

Draft Environmental Management Plan (EMP) for:

The Proposed Mineral Exploration Activities on Exclusive Prospecting License (EPL) No. 8508 located West of Kamanjab in the Kunene Region, Namibia

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Author: Ms. Fredrika Shagama	Proponent: Codebreak Investments (Pty) Ltd
Company: Excel Dynamic Solutions (Pty) Ltd	Contact person: Dr. Erastus S. Shapumba
Telephone: +264 (0) 61 259 530	Telephone: +264 81 128 0192
Post: Box 997154 Maerua Mall, Windhoek	Post: Box 40115 Ausspannplatz, Windhoek
Email: info@edsnamibia.com	Email: admin2@citypropertyone.com

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LIST OF ABBREVIATIONS

Abbreviation	Meaning
DEAF	Department of Environmental Affairs and Forestry
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
EDS	Excel Dynamic Solutions
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPL	Exclusive Prospecting Licence
ESA	Environmental Scoping Assessment
IAPs	Interested and Affected Parties
MEFT	Ministry of Environment, Forestry and Tourism
MAWLR	Ministry of Agriculture, Water and Land Reform
MME	Ministry of Mines and Energy
NHC	National Heritage Council of Namibia
PPE	Personal Protective Equipment
TA	Traditional Authority

1 INTRODUCTION

1.1 Project Background

Codebreak Investments (Pty) Ltd (hereinafter referred to as *The Proponent*) has applied to the Ministry of Mines and Energy (MME) to be granted an Exclusive Prospecting License (EPL) No. 8508 on the 17th of November 2020. However, the approval and granting of the EPL is subjected to an Environmental Clearance Certificate, thus the “pending ECC” status on the mining cadastre portal. The Rights’ application is pending approval which is subject to an Environmental Clearance Certificate (ECC) as shown on the Mining Cadastre in Figure 1-1. The EPL has potential for Base & Rare Metals, Dimension Stone, Industrial Minerals, and Precious Metals for which the Proponent applied rights and intends to carry out the mineral exploration activities within the EPL.

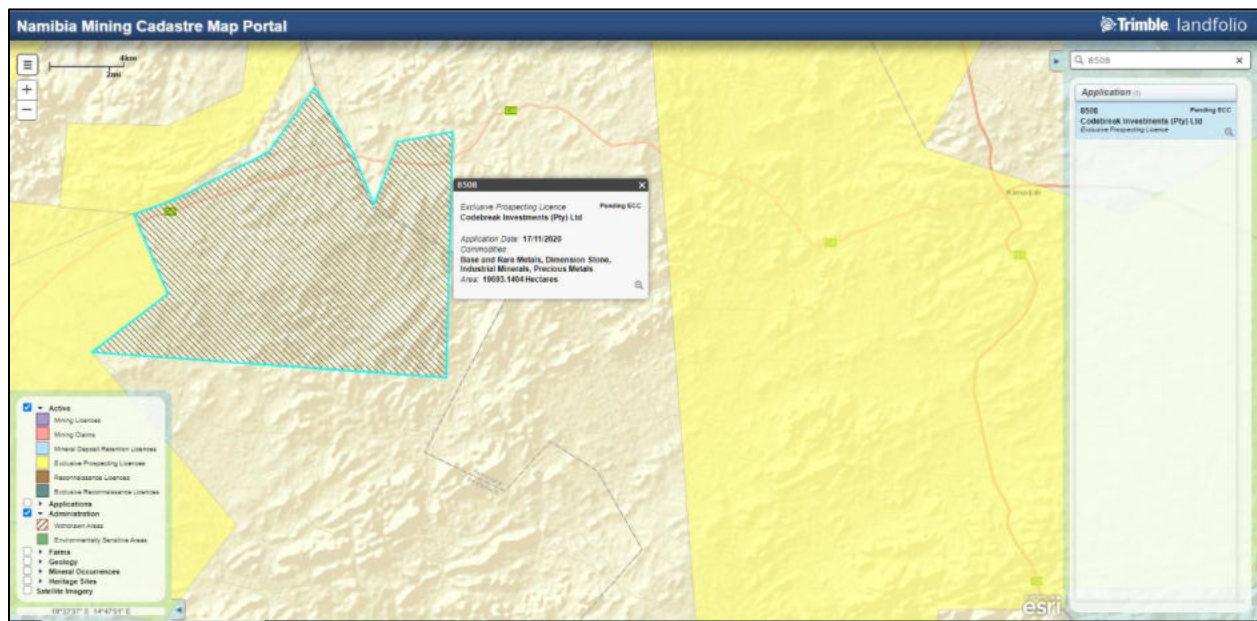


Figure 1-1: The EPL-8508 on the Namibian Mining Cadastre (source: <https://portals.landfolio.com/namibia/>)

