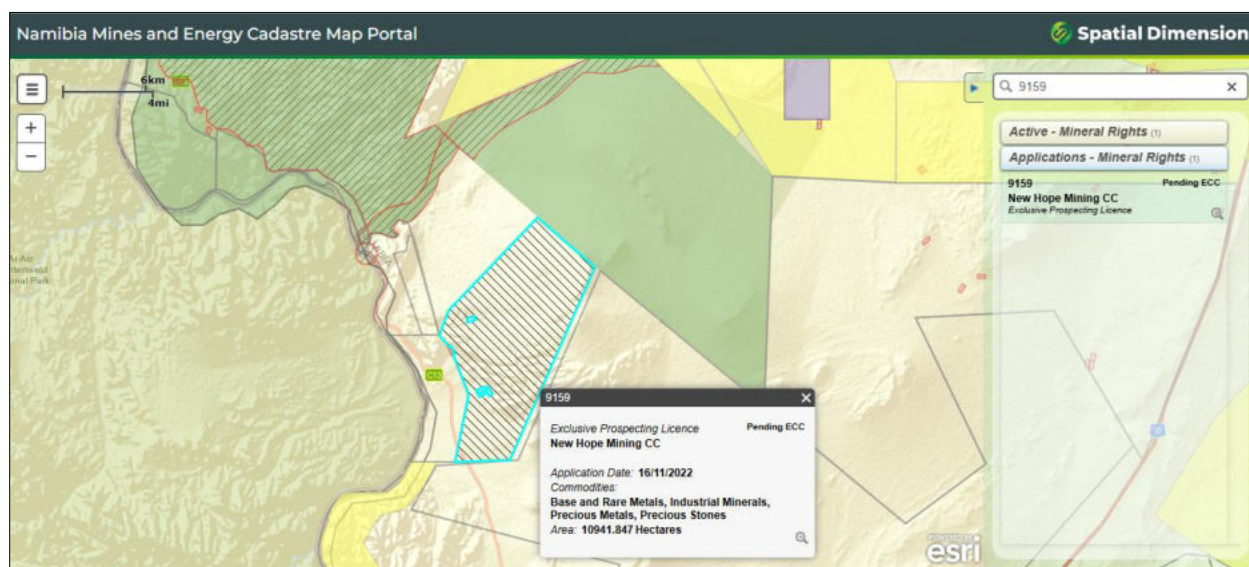
## LIST OF ABBREVIATIONS

DEAF:	Department of Environmental Affairs and Forestry
DWA:	Department of Water Affairs
ECC:	Environmental Clearance Certificate
ECO:	Environmental Control Officer
EIA:	Environmental Impact Assessment
EMA:	Environmental Management Act
EMP:	Environmental Management Plan
EPL:	Exclusive Prospecting License
ESA:	Environmental Scoping Assessment
GG:	Government Gazette
GN:	Government Notice
I&APs:	Interested and Affected Parties
IFC:	International Finance Corporation
MAWLR:	Ministry of Agriculture, Water and Land Reform
MEFT:	Ministry of Environment, Forestry and Tourism
MME:	Ministry of Mines and Energy
PPE:	Personal Protective Equipment
SHE Officer:	Safety, Health & Environment Officer

# 1 INTRODUCTION

## 1.1 Project Background and Location

New Hope Mining CC (hereinafter referred to as the Proponent), on the 16th of November 2022, applied to the Ministry of Mines and Energy (MME) for Exclusive Prospecting Licence (EPL) No. 9159 and obtain the rights to prospect and explore on the EPL. The approval of the EPL is, however, subject to an Environmental Clearance Certificate (ECC) as per the status of the EPL application on the Namibia Mines and Energy Cadastre Map Portal <https://portals.landfolio.com/namibia/> "pending ECC" - Figure 1-1. The EPL has potential for mineral commodities such as base & rare metals, industrial minerals, precious metals, and precious stones.



**Figure 1-1: The status of EPL-9159 on the Namibia Mines and Energy Cadastre Map Portal (<https://portals.landfolio.com/namibia/>)**

Upon granting of the EPL by MME, the Proponent intends to prospect and explore within EPL-9159 with a primary focus on precious stones (diamonds), and then a secondary focus on base & rare metals (e.g., copper, zinc), and precious metals (gold). It is important to note that the proposed activities will be done at a very small-scale level on targeted sites of the EPL towards exploration (to enable the Proponent to get sufficient and reliable exploration data only) and not mining. Thus, this EMP is for exploration activities only, but not for mining activities.

The EPL is located about 5km east of Aussenkehr Settlement (Figure 1-2), lies within the Aussenkehr Farm No. 147 (Figure 1-3), and covers an area of 10,941.847 hectares (ha) in the Karasburg Constituency of the IIKharas Region.

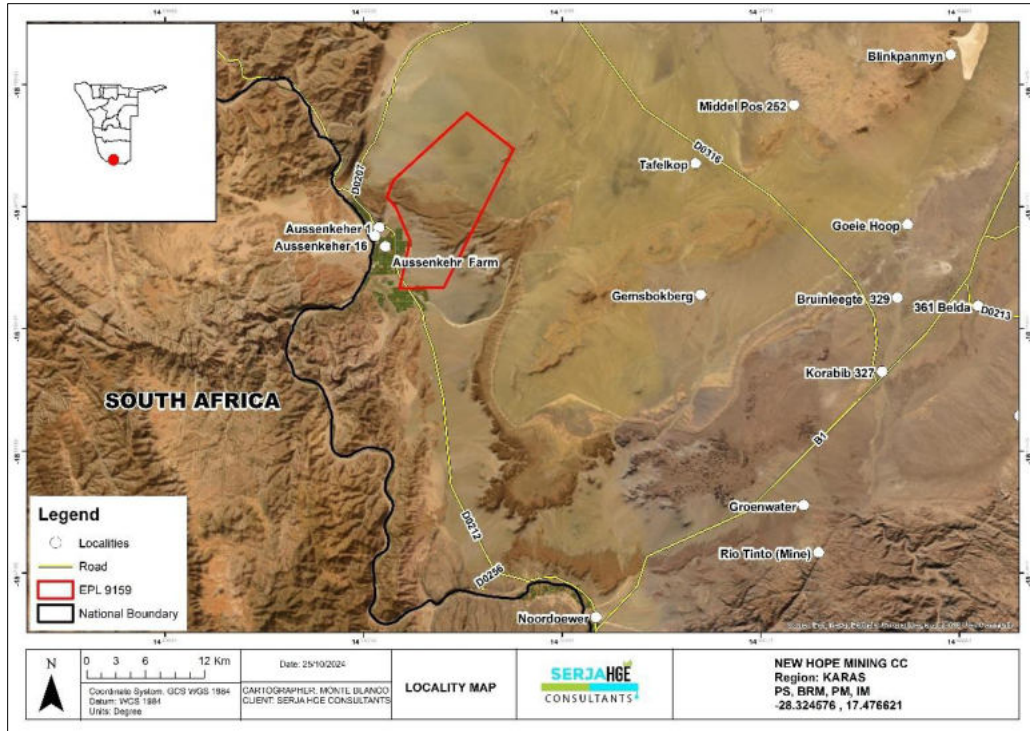


Figure 1-2: Locality Map of EPL-9159 near Aussenkehr

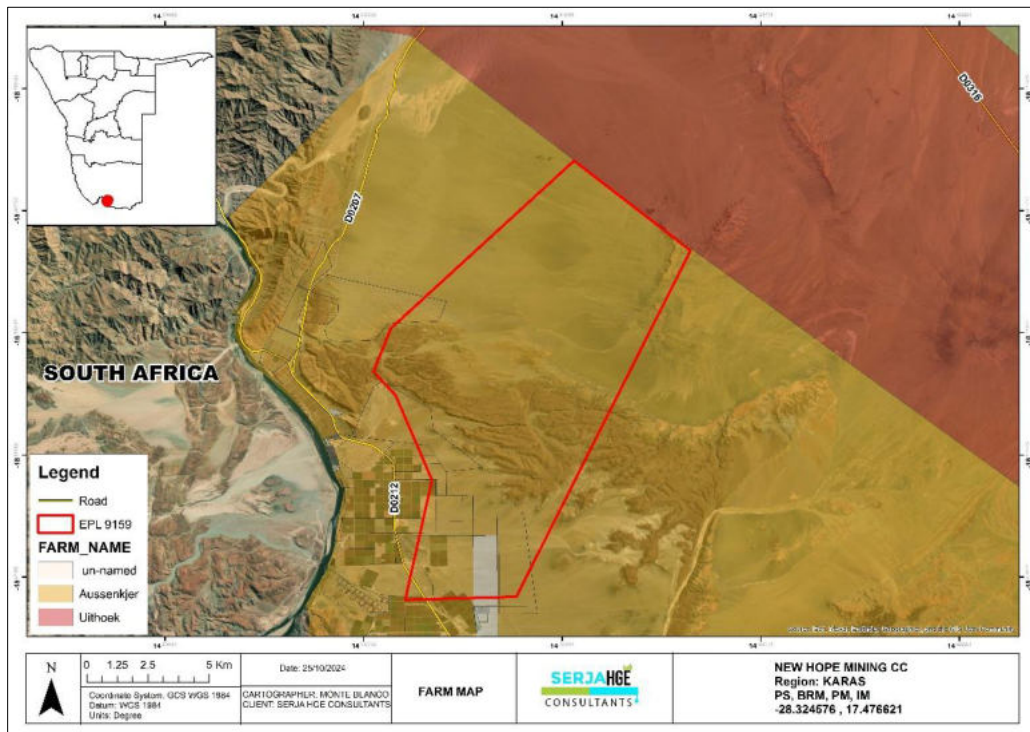


Figure 1-3: Land use (farm) map of EPL-9159

The GPS corner coordinates of EPL-9159 are provided in Table 1-1.

Table 1-1: GPS corner coordinates of EPL-9159

EPL Boundary Point	GPS Coordinates
1	-28.2572 17.4985
2	-28.2898 17.5406
3	-28.4169 17.4767
4	-28.4173 17.4363
5	-28.374 17.4457
6	-28.3422 17.4321
7	-28.3344 17.4243
8	-28.3183 17.4309

## 1.2 Purpose of the Draft Environmental Management Plan (EMP)

The Draft EMP is developed per Regulation 8(j) of the EIA Regulations (2012) and it should be included as part of the Environmental Assessment (EA) scoping report. A '**Management Plan**' is defined as:

*"...a plan that describes how activities that may have significant environmental effects on the environment are to be mitigated, controlled and monitored."*

An EMP is one of the most important outputs of the EA process as it synthesizes all the proposed management & mitigation and monitoring actions, set to a timeline and with specific assigned responsibilities. It provides a link between the impacts identified in the EA process and the required mitigation measures to be implemented during exploration. It is important to note that an EMP is a statutory document and a person who contravenes the provisions of this EMP may face imprisonment and/or a fine. This EMP is a living document and can be amended to adapt to address project changes and/or environmental conditions and feedback from compliance monitoring.

The EMP is therefore aimed at guiding environmental management throughout the different phases of the proposed exploration activities, namely: planning, prospecting & exploration, and decommissioning & rehabilitation phase:

- **Planning phase** – Preparation of all the administrative and technical requirements needed for the actual works on the ground. The planning would entail obtaining the necessary permitting and authorization from relevant national and local stakeholders (such as affected farm owners/landowners), facilitating the recruitment and procurement processes, etc.
- **Exploration phase** – The stage during which actual groundwork/exploration (activities) and associated activities are conducted within the EPL.

- **Decommissioning and Rehabilitation** – The stage during which the Proponent is rehabilitating the disturbed sites, regardless of the results of exploration activities.

## 2 BRIEF DESCRIPTION OF THE PROPOSED PROJECT ACTIVITIES

### 2.1 Pre-Exploration (Proponent Mandatory) Responsibility

Once the ECC and EPL certificate (rights) are issued by MEFT and MME, respectively, and before mobilizing to the site and undertaking any groundwork for the proposed activities at the site (on the EPL), the Proponent will engage with the local landowners (Farm Aussenkehr No. 147) as provided for by Section 52 (1) (a) of the Minerals (Prospecting and Mining) Act No. 33 of 1992. This is aimed at one-on-one Proponent meetings with individual affected farmers/landowners to set up agreements in terms of conditions of land access and use agreements before any work can be carried out on the EPL.

Exploration activities will be conducted at least 100m from tourism facilities and homes, i.e., a 100m buffer zone from environmentally and socially (including archaeological) sensitive areas will be maintained during exploration. Therefore, no exploration activities will be undertaken within these buffer zones.

### 2.2 Duration of Prospecting and Exploration Works

The duration for prospecting and exploration is anticipated as follows:

- Soil sampling programs for instance may last from one week to a month at a time over specific areas, until the explored area is fully sampled as desired.
- Drilling programs may initially range from two weeks to a month at a time, depending on the planned program or based on the results of the program. The Proponent undertakes to work with all relevant stakeholders to keep them informed of exploration progress to facilitate site visits and access to ongoing field exploration programs.

In general terms, the minerals exploration activities can take up to a maximum of seven years, with different projects at various stages of the exploration phase (Resilient Environmental Solutions, 2019).

The Proponent intends to adopt a systematic and standard prospecting and exploration approach for the primary commodities (precious stones (diamonds), and a secondary focus on base & rare metals (e.g., copper, zinc), and precious metals (gold)) potentially occurring on the EPL.

The suspected diamond hosting site areas in the Aussenkehr and particularly in the EPL-9159 as associated with the local rock units.

### 2.3 Planned Exploration Methods

The proposed activities will be done using both non-invasive and invasive techniques as summarized below and detailed in the ESA Report (Chapter 2):

- Desktop Study (non-invasive): Literature review, mapping, and aero surveying (geophysics).
- Soil and rock sampling (invasive): a collection of soils and rock samples.
- Detailed exploration (invasive): Trenching, and drilling (Reverse Circulation (RC) and diamond drilling).

### 2.4 Exploration Techniques

Exploration activities are undertaken in a funnel-like system to narrow down exploration areas by sampling selected areas in the EPL that are taken to the laboratory for analyses, then followed up with trenching at sampled sites that showed good results. Samples collected during trenching at different layers of the trenches are taken to the laboratory for further analysis. The trenching works are then followed up with exploration drilling (commonly diamond drilling) to get detailed data or confirmation at depths

### 2.5 Decommissioning and Rehabilitation of Disturbed Sites

Once the exploration activities on the EPL come to an end, the Proponent will need to put site rehabilitation measures in place. Decommissioning and rehabilitation are primarily reinforced through a decommissioning and rehabilitation plan, which consists of safety, health, environmental, and contingency aspects. The economic situation or unconvincing exploration results might force the Proponent to cease the exploration program before the predicted end of the exploration timeline.

As part of site rehabilitation, ensure the project activities are ceased in an environmentally friendly manner and the site is rehabilitated through carrying out the following:

- Dismantling and removal of exploration temporary support structures (such as camps, where applicable) and associated infrastructures from the project site and area,
- Carrying away all exploration equipment and vehicles, and
- Clean up of site working areas and transporting the recently generated waste to the nearby approved waste management facility (as per agreement with the facility operator/owner),

Further decommissioning and rehabilitation practices on site will include:

- Backfilling of pits and trenches used for sampling,
- Closing and capping of exploration holes to ensure that they do not pose a risk to both people and animals in the area, and
- Levelling of stockpiled topsoil: This will be done to ensure that the disturbed land sites are left close to their original state as much as possible.

### 3 LEGAL FRAMEWORK: PERMITTING AND LICENSES

The Proponent has the responsibility to ensure that the exploration activities as well as the EA process conform to the principles of the EMA and must ensure that employees act per such principles. Table 3-1 presents requirements of an EMP as stipulated by Section 8 (e) of the EIA Regulations, primarily on specific approvals and permits that may be required for the activities required of the EPL.