The 19,693.1404 ha EPL is located about 39 km west of Kamanjab in the Kunene Region. The EPL covers the #Khoadi-//Hôas Conservancy, and farms such as Farm Condor No. 617, Farm Bruno No. 614 (commercial farm), Farm Emmanuel No. 613, Farm No. 612, Farm Deo Volento No. 610, Farm Ombonde No. 616 and Farm Atlanta No. 618 as shown in Figure 1-2 and Figure 1-3.

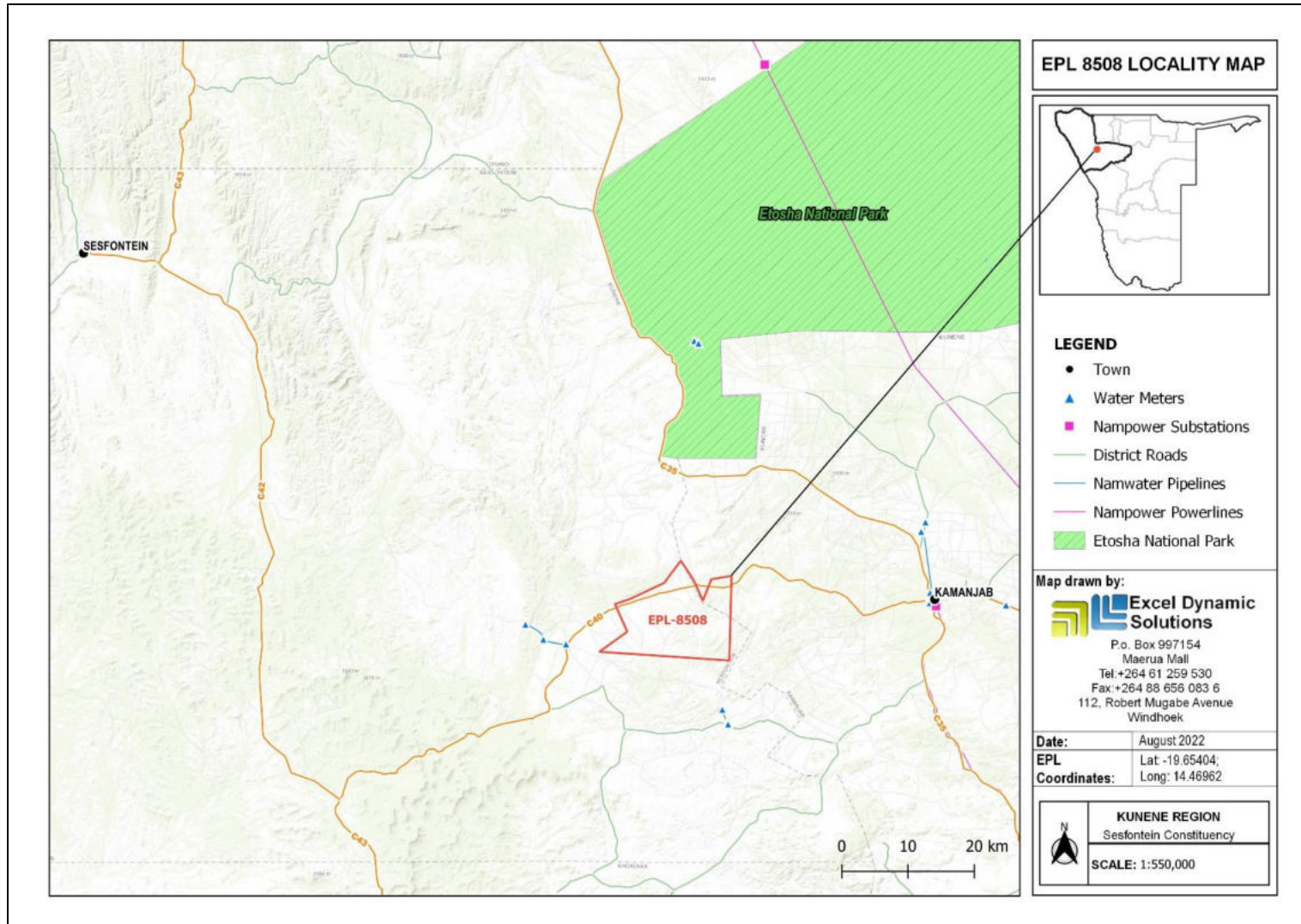


Figure 1-2: Location of EPL-8508 in the Kunene Region

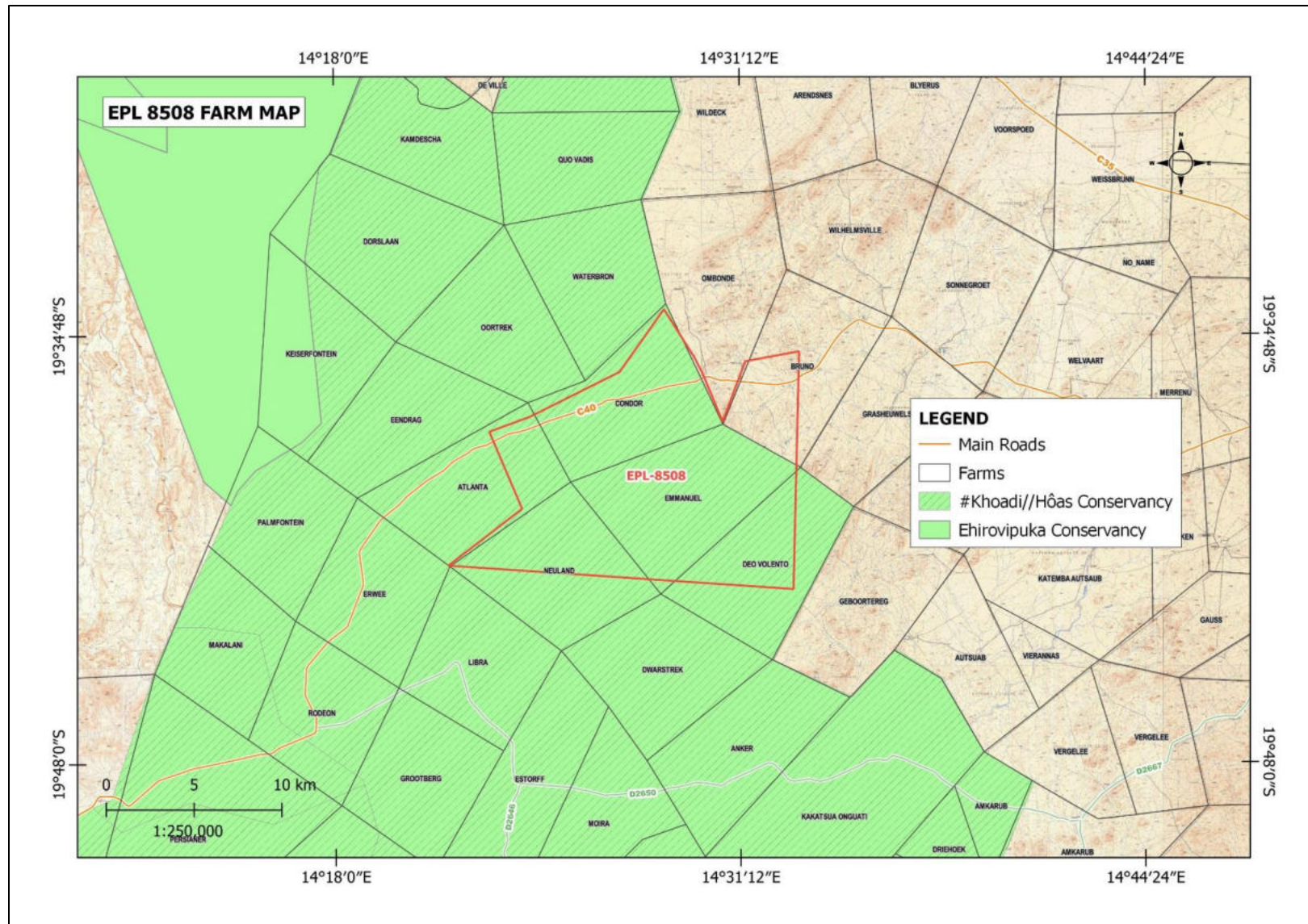


Figure 1-3: The land use (farms and the #Khoadi//Hôas Conservancy) covered by EPL-8508 in the Kunene Region

Prospecting, and exploration related activities are among listed activities that may not be undertaken without an Environmental Clearance Certificate (ECC) according to Section 27 (1) of the Environmental Management Act (EMA) (2007) and its 2012 Environmental Impact Assessment (EIA) Regulations. The listed activities as per EIA regulations that are relevant to the proposed prospecting and exploration activities are as follows:

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

To fulfil the requirements of the EMA and its Regulations and ensure the Project's compliance with the national environmental legislation, the Proponent, appointed a team of independent environmental consultants (Excel Dynamic Solutions (Pty) Ltd (EDS)), an independent team of Environmental Consultants to conduct the required Environmental Scoping Assessment (ESA) process and submit the ECC application to the Environmental Commissioner at the Department of Environmental Affairs and Forestry (DEAF) of the Ministry of Environment, Forestry and Tourism (MEFT).