**Table 3-1: List of legal requirements and permits for the EPL activities**

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Environmental Management Act EMA (No 7 of 2007)	Requires that projects with significant environmental impacts are subject to an environmental assessment process (Section 27).  Details principles which are to guide all EAs.	The EMA and its regulations should inform and guide this EA process.  Should the ECC be issued to the Proponent, it should be renewed every 3 years, counting from the date of issue.  Contact details at the Department of
Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878)	Details requirements for public consultation within a given environmental assessment process (GN 30 S21).  Details the requirements for what should be included in a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15).	Environmental Affairs and Forestry (DEAF), Ministry of Environment, Forestry and Tourism (MEFT), Office of the Environmental Commissioner  Mr. Timoteus Mufeti  Tel: +264 61 284 2701
Minerals (Prospecting and Mining) Act (No. 33 of 1992)	Section 48 (3): To enable the Minister to consider any application referred to in section 47 the Minister may (b) require the person concerned by notice in writing to (i) carry out or cause to be carried out such environmental impact studies as may be specified in the notice.	The Proponent should ensure that all necessary permits/authorization for the EPL are obtained from the Ministry of Mines and Energy (MME).  Contact person and details at the MME (Mining Commissioner)  Mrs. Isabella Chirchir  Tel: +264 61 284 8251.
	Section 52 (1) (a) requires mineral license holders to enter into a written agreement with affected landowners before exercising rights conferred upon the license holder.	After the ECC and EPL certificates are issued, the Proponent should timely engage individual farmers to enter into land access agreements (consent) before undertaking any activities on the EPL (including before mobilization of machinery and equipment).

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Water Resources Management Act (No 11 of 2013)	<p>Ensure that the water resources of Namibia are managed, developed, used, conserved, and protected in a manner. <u>Therefore, a permit to abstract water from the Orange River should be applied for. The Permit is required for all commercial and industrial water uses. Although, exploration is not entirely commercial, the associated activities such as drilling fall under industrial activities, thus, the need to apply for an abstraction permit.</u></p> <p>For any project wastewater planned for discharge into the environment, <u>a discharge permit should be applied for and obtained.</u></p>	<p>The Water Permit should be applied from the Ministry of Agriculture, Water and Land Reform (MAWLR)</p> <p>Department of Water Affairs (DWA)</p> <p>Contact: Mr. Franciskus Witbooi Division: Water Policy and Water Law Administration Division</p> <p>Tel: +264 61 208 7158</p> <p>MAWLR, DWA's Water Environment Division</p> <p>Contact: Ms. Elise Mbandeka</p> <p>Tel: +264 61 208 7167</p>
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 the authority of a license or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 liters or less in any container kept at a place outside a local authority area"	<p>The Proponent should obtain the necessary authorization from the MME for the storage of fuel on-site (Consumer Installation Permit).</p> <p>Mr. Carlo Mcleod (Ministry of Mines and Energy: Acting Director – Petroleum Affairs)</p> <p>Tel: +264 61 284 8291</p>
National Heritage Act No. 76 of 1969	Call for the protection and conservation of heritage resources and artefacts.	<p>Should any archaeological material, such as bones, unknown graves, old weapons/equipment, etc. be found on the EPL site, work should stop immediately, and the National Heritage Council (NHC) of Namibia must be informed as soon as possible. The Heritage Council will then decide to clear the area or decide to conserve the site or material.</p> <p>Contact Details at the NHC of Namibia</p> <p>Mrs. Erica Ndalikokule – NHC Director</p> <p>Tel: +264 61 301 903</p>

## 4 EMP IMPLEMENTATION RESPONSIBILITIES

New Hope Mining CC (the Proponent) is ultimately responsible for the implementation of the EMP. However, the Proponent may delegate this responsibility or part of it to someone else at any time, as they deem necessary. The roles and responsibilities of all delegates/parties involved in the effective implementation of this EMP are provided in Table 4-1.

**Table 4-1: The EMP implementation responsibilities for prospecting and exploration**

Role	Responsibilities
New Hope Mining (Proponent)	<ul style="list-style-type: none"> <li>-Managing the implementation of this EMP and updating and maintaining it when necessary.</li> <li>-Management and monitoring of individuals and/ or equipment on-site in terms of compliance with this EMP and issuing fines for contravening EMP provisions.</li> </ul>
Exploration Manager	<p>This individual will be responsible for ensuring that the exploration activities of the project are completed on time. The Manager's duties and responsibilities will include:</p> <ul style="list-style-type: none"> <li>-Ensure that relevant commitments contained in the EMP are adhered to.</li> <li>-Ensure relevant staff is trained in procedures entailed in their duties.</li> <li>-Maintain records of all relevant environmental documentation for the project.</li> <li>-Reviewing the EMP annually and amending the document when necessary.</li> <li>-Issuing fines to individuals who may be in breach of the EMP provision and if necessary, removing such individuals from the site.</li> <li>-Cooperate with all relevant interested and affected parties/stakeholders.</li> <li>-Development and management of schedules for daily activities</li> </ul>
Environmental Control Officer (ECO) / Safety, Health & Environment (SHE) Officer	<p>The Proponent may assign the responsibility of ensuring EMP compliance throughout the project life cycle to a designated member of staff or externally qualified and experienced person, referred to in this EMP as the Environmental Control Officer (ECO) / SHE Officer. The ECO will have the following responsibilities:</p> <ul style="list-style-type: none"> <li>-Management and facilitation of communication between the Proponent, PR, and Interested and Affected Parties (I&amp;APs) regarding this EMP.</li> <li>-Conducting site inspections of all areas for the implementation of this EMP (monitor and audit the implementation of the EMP).</li> <li>-Advising the Proponent or Exploration Manager on the removal of person(s) and/or equipment not complying with the provisions of this EMP.</li> <li>-Making recommendations to the PR concerning the issuing of fines for contraventions of the EMP.</li> </ul>

Role	Responsibilities
	-Undertaking an annual review of the EMP and recommending additions and/or changes to this document.  -Ensuring that the exploration activities on site are conducted following the International System Organization (ISO) standard 14001: 2015.
Public Relations Officer (PRO)	The PRO will be responsible for the following tasks:  -Liaising between the stakeholders, farmers (property owners), the public, and the Proponent.  -Ensure effective communication with stakeholders (farm owners), media (if necessary) and the public.  -Organising and overseeing public relations activities and managing public relations issues.  -Preparing and submitting public relations reports, if required.  -Collaborating with personnel and maintaining project-related open communication among personnel.

## 5 ENVIRONMENTAL MANAGEMENT AND MITIGATION MEASURES

### 5.1 Key identified Potential negative Impacts

The key potential positive and negative impacts identified, described, and assessed in the Environmental Scoping Assessment Report and for which the management measures (action plans) have been provided are listed below:

#### Positive impacts:

- Local socio-economic development through temporary employment creation for locals
- Payment of land access fees to landowners, and if necessary, the payment of rental fees for setting up structures such as the exploration campsite (or accommodation rental to property owners in Aussenkehr) and temporary storage of exploration samples in the area
- Procurement of local goods and services for exploration by small and medium businesses to promote local entrepreneurship empowerment and local economic development

#### Negative (adverse) impacts:

- Physical soil disturbance resulting in compaction and erosion

- Impact on local biodiversity (fauna and flora) and habitat disturbance
- Impact on tourism
- The potential impact of illegal hunting/poaching of wildlife in the area is close to protected areas
- Potential impact on water resources and soils (over-abstraction and pollution)
- Dust generation (from excavation and drilling) potentially compromises local air quality and grapes in vineyards
- Visual impacts due to unrehabilitated disturbed site areas as a result of trenching and drilling activities
- Potential occupational health and safety risks to the locals (open and unattended trenches and drill holes may pose a risk to people) and animals (wildlife)
- Potential conflicts over land use between locals' current activities and exploration activities
- Noise associated with exploration drilling and movement of heavy trucks to the site
- Vehicular traffic safety & impact on local roads
- Environmental pollution (littering) through improper handling, storage, and disposal of waste
- Impact on archaeological and cultural heritage resources

## 5.2 The Environmental Management Measures and Rehabilitation of Sites

The management actions are aimed at avoiding the above-listed potential negative impacts, where possible, and where it is impossible to avoid these impacts, measures are provided to reduce the impacts' significance.

The Management action plans (mitigation measures) recommended for the potential impacts rated in the ESA Study were based on the following project stages (phases):

- Planning, Prospecting, and Exploration phases (Table 5-1),
- Site Rehabilitation and Decommissioning (Table 5-2), and
- Biophysical and Social Environmental Monitoring (Table 5-3).

Table 5-1: The Environmental management and mitigation measures for Planning as well as Prospecting and Exploration activities

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
<b>Planning Phase</b>					
EMP implementation and training	Lack of EMP awareness and implications thereof	<ul style="list-style-type: none"> <li>-A Comprehensive Health and Safety Plan for the project activities should be compiled.</li> <li>-An EMP non-compliance penalty system should be implemented on-site.</li> <li>-The Proponent should appoint an Environmental Control Officer (ECO) or SHE Officer to be responsible for managing the EMP implementation and monitoring.</li> </ul>	<ul style="list-style-type: none"> <li>-All required EMP Implementation Plans and Systems are compiled and in place.</li> <li>-ECO is appointed</li> </ul>	-Proponent	Pre-exploration
Authorizations	Lack of Agreements, Permits/ Licenses	<ul style="list-style-type: none"> <li>-All the required agreements and licenses or permits should be applied for and signed, respectively before commencement of work on the EPL, or as required.</li> <li>-The permits, and agreements referred to herein include:               <ul style="list-style-type: none"> <li>(a) Land access by the farm owners (landowners).</li> <li>(b) Waste management disposal permits from the relevant facility operator/owner</li> <li>(c) Water supply agreements for domestic use or surface water abstraction &amp; use permit (to supply activities such as drilling)</li> <li>(d) Storage permit from MME for any fuel stored on-site</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>-Applicable permits and licenses to be obtained from relevant authorities.</li> <li>-Agreements/permits signed and obtained on time, <u>min. 2 months (or as per agreements with the farm owners) before the planned commencement date of works.</u></li> </ul>	-Proponent	Pre-exploration
Communication between the Proponent and landowners	Lack of communication (proper liaison) between landowners and the Proponent about land use	<ul style="list-style-type: none"> <li>-The Proponent should appoint a Public Relation Officer (PRO) to liaise with the land users.</li> <li>-A clear communication procedure/plan which should include a grievance mechanism should be developed.</li> <li>-The farmers (landowners) should be kept posted on any changes, progress, or delays in the project activities communicated or agreed upon.</li> <li>-The issues or complaints raised by the landowners should be effectively attended to timely and resolved amicably.</li> </ul>	<ul style="list-style-type: none"> <li>-A PRO is appointed</li> <li>-Ongoing Consultation with farmers throughout the project, when and as required.</li> <li>-PRO contact details provided to landowners</li> <li>-Complaint's logbook</li> </ul>	-Proponent	PRO appointment (Before project activities) and their responsibilities throughout the project activities

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Employment	Creation of employment opportunities	<ul style="list-style-type: none"> <li>-Un and semi-skilled labor should be sourced from the local communities.</li> <li>-Preference of local people for employment for jobs should be implemented, i.e., Aussenkehr residents should be employed for unskilled labor preferentially to out-of-area people (outsiders) where possible. Out-of-area employment should be justified, for example by the unavailability of local skills.</li> <li>-Equal opportunity should be provided for both men and women, when and where possible.</li> </ul>	-Number of locals employed for exploration activities	Proponent in collaboration with the Drilling contractors	Pre-exploration and when necessary, throughout
Land use fees and associated fees for socio-economic development	Local socio-economic development	<ul style="list-style-type: none"> <li>-Commit to the conditions listed in the land access agreements signed with farmers (landowners).</li> <li>-The payments of land use and access fees should be made as agreed.</li> <li>-Exploration samples, vehicles, equipment, and machinery should not be left scattered in unauthorized areas in or outside the EPL. A designated area for vehicles, equipment, and machinery is agreed upon during the planning stage.</li> <li>-Exploration samples should be stored at a designated area that the landowner has consented to (to be included in the land use agreements). A timeline for storing and transporting samples from the storage to laboratories should be set and adhered to.</li> </ul>	<ul style="list-style-type: none"> <li>-Proof of funds paid to the respective farmers' bank account and related records</li> <li>-The exploration samples are stored at a designated area and the timeline of storage is in place</li> <li>-Exploration vehicles, machinery, and equipment are properly parked and stored in designated areas</li> </ul>	-Proponent -Exploration Manager	Pre-exploration and when necessary, throughout the project cycle
Specialized procurement of services and goods	Empowerment of local businesses	-All services related to exploration activities such as trenching, site establishment, and drilling that the Proponent may need, preference and available, locally and regionally, priority should be given to local and regional businesses for services and goods.	<ul style="list-style-type: none"> <li>-Number of hired contractors.</li> <li>-Record of hired or contracted companies or service providers</li> </ul>	-Proponent -Exploration Manager	Pre-exploration
Communication and Cooperation between the Proponent and small-scale	Lack of communication, understanding, and cooperation between the	-The legal mining claim owner/applicant within the EPL should be educated about his rights to mine in an area, even if it is inside the EPL. However, work should be limited to within the boundaries of the mining claims only.	-The small-scale miner is aware of the boundaries of his mining claims.	-Exploration Manager	Before exploration and when necessary,

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
miner/applicant of the 5 mining claims inside the EPL	Proponent and MCs' owners.	<ul style="list-style-type: none"> <li>-The mining claim applicant should be respected (he has rights).</li> <li>-Promote open communication, transparency and cooperation.</li> <li>-If needed, enter into agreements of operation with willing individual MC owners to ensure peaceful and transparent working relationships. This agreement should be signed in the presence of a local leadership as a witness.</li> </ul>	<ul style="list-style-type: none"> <li>-There are no crashes or conflicts between the Proponent and the claims' owner.</li> <li>-Where needed, there are signed working/operational agreements between the Proponent and mining claim owner within the EPL.</li> </ul>	-PRO or Proponent Representative	throughout the exploration phase
<b>Prospecting and Exploration Phase</b>					
EMP implementation and training	Lack of EMP awareness and implications thereof	<ul style="list-style-type: none"> <li>-EMP training should be provided to all workers on site.</li> <li>-All site personnel should be aware of necessary health, safety, and environmental considerations applicable to their respective work.</li> <li>-The implementation of this EMP should be monitored.</li> </ul> <p>The site should be inspected, and a compliance audit done throughout <u>the project activities, monthly and bi-annually for overall EMP implementation.</u></p> <p>An EMP non-compliance penalty system should be implemented.</p>	<ul style="list-style-type: none"> <li>-Records of EMP compliance/monitoring conducted bi-annually</li> <li>-The ECC is renewed every 3 years</li> <li>-Records of EMP training conducted.</li> </ul>	<ul style="list-style-type: none"> <li>-Exploration Manager</li> <li>-ECO</li> </ul>	Throughout the exploration phase
Communication between the Proponent and landowners on land use/access	Lack of communication (proper liaison) between landowners and the Proponent	<ul style="list-style-type: none"> <li>-The PRO should be introduced to the farm owners and his or her contact details provided to them before undertaking activities for easy communication.</li> <li>-The Proponent should compile a clear communication procedure/plan which should include a grievance and response mechanism.</li> </ul>	<ul style="list-style-type: none"> <li>-PRO is part of the project personnel.</li> <li>-Records of farmers' consultation</li> <li>-Community/farmers' grievances addressed to their satisfaction</li> <li>-Complaint's logbook</li> <li>-Land access agreement conditions</li> </ul>	-PRO	Throughout exploration

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Water Resources Use	Over-abstraction (water demand and availability)	<ul style="list-style-type: none"> <li>-Agreements for water supply should be made between the willing water supplier and the Proponent.</li> <li>-Before taking water from the Orange River, a water abstraction permit should be applied for and obtained from the Department of Water Affairs of MAWLR.</li> <li>-Freshwater should be used efficiently, and recycling and re-using of water on certain site activities should be encouraged.</li> <li>-Adhere to allocated water volumes, and if possible, use less water (limit water usage) to minimize water for exploration works.</li> <li>-A water supply agreement should be signed with NamWater to supply water for drinking.</li> <li>-Water reuse/recycling methods should be implemented as far as practicable such that the water used to cool off exploration equipment should be captured and used for the cleaning of project equipment, if possible.</li> <li>-Water storage tanks should be inspected daily to ensure that there is no leakage, resulting in wasted water on site.</li> <li>-Water conservation awareness and saving measures training should be provided to all the project workers in both phases so that they understand the importance of conserving water and become accountable.</li> </ul>	<ul style="list-style-type: none"> <li>-Water supply agreements</li> <li>- Proof/recording/quantification of water-saving efforts.</li> <li>-Water supplying agreements</li> <li>-Water storage tanks on site</li> </ul>	<ul style="list-style-type: none"> <li>-Proponent</li> <li>-Exploration Manager</li> </ul>	<ul style="list-style-type: none"> <li>-Once-off supply agreement</li> <li>-Throughout the exploration phase</li> </ul>
Soils	Physical soil/land disturbance and loss of topsoil	<ul style="list-style-type: none"> <li>-Stockpiled topsoil and drill materials should be used to backfill the excavated and disturbed site areas/spots.</li> <li>-The topsoil that was stripped from certain site areas to enable project works and can be returned to its initial position, should be returned. This is to avoid unnecessary stockpiling of site soils which would leave them prone to erosion.</li> </ul>	<ul style="list-style-type: none"> <li>-No proliferation of informal vehicle tracks.</li> <li>-No new erosion gullies.</li> </ul>	-ECO	Throughout exploration