The application for the ECC was compiled and submitted to the Environmental Custodian, the MEFT's DEAF. The date stamped copy of the ECC by MEFT was also uploaded on the online ECC Portal for project registration purposes. Upon submission of an ESA Report and Draft Environmental Management Plan (EMP), an ECC for the proposed project activities will be considered by the Environmental Commissioner at the DEAF: MEFT.

1.2 The Purpose of the Draft Environmental Management (EMP)

Regulation 8(j) of the EIA Regulations (2012) requires that a draft Environmental Management Plan (EMP) shall 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 environments 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 purpose of this document is, therefore, to guide environmental management throughout the different phases of the proposed exploration activities, namely: planning, prospecting & exploration, and decommissioning & site rehabilitation phase:

- **Planning phase** - This is the stage of the proposed project during which the Proponent prepare all the administrative and technical requirements needed for the actual works on the ground. The planning includes things like obtaining the necessary permitting and authorization from relevant national and local stakeholders (such as affected communities, traditional authorities, etc.), facilitating the recruitment and procurement processes, etc., in preparation of the exploration activities (and site maintenance).
- **Prospecting and Exploration phase** - This is the phase where The Proponent will do prospecting and exploration activities for the targeted commodities groups and undertake related activities on the EPL. It is also the phase during which maintenance of the area, equipment and machinery is done by the Proponent.