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<ul style="list-style-type: none"> <li>-Soils that are not within the intended footprints of the site areas should be left undisturbed and soil conservation implemented as far as possible.</li> <li>-Project vehicles/machinery should stick to access roads provided and not unnecessarily create further tracks on and around the site by driving everywhere resulting in soil compaction.</li> <li>-Effectively stabilize altered landforms to minimize soil erosion.</li> </ul>			
Soils and water resources	Soils and water resources pollution	<ul style="list-style-type: none"> <li>-Spill control preventive measures should be in place on-site to manage soil contamination, thus preventing and or minimizing the contamination from reaching water resources bodies.</li> <li>-All project employees should be sensitized about the impacts of soil pollution and advised to follow appropriate fuel handling procedures.</li> <li>-Develop and prepare countermeasures to contain, clean up, and mitigate the effects of an oil spill. This includes keeping spill response procedures and a well-stocked cache of supplies easily accessible.</li> <li>-Ensure employees receive basic Spill Prevention, Control, and Countermeasure (SPCC) Plan training.</li> <li>-Project machines and equipment should be equipped with drip trays to contain possible oil spills when operated on-site.</li> <li>-Polluted soil should be removed immediately and put in a designated waste-type container for later disposal at a hazardous waste treatment facility in Windhoek.</li> <li>-Drip trays must be readily available on this trailer and monitored to ensure that accidental fuel spills along the tank trailer path/route around the exploration sites are cleaned on time (soon after the spill has happened).</li> </ul>	<ul style="list-style-type: none"> <li>-No complaints of pollutants on the soils and eventually in the water due to exploration activities</li> <li>-No visible oil spills on the ground or pollution spots.</li> <li>-Complaint's logbook</li> <li>-Availability of sufficient waste containers</li> <li>-Non-permeable material to cover the ground surface at areas where hydrocarbons and potential pollutants are utilized.</li> </ul>	<ul style="list-style-type: none"> <li>-Exploration Manager</li> <li>-ECO</li> </ul>	Throughout exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<p>-Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility.</p> <p>-Washing of equipment contaminated hydrocarbons, as well as the washing and servicing of vehicles should take place at a dedicated area, where contaminants are prevented from contaminating soil or water resources.</p> <p>-Toilet water should be treated using chemical portable toilets and periodically emptied before reaching capacity and transported to a wastewater treatment facility.</p>			
Biodiversity	Loss of Fauna and Flora	<p><b><u>Fauna (animals)</u></b></p> <p>-Refrain from disturbing, snaring, killing, or stealing livestock on and around the EPL.</p> <p>-Avoid the killing of small soil and rock outcrops species found on site.</p> <p>-Exploration trenches and holes should be secured (temporary fencing) backfilled and capped after sampling is completed to prevent injuries to people and animals.</p> <p>-Incorporate Environmental awareness and biodiversity preservation into the employment contracts of all workers.</p> <p>-Breeding sites for faunal species that are found within the site and nearby should not be disturbed.</p> <p><b><u>Flora (vegetation):</u></b></p> <p>-Avoid unnecessary removal of onsite vegetation, thus, promoting a balance between biodiversity and the project.</p> <p>-Drilling mud and any other fluid used on site should not be disposed of on top of the vegetation (grass or shrubs) onsite. The fluids should be properly stored in designated containers onsite and disposed of at the nearest appropriate waste facility.</p>	<p>-No disturbance to unmarked areas.</p> <p>-No complaints from locals regarding unauthorized vegetation removal</p> <p>-No complaints of wildlife hunted by project workers.</p> <p>-No intentional disturbance and destruction of site vegetation and faunal species</p> <p>-Barricading tape (to indicate working areas)</p> <p>-Visible preservation of onsite vegetation</p>	<p>-Exploration Manager</p> <p>-ECO</p>	Throughout the exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<ul style="list-style-type: none"> <li>-Workers should refrain from driving off the road.</li> <li>-Vegetation found on the site, but not in the targeted exploration site areas or access route should be left undisturbed/avoided.</li> <li>-Vehicle movement should be restricted to existing roads and tracks to prevent unnecessary damage to the surrounding vegetation.</li> <li>-No onsite vegetation should be cut without valid reason and permission.</li> <li>-Any additional access roads that may be created, should be created in a manner that disturbs minimal vegetation.</li> <li>-Environmental awareness on faunal and floral biodiversity preservation should be provided to the workers and contractors. This should be incorporated into the workers' contracts.</li> </ul>			
Illegal hunting	Illegal hunting of wildlife	<ul style="list-style-type: none"> <li>-Poaching (illegal hunting) or disturbance/harming of wildlife in the area is strictly prohibited.</li> <li>-A No Tolerance to Poaching Policy should be developed and applied to all site personnel (workers) and visitors.</li> <li>-Incorporate a No-tolerance rule for poaching in every employment contract and ensure that the workers understand the seriousness of this. In other words, there is no tolerance for poaching or wildlife crime.</li> </ul>	<ul style="list-style-type: none"> <li>-There are no incident reports of illegal hunting of wildlife by the crew.</li> <li>-Contact details of the Anti-poaching Police Unit provided and visible onsite</li> </ul>	<ul style="list-style-type: none"> <li>-Exploration Manager</li> <li>-ECO</li> </ul>	During site setup, and throughout the exploration
Land Use	Conflict between land uses and exploration activities	<ul style="list-style-type: none"> <li>-Exploration activities should not in any way hinder the existing land uses within the EPL but rather promote co-existence throughout the project operations while respecting other land users such as eco-tourism and farming. Adhere to buffer zones.</li> <li>-No exploration activities should be done inside the anticipated and marked area for future settlement expansion areas, i.e., no activities within the marked future settlement expansion plans nor the 100m radius of the boundaries – see Appendix 2.</li> </ul>	<ul style="list-style-type: none"> <li>-Land access and consent with clear conditions</li> <li>-No exploration works within buffer zones or areas marked as NO-GO</li> <li>-Compliance with conditions set within operational permits by relevant and affected landowners.</li> </ul>	<ul style="list-style-type: none"> <li>-Exploration Manager</li> <li>-PRO</li> </ul>	Throughout the exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<ul style="list-style-type: none"> <li>-The project workers and vehicles should be limited to the actual EPL active sites only but not unnecessarily wander and drive around farms, respectively.</li> <li>-The Proponent should ensure that their activities comply with the conditions set by the competent, regulatory, and affected landowners such that the proposed exploration activities do not severely impact the different existing activities around the EPL.</li> </ul>	<ul style="list-style-type: none"> <li>-Little to no complaints of significant interference from land users/owners</li> </ul>		
Visual (aesthetic): impact on the tourism sites in Aussenkehr	The scarring of the landscape, and the presence of exploration vehicles and machinery may impact the scenic view of the area for tourism and other road users.	<ul style="list-style-type: none"> <li>-Exploration activities should be done away from the roads and explored sites rehabilitated as far as possible.</li> <li>-Minimize the land scarring by targeting specific areas only.</li> <li>-No exploration activities should be done inside the no-go areas, i.e., no activities within the marked King Canyon site boundaries nor the 100m radius of the site – see Appendix 2.</li> <li>-The campsite (if onsite) should be established behind outcrops where possible to limit their obvious presence to road users (tourists and travelers alike).</li> </ul>	<ul style="list-style-type: none"> <li>-No complaints of visual nuisance from the travelers or farmers.</li> <li>-No disturbed site areas are left without rehabilitation</li> <li>-Exploration works are limited to areas far from the roads.</li> </ul>	-Exploration Manager	Throughout the exploration phase
Road use and safety	Increase in vehicular traffic flow.	<ul style="list-style-type: none"> <li>-Project-related goods and services should be delivered to the site once to twice a week to reduce the daily movement of trucks and put too much pressure on local roads.</li> <li>-If additional access roads (tracks) are required, the respective farmer/landowner should be consulted before creating new tracks to give consent and or guidance.</li> <li>-Drivers of all project phases' vehicles should have valid and appropriate driving licenses and adhere to the road safety rules.</li> <li>-Drivers should drive slowly (40km/hour or less) and be on the lookout for livestock and wildlife.</li> <li>-Ensure that the site access roads are well-equipped with temporary road signs.</li> </ul>	<ul style="list-style-type: none"> <li>-No complaints from the public or farmers regarding vehicular traffic issues related to the project activities.</li> <li>-All personnel operating the project vehicles and machinery are appropriately licensed and possess valid driving licenses.</li> <li>-Demarcated areas for parking, offloading, and loading zones are on site.</li> </ul>	<ul style="list-style-type: none"> <li>-Exploration Manager</li> <li>-ECO</li> </ul>	Throughout exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<ul style="list-style-type: none"> <li>-Project vehicles should be in a road-worthy condition and serviced regularly to avoid accidents owing to mechanical faults.</li> <li>-Vehicle drivers should only make use of designated site access roads provided and as agreed.</li> <li>-Vehicle drivers should not be allowed to operate vehicles while under the influence of alcohol.</li> <li>-Project vehicles should be parked within the boundary or demarcated areas for such purpose.</li> <li>-Deliveries from and to the site should be done optimally during weekdays and between the hours of 8 am and 5 pm.</li> <li>-The site access road(s) should be maintained to an unacceptable standard for the vehicles.</li> </ul>	<ul style="list-style-type: none"> <li>-No creation of unnecessary tracks on site.</li> </ul>		
Local roads	Overuse and maintenance	<ul style="list-style-type: none"> <li>-Heavy trucks transporting materials and services to the site should be scheduled to travel twice a week to avoid daily traveling to the site, unless in cases of emergencies.</li> <li>-Consider frequent maintenance of local roads to ensure that the roads are in good condition for other road users such as farmers, and travelers from and outside the area.</li> </ul>	<ul style="list-style-type: none"> <li>-Visible efforts of maintaining access and community roads by the Proponent</li> </ul>	<ul style="list-style-type: none"> <li>-Proponent</li> <li>-Exploration Manager</li> </ul>	Throughout exploration, when necessary
Occupational Health and Community Health and Safety	General health and safety associated with project activities in both phases	<ul style="list-style-type: none"> <li>-During inductions, provide project workers with awareness training on the risks of mishandling equipment and materials on-site and health &amp; safety risks associated with their respective jobs.</li> <li>-Project workers should be properly equipped with adequate and appropriate personal protective equipment (PPE) such as coveralls, gloves, safety boots, earplugs, dust masks, safety glasses, etc.</li> <li>-Heavy vehicles, equipment, and fuel storage sites should be properly secured, and appropriate warning signage placed where visible.</li> </ul>	<ul style="list-style-type: none"> <li>-Comprehensive health and safety plan for all exploration activities compiled.</li> <li>-Quarterly refresher training on health &amp; safety</li> <li>-Occupational Health and Safety Personnel</li> <li>Health and Safety Training</li> <li>-Availability of fully-furnished first aid kits</li> <li>-Trained worker to administer first aid</li> </ul>	<ul style="list-style-type: none"> <li>Proponent</li> <li>Exploration Manager</li> <li>ECO</li> </ul>	Throughout exploration and training offered as and when required

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<ul style="list-style-type: none"> <li>-Drilled exploration holes that will no longer be in use or to be used later after being drilled should be properly marked for visibility and capped/closed off.</li> <li>-Trenches should be temporarily fenced off during sampling, and once completed, they should be backfilled thereafter</li> <li>-Drill cuttings and excavated materials should be put back into the holes, filled and leveled, and trenches backfilled respectively.</li> <li>-An emergency preparedness plan should be compiled, and all personnel appropriately trained.</li> <li>-No worker should be allowed to enter the working sites, if under the influence of alcohol. This may lead to mishandling of equipment, resulting in injuries and other health and safety risks.</li> <li>-Ensure that goods and projected loads are securely fastened to vehicles to avoid falling and injuring people.</li> <li>-Warning signage should be erected at hazardous site areas such as open trenches.</li> <li>-The site areas that are considered temporary risks should be equipped with "danger" or "cautionary" signs written in the local languages, i.e., Afrikaans and English.</li> </ul>			
	<p>Potential increase in prevalence of HIV and AIDS, as well as other sexually transmitted diseases (STDs) prevalence</p>	<ul style="list-style-type: none"> <li>-Engage workers in sexual health talks and training about the dangers of engaging in unprotected sexual relations which results in contracting HIV/AIDS and other sexual-related infections.</li> <li>-Provision of condoms and sex education through distribution of pamphlets and health training. These pamphlets can be obtained from the nearest local health facility in Aussenkehr.</li> </ul>	<ul style="list-style-type: none"> <li>-No new infections recorded linked to project workers</li> <li>-Occupational health and safety personnel</li> <li>-Sex and Health Education/Awareness</li> <li>-Provision of condoms at the accommodation site</li> </ul>	<ul style="list-style-type: none"> <li>-Exploration Manager</li> <li>-ECO</li> </ul>	<p>Throughout exploration</p>
	<p>Accidental fire outbreak</p>	<ul style="list-style-type: none"> <li>-Portable and serviced fire extinguishers should be provided at exploration sites.</li> </ul>	<ul style="list-style-type: none"> <li>-No wildfires recorded (due to the presence of workers)</li> </ul>	<ul style="list-style-type: none"> <li>-Proponent</li> <li>-ECO</li> </ul>	<p>Throughout exploration</p>

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<ul style="list-style-type: none"> <li>-No open fires on and around the site.</li> <li>-Consider using gas or paraffin cooks to prepare food instead of open fires.</li> <li>-Make provision for smoking areas onsite for crew members who smoke. This is to ensure that the cigarette fire is completely put out and disposed of in allocated bins in the smoking area.</li> <li>-Potential flammable areas and structures such as fuel storage tanks should be marked as such with visible signage.</li> <li>-Raise awareness to workers on the impact of careless handling of fires and flammable substances in the fire.</li> </ul>	<ul style="list-style-type: none"> <li>-Fire extinguishers (1 per vehicle) and 1 per working site</li> </ul>		
<p>Archaeology and heritage</p>	<p>Accidental disturbance of archaeological or heritage objects</p>	<ul style="list-style-type: none"> <li>-Buffer zones should be maintained &amp; respected around known significant archaeological, historical, or cultural heritage sites as far as possible. Graves and areas with cultural significance are excluded from any development. A 50m radius buffer zone is highly recommended for archaeological and heritage sites.</li> <li>-If any archaeological materials, human burials, or skeletal remains are uncovered during mining activities, then the work in the immediate area should be halted, the finds would need to be reported to the NHC and may require inspection by an Archaeologist. The ECO should have the area fenced off and contact NHC (Tel: +264 61 244 375), National Forensic Laboratory (+264 61 240 461) immediately – see further contact details under the Chance Finds Procedure in Appendix 1.</li> <li>-Under no circumstances shall any artefacts be removed, destroyed, or interfered with by anyone on the site; and Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological, or palaeontological artefacts, as set out in the National Heritage Act (Act No. 27 of 2004), Section 52 (2).</li> <li>-Any pile of stones or mound of the earth looking even remotely like a grave should be avoided at all costs.</li> </ul>	<ul style="list-style-type: none"> <li>-Preservation of all artefacts and objects that are discovered on and around the project site</li> <li>-Salvage equipment</li> <li>-Archaeologist to recommend further actions</li> <li>-Flag tapes</li> <li>-GPS (site marking)</li> </ul>	<ul style="list-style-type: none"> <li>-Exploration Manager</li> <li>-ECO</li> <li>-Operator (Driller or Excavating personnel)</li> </ul>	<p>As and when required, i.e., before site set up, and during exploration.</p>