- **Decommissioning and Rehabilitation** – This is the phase during which the exploration activities on the EPL cease. The decommissioning of the EPL' exploration activities may be considered because of poor results or declining in the focus commodity market price. Before the decommissioning phase, The Proponent will need to put site rehabilitation measures in place.

This Draft EMP will be used by The Proponent, employees and/or contractors to provide management measures to be undertaken during mining activities, to address the environmental impacts identified in the scoping report and ensure that the impacts on the environment are avoided or limited if they cannot be avoided completely.

1.3 Appointed Environmental Assessment Practitioner

To satisfy the requirements of the EMA and its 2012 EIA Regulations, The Proponent appointed a team of independent environmental consultants (Excel Dynamic Solutions (Pty) Ltd (EDS)), to conduct the required Environmental Assessment (EA) process.

This draft EMP is submitted to the Environmental Commissioner at the DEAF, at MEFT as part of an application for the proposed exploration activities on the EPL.

The brief description of the proposed Project activities is provided under the next heading (Chapter 2) and is explained in detail under the Scoping Report.

2 SUMMARY OF THE PROJECT DESCRIPTION AND ACTIVITIES

It should be noted that these activities will only be undertaken upon the approval of the Scoping Report and Draft EMP and issuance of the environmental clearance certificate (ECC) by the Environmental Commissioner. The ECC applied for is for exploration only, and not mining.

These activities are anticipated to last for about three years or more, with ground geophysical surveys done in stages on different parts of the EPL lasting several weeks. However, the overall duration for exploration would be dependent on the programmes and subsequent actual exploration processes.

Once the Proponent has been issued with the ECC and obtained all relevant and required permitting/licensing (such as consents and land use agreements), and ready to commence with the actual exploration activities (with financial, technical, and human resources in place), the planned activities will commence on the EPL.

The prospecting and exploration methods to be employed for the proposed Project activities will include the following as provided in the Scoping Report (Chapter 2):

- **Prospecting (Desktop Study):** The reviewing of existing reports and composite stratigraphic, lithological-geochemical maps of the targeted areas are done during the

prospecting as the early activities of an exploration phase. The aim is to identify prospective lithostratigraphic packages. In addition to the literature review, fieldwork (lithological (soil/rock) mapping and sampling) will be conducted to verify desktop work. It should be noted that, no physical disturbance is required.

- **Geophysical surveys:** entail data collection of the substrata (in most cases service of an aero-geophysical contractor will be sourced), by air or ground, through sensors such as radar, magnetic and electromagnetic to detect any mineralization in the area and are conducted to ascertain the mineralisation. Ground geophysical surveys shall be conducted, where necessary using vehicle-mounted sensors or handheld by staff members, while in the case of air surveys the sensors will be mounted to an aircraft, which then flies over the target area.
- **Lithology geochemical surveys:** rock and soil samples shall be collected and taken for trace element analysis to be conducted by analytical chemistry laboratories to determine if enough Base & Rare, Precious Metals or other minerals of interest are present. Also, trenches or pits may be dug depending on the commodity (in a controlled environment e.g., fencing off and labelling activity sites) adopting manual or excavator to further investigate the mineral potential. Soil sampling consists of small pits ($\pm 20\text{cm} \times 20\text{cm} \times 30\text{cm}$) being dug where 1kg samples can be extracted and sieved to collect 50g of material. Soil sampling for Base & Rare Metals and Precious Metals is usually done on strategic locations (spots) near or within streams and rivers to analysis for minerals in the sediments.
- **Trenching and Pitting:** to verify the results obtained from soil sampling and other preceding activities, trenches will be excavated to the refusal depth of TLB excavator (hard bedrock). Samples will be collected from the trenches for analysis. The excavations will either be opened and closed immediately after obtaining the needed samples or the sites will be secured (as shown above) until the trenches or pits are closed upon completion of sampling works.
- **Exploration Drilling:** exploration holes are drilled, and drill samples collected for further analysis. This will determine the depth of the potential mineralization. If necessary new access tracks to the drill sites will be created and drill pads will be cleared in which to set up the rig. Two widely used drilling options may be adopted, these are either Reverse Circulation (RC) drilling and/or diamond-core drilling. RC drilling uses a pneumatic hammer, which drives a rotating tungsten-steel bit. The technique produces an uncontaminated large volume sample, which is comprised of rock chips. It is relatively

quicker and cheaper when compared to other techniques like Diamond Drilling. However, diamond drilling may also be considered for this exploration programme, for better geological control and to perform processing trials.

2.1 Project Resources, Services, and Infrastructure

The resources (in terms of human, vehicles, machinery, and equipment), services and infrastructure required for the proposed activities are as presented under the Scoping Report.

3 LEGAL FRAMEWORK: PERMITTING AND LICENSING

The Proponent has the responsibility to ensure that the exploration activities conform to the principles of the EMA and must ensure that employees act in accordance with such principles.

Table 3-1 below lists the 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 proposed project activities.

Table 3-1: The list of applicable of legal requirements and permits to the proposed activities on the EPL

Legislation/Policy/ Guideline: Custodian	Relevant Provisions	Implications for this project
Environmental Management Act (No. 7 of 2007) 2012 Environmental Impact Assessment (EIA) Regulations: Ministry of Environment, Forestry and Tourism (MEFT)	The EMA has stipulated requirements to complete the required documentation to obtain an Environmental Clearance Certificate (ECC) for permission to undertake certain listed activities.	The ECC should be renewed every 3 years, counting from the date of issuance. Contact details at the Department of 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

Legislation/Policy/ Guideline: Custodian	Relevant Provisions	Implications for this project
Minerals (Prospecting and Mining) Act (No. 33 of 1992): Ministry of Mines and Energy (MME)	<p>Section (S)52 requires mineral license holders to enter into a written agreement with affected landowners before exercising rights conferred upon the license holder.</p> <p>Section 52(1) mineral licence holder may not exercise his/her rights in any town or village, on or in a proclaimed road, land utilised for cultivation, within 100m of any water resource (borehole, dam, spring, drinking trough etc.) and boreholes, or no operations in municipal areas, etc.), which should individually be checked to ensure compliance.</p> <p>Section 54 requires written notice to be submitted to the Mining Commissioner if the holder of a mineral license intends to abandon the mineral license area.</p> <p>S91 requires that rehabilitation measures should be included in an application for a mineral license.</p>	<p>The Proponent should enter into a written agreement with landowners before carrying out exploration on their land. On communal land, the Proponent should engage the Traditional Authority for land use consent.</p> <p>The Proponent should ensure that all necessary permits/authorization for these EPL are obtained from the Ministry of Mines and Energy (MME).</p> <p>Contact person and details at the MME (Mining Commissioner)</p> <p>Mrs. Isabella Chirchir</p> <p>Tel: +264 61 284 8251.</p>
Traditional Authority Act (Act No. 25 of 2000): Ministry of Urban and Rural Development (MURD)	The Traditional Authorities should be involved in the planning of land use and development for their area.	<p>The affected communal land falls under the /Gaio-Daman Traditional Authority (TA). Therefore, the TA should be consulted throughout.</p> <p>Chief J. Max Haraseb</p> <p>Gaio-Daman TA (in Anker)</p> <p>Email: mkatjoko@gmail.com</p>
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001): Ministry of Mines and Energy (MME)	Regulation 3(2)(b) states that “No person shall possess [sic] or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area”	<p>The Proponent should obtain the necessary authorisation form the MME for the storage of fuel on-site.</p> <p>Mr. Carlo Mcleod (Ministry of Mines and Energy: Acting Director – Petroleum Affairs)</p> <p>Tel: +264 61 284 8291</p>

Legislation/Policy/ Guideline: Custodian	Relevant Provisions	Implications for this project
Water Act 54 of 1956: Ministry of Agriculture, Water and Land Reform (MAWLR)	Prohibits the pollution of water and implements the principle that a person disposing of effluent or waste has a duty of care to prevent pollution (S3 (k)). Provides for control and protection of groundwater (S66 (1), (d (ii)). Liability of clean-up costs after closure/abandonment of an activity (S3 (l)). (l)).	These permits include Borehole Drilling Permits, Groundwater Abstraction & Use Permits, and when required, the Wastewater / Effluent Discharge Permits). Contact: Mr. Franciskus Witbooi Division: Water Policy and Water Law Administration Division Tel: +264 61 208 7158
Water Resources Management Act (No 11 of 2013): Ministry of Agriculture, Water and Land Reform (MAWLR)	Ensure that the water resources of Namibia are managed, developed, used, conserved and protected in a manner consistent with, or conducive to, the fundamental principles set out in Section 66 - protection of aquifers, Subsection 1 (d) (iii) provide for preventing the contamination of the aquifer and water pollution control (S68).	 Water Environment Division Contact: Ms. Elise Mbandeka Tel: +264 61 208 7167
Forestry Act 12 of 2001, Amended Act 13 of 2005: Ministry of Environment, Forestry and Tourism (MEFT)	Prohibits the removal of any vegetation within 100 m from a watercourse (Forestry Act S22 (1)). The Act prohibits the removal of and transport of various protected plant species.	Should there be protected plant species such as camelthorn trees, and need to be removed, a permit should be obtained from the nearest Forestry office (MEFT). Mr. Johnson Ndokosho (Forestry Director) Tel: +264 61 208 7666
National Heritage Act No. 27 of 2004: Ministry of Education, Arts and Culture (MEAC)	To provide for the protection and conservation of places and objects of heritage significance and the registration of such places and objects; to establish a National Heritage Council; to establish a National Heritage