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<p>-A "No-Go-Area" should be put in place where there is evidence of sub-surface archaeological materials, archaeological sites, gravesites, historical, rock paintings, cave/rock shelters, or past human dwellings. It can be a demarcation by fencing off or avoiding the site completely by not working closely or near the known site. The 'No-Go Option' might have a NEUTRAL impact significance.</p> <p>-Cognizance must be taken of the larger cultural &amp; heritage landscape of the area to avoid the destruction of previously undetected heritage sites. Should any previously undetected heritage or archaeological resources be exposed or uncovered during the development phases of the proposed project, these should immediately be reported to the heritage specialist or heritage authority (National Heritage Council of Namibia).</p> <p>-The Proponent and Contractors should adhere to the provisions of Section 55 of the National Heritage Act in the event significant heritage and cultural features are discovered in the course of developmental works.</p> <p>-It should be noted that the subterranean presence of archaeological and/or historical sites, features, or artefacts is always a distinct possibility. Care should therefore be taken when development commences that if any of these are discovered, work on site cease immediately and a qualified archaeologist be called in to investigate the occurrence.</p> <p>-Bi-annual auditing is highly recommended.</p>			
<p>Littering and waste management (general waste and sanitation)</p>	<p>Environmental Pollution</p>	<p>-Workers should be sensitized to dispose of waste responsibly and not to litter.</p> <p>-Responsibly dispose of waste and not litter.</p> <p>-After each daily work, ensure that there are no wastes left on exploration sites or scattered around the accommodation site.</p>	<p>-No visible litter around the project area</p> <p>-Provision of sufficient waste storage containers</p> <p>-Waste management awareness</p>	<p>-ECO</p> <p>-Exploration Manager</p>	<p>Throughout exploration phase</p>

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<ul style="list-style-type: none"> <li>-All domestic and general operational waste produced daily should be contained onsite until such that time it will be transported to designated waste sites.</li> <li>-No waste may be buried or burned on site or anywhere else.</li> <li>-The exploration site should be equipped with separate waste bins for hazardous and general/domestic waste.</li> <li>-Oil spills should be taken care of by removing and treating soils affected by the spill.</li> <li>-A penalty system for irresponsible disposal of waste on site and anywhere in the area should be implemented.</li> <li>-Ensure careful storage and handling of hydrocarbons on site is essential.</li> <li>-An emergency plan should be available for major/minor spills at the site during operation activities.</li> </ul>	<ul style="list-style-type: none"> <li>-Waste disposal permits for municipalities</li> <li>-Environmental, Health and Safety Statements and Policy</li> </ul>		
	Wastewater is generated by exploration workers living on-site.	<ul style="list-style-type: none"> <li>-Potential contaminants such as hydrocarbons and wastewater should be contained on site and disposed of per municipal wastewater discharge standards so that they do not contaminate surrounding soils and eventually groundwater.</li> <li>-No open defecation is allowed onsite nor general environment.</li> <li>-Sewage waste should be stored as per the portable chemical toilets supplied on site and regularly disposed of at the nearest treatment facility</li> <li>-Provide sufficient toilet facilities for workers (portable toilets).</li> <li>-Portable toilets must be emptied according to the manufacturer's specifications.</li> </ul>	<ul style="list-style-type: none"> <li>-Adequate toilet and basic ablution facilities on site</li> <li>-Chemical toilets</li> <li>Sewage removal operator</li> <li>-Waste treatment agents/chemicals.</li> </ul>	<ul style="list-style-type: none"> <li>-Exploration Manager</li> <li>-ECO</li> </ul>	Throughout exploration phase
Air Quality	Dust generation	<ul style="list-style-type: none"> <li>-Exploration vehicles within the area should not be driven at a speed more than 40 km/h to avoid dust generation.</li> </ul>	<ul style="list-style-type: none"> <li>-No complaints from the public about vehicle</li> </ul>	<ul style="list-style-type: none"> <li>-Exploration Manager</li> <li>-ECO</li> </ul>	Throughout exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<p>-When and if the project reaches the advanced stages of exploration (drilling), a reasonable amount of water should be used on gravel roads, using regular water sprays on gravel routes and near exploration sites to suppress the dust that may be emanating from certain exploration areas on the EPL.</p> <p>-Dust masks, eye protective glasses, and other respiratory personal protective equipment (PPE) such as face masks should be provided to the workers on site drilling areas, where they are exposed to dust.</p> <p>-Excavating equipment should be regularly maintained to ensure drilling and excavation efficiency and so to reduce dust generation and harmful gaseous emissions.</p>	<p>emissions and dust generation.</p> <p>-Visible efforts to curb dust</p> <p>-Complaint's logbook</p> <p>-Dust suppressant (Water)</p>		
Noise	Nuisance	<p>-Noise from operations vehicles and equipment on the sites should be at acceptable levels.</p> <p>-Exploration hours should be restricted to between 8 am and 5 pm to avoid noise and vibrations generated by exploration equipment and the movement of vehicles before or after hours.</p> <p>-No noise-making exploration activities such as drilling should take place within 1km of the farmhouses.</p> <p>-When operating the drilling machinery onsite, workers should be equipped with personal protective equipment (PPE) such as earplugs to reduce exposure to excessive noise.</p>	<p>-No complaints of excessive noise from farmers</p> <p>-Complaint's logbook</p> <p>Noise protective equipment for workers</p>	<p>Exploration Manager</p> <p>-ECO</p>	Throughout exploration
Social nuisance	Local property disturbance and values	<p>-The project workers and contractors should be informed of the importance of respecting the farmers' properties by not trespassing or damaging their properties.</p> <p>-Any worker or contractor found guilty of trespassing should be called in for a disciplinary hearing and/or dealt with as per their employer' (Proponent) code of employment conduct.</p> <p>-The workers/contractors should be advised to respect the local's private properties, values, and norms.</p>	<p>-No complaints from farmers about property theft, disturbance, or intrusion</p> <p>-Grievance/complaint logbook</p> <p>-Land access agreement conditions</p>	<p>-Exploration Manager</p> <p>-ECO</p>	Throughout the exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<ul style="list-style-type: none"> <li>-No worker should be allowed to wander in people's private yards or fences (no-go areas) without permission.</li> <li>-The cutting down or damaging of vegetation belonging to the affected farmers or neighboring farms, without the landowners' permission is strictly prohibited.</li> </ul>			

**Table 5-2: The Mitigation measures for site rehabilitation**

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
<b>Progressive Rehabilitation and Decommissioning Phase</b>					
Rehabilitation	Disturbance and damage of land site land	<ul style="list-style-type: none"> <li>-All drilled holes and excavated pits related to the project activities should be capped and backfilled, respectively.</li> <li>-All waste generated and stored on-site during exploration activities should be disposed of at the respective nearest solid waste management sites.</li> <li>-The stockpiled topsoil should be leveled soon after the completion of works at the sites.</li> <li>-Any temporary setup on site should be dismantled, and the area rehabilitated as far as practicable, to its original state.</li> <li>-Explored areas on worksites should be progressively rehabilitated by stockpiling and backfilling.</li> <li>-Provision of both financial and technical resources for progressive rehabilitation.</li> <li>-Respective farmers should be consulted to approve and sign off Site Rehabilitation Completion to their satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>-Capped exploration holes and backfilled pits</li> <li>-Excavators and other backfilling/demolishing machinery</li> <li>-No sign of waste or littering seen on-site and around site areas.</li> <li>-Carrying away waste, and removing vehicles and equipment from the site</li> <li>-No stockpiled topsoil (topsoil is leveled after completion of each work)</li> <li>-Dismantled temporarily erected project structures, site leveled and materials taken away from the site.</li> </ul>	<ul style="list-style-type: none"> <li>-Proponent</li> <li>-Exploration Manager</li> </ul>	<p>Progressive rehabilitation is done throughout the exploration phase and complete decommission and rehabilitation is done after completion of exploration works.</p> <p>Rehabilitation of disturbed areas should be signed off by farmers according to their satisfaction post-</p>

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
			-Visible signs of stockpiled topsoil -Record of backfilled trenches, and holes -Waste containers on sites -Photo records of backfilled sites -Records of finances set aside for decommissioning activities		exploration at specific EPL sites.

### 5.3 The Environmental Monitoring Actions

To ensure that the implementation of recommended environmental management measures is working and produces the desired results (minimizing the "medium" and upholding the "low" significance ratings of impacts), certain key impacts will need to be monitored and reported on. The environmental aspects to be monitored are shown in Table 5-3. The *“Observation, Compliance Status, and “Recommended Action”* columns will be completed for every monitoring done on site.

Monitoring reports are to be compiled by the project ECO, audited by an Independent Environmental Consultant, and submitted to the DEAF for archiving on a bi-annual basis (every 6 months throughout the project operations) or as required by the Environmental Commissioner (as per the ECC conditions). The environmental components or features provided in the Table will be updated accordingly once the project commences.

Table 5-3: Monitoring of Biophysical and Social Aspects referred to in the assessment (modified after Resilient Environmental Solutions, 2019)

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if the threshold is exceeded
<b>Water and soil pollution</b>									
Soil pollution by hydrocarbon (fuel and lubricant spills)	Complaints from farmers within the project sites	To prevent contamination of site soils	No complaints from landowners or the public about visible oil spills	Inspection of complaints logbooks	Weekly	ECO	ECO-> Exploration Manager	A logged complaint	Further consultations with the landowners and or communities
Wastewater is generated by exploration workers living on-site.	Open defecation and urination.	To prevent environmental pollution	Adequate toilet facilities on site. Complaints from the farmers about open defecation.	Visual observation. Inspection of complaints logbook.	Weekly	ECO	ECO-> Exploration Manager	A logged complaint	Clean-up of affected areas.
<b>Soils</b>									
Loss of topsoil	Increased loss of soil	To prevent loss of topsoil	No proliferation of informal vehicle tracks. No new erosion gullies	Visual observation	Weekly	ECO	ECO-> Exploration Manager	Proliferation of new vehicle tracks Formation of new gullies in work areas	Rehabilitation of affected explored areas
<b>Air quality (Dust)</b>									
Increase in dust	Complaints from the	To reduce public	No complaints	Inspection of	Weekly	ECO	ECO-> Exploration Manager	A logged complaint	Dust suppression

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if the threshold is exceeded
generation, which might negatively affect occupational and residential respiratory health.	public about increased dust generation.	complaints and prevent negative changes in air quality due to exploration activities	from the public about increased dust generation.	complaints logbook.					around working areas to reduce fugitive dust
Hydrocarbon emissions from vehicles	Complaints from the public about increased vehicle fumes	Same as above.	No complaints from the public about increased vehicle emissions	Inspection of complaints logbook.	Weekly	ECO	ECO-> Exploration Manager	A logged complaint	Servicing of vehicles and machinery by a certified service provider
<b>Poaching (Illegal hunting)</b>									
Illegal hunting of wildlife	Reported poaching incidents by the project team	To prevent illegal hunting of wildlife	Incident reports of illegal hunting of wildlife by exploration workers.	Consultation with the local Police Service for reported incidents of poaching.	Weekly	ECO	ECO-> Exploration Manager > local Police Service (Anti-poaching Unit)	An incident report logged with the local Police Service	Appropriate action will be decided by the local Police Service
<b>Habitat loss (Biodiversity)</b>									
Localised loss of habitat and vegetation	Loss of habitat	To prevent loss of habitat outside areas of interest	No disturbance to unmarked areas within the project area	Visual observation	Weekly	ECO	ECO -> Exploration Manager	Vegetation clearance outside of marked areas.	Rehabilitation of affected areas to the satisfaction of the ECO

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if the threshold is exceeded
<b>Occupational and Public Health and Safety</b>									
No health and safety plan for exploration activities.	Compiled health and safety plan for exploration activities.	To prevent health and safety impacts	No significant health and safety incidents (i.e., serious injuries or loss of life)	Visual observation Inspection of complaints logbooks	Daily/ weekly	ECO and Exploration Manager	ECO-> Exploration Manager	Health and safety incident	Remedy the consequences
Potential increase in outbreak of wildfires due to project activities	Occurrence of wildfires	To prevent environmental damage caused by wildfires	No wildfires were recorded (due to the presence of exploration workers)	Visual observation	Daily	ECO	ECO -> Exploration Manager -> Local Police Service	Outbreak of wildfires due to the exploration workers	Rehabilitation of affected areas
<b>Archaeology and cultural heritage</b>									
Potential disturbance of archaeological and cultural heritage resources	Presence or unearthing of archaeological or cultural heritage resources	To prevent the destruction of artefacts and sites	Preservation of all artefacts and sites that are discovered within the site boundary or around the project site area	Inspection of records of findings	Daily	ECO  Operator / Contractor	Operator->Foreman-> Superintended->ECO->Project Archaeologist -> National Heritage Council (NHC)	Unearthing archaeological or cultural heritage resources	Cease all activities on site and wait for NHC to inspect the site and give further instructions/actions
<b>Employment creation and Corporate Social Responsibility (CSR)</b>									
Creation of employment, procurement	Employment opportunities	To ensure that locals benefit	Employment, community support, and	Inspection: employed, procurement	Monthly	Exploration Manager	Exploration Manager or Proponent	Number of CSR projects	Open communication and

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if the threshold is exceeded
of goods and services	-Community projects support - Local/regional procurement	from the Project	local and regional procurement	t & community project records					reasonable requests/proposals
<b>Noise</b>									
Potential increase in noise	Above ambient noise levels.	To ensure that generated noise does not disturb residents.	Complaints from residents about noise generated.	Inspection of complaints logbook	Weekly	ECO	ECO -> Exploration Manager	A logged complaint about above-normal noise levels	Revision of site activities
<b>Vehicular Traffic</b>									
Increase in traffic density on declared Roads Authority (RA) roads or damage to these.	Complaints from the public about the increase in traffic on the roads. Complaints about damage to RA roads caused by the movement of project vehicles and machinery.	To ensure continued ease of access to local roads by residents/communities.	No complaints from the public about the increase in traffic due to exploration activities	Inspection of logbooks	Weekly	ECO	ECO -> Exploration Manager -> Roads Authority	A logged complaint about traffic increase or damage to RA roads	Find alternative access roads for the workforce. Rehabilitation of affected roads

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if the threshold is exceeded
<b>HIV and AIDS</b>									
Potential increase in HIV and AIDS prevalence.	New HIV or sexually transmitted infections (STIs)	To prevent new infections in the area	No new HIV or STI infections recorded	Liaison with local health facilities	Monthly	ECO	ECO -> Exploration Manager -> Ministry of Health and Social Services	Recorded new HIV or STIs linked to exploration workers	Continued sex education and provision of condoms
<b>Environmental Pollution (Littering)</b>									
Environmental pollution from solid waste during exploration activities.	Scattered litter	To prevent littering in the general project area	No visible litter around the project area	Visual observation	Daily	ECO	ECO -> Exploration Manager	Visible littering around the project site	Clean-up of the affected areas and ensuring workers utilize waste containers provided.
<b>Visual</b>									
Visual impact owing to the project's exploration activities	Contrasting landscape (eyesore to travelers on the local roads)	To prevent and or reduce the appearance of contrasting land scars	Reduction of and minor contrasting landscape in the project site areas	Visual observation	Weekly	ECO	ECO -> Exploration Manager	Major and very visible contrasting land scars on the site areas	Effective implementation of provided measures and continual improvements.
<b>Site Rehabilitation</b>									
Soil and land disturbance because of exploration activities.	Stockpiled topsoil and very disturbed site areas	To prevent major soil/land damage by project activities	No major soil and land disturbance	Visual observation	Daily	ECO	ECO -> Exploration Manager	Visible soil and land disturbance	Effective progressive leveling of topsoil and backfilling of pits/holes

## Appendix 1: Chance Finds Procedure (CFP) After Kinahan, 2020

Areas of proposed activities 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 findings.

**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.

Manager/Supervisor must report the finding to the following competent authorities:

- **National Heritage Council (NHC) of Namibia: +264 61 244 375**
- **NHC of Namibia (Technical Office): +264 61 301 903**
- **National Museum: +264 61 276 800**
- **National Forensic Laboratory: +264 61 240 461.**

**Archaeological material must NOT be touched.** Tempering with the materials is an offense under the Heritage Act and is punishable upon conviction by the law.

### Responsibility:

<b>Operator:</b>	To exercise due caution if archaeological remains are found
<b>Foreman:</b>	To secure the site and advise management timeously
<b>Superintendent:</b>	To determine safe working boundary and request inspection
<b>Archaeologist:</b>	To inspect, identify, advise management, and recover remains

### Procedure:

Action by person identifying archaeological or heritage material:

a) If operating machinery or equipment stops work

- b) Identify the site with flag tape
- c) Determine GPS position if possible
- d) Report findings to the foreman

Action by foreman

- a) Report findings, site location, and actions taken to the superintendent
- b) Cease any works in the immediate vicinity

Action by superintendent

- a) Visit the site and determine whether work can proceed without damage to the 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 the site and confirm the addition to project GIS
- b) Advise NHC and request written permission to remove findings from the work area
- c) Recovery, packaging, and labeling of findings for transfer to the 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 the National Museum or National Forensic Laboratory, as directed.

**Appendix 2: Marked No-Go areas within the EPL (site areas where exploration activities should not be undertaken)**

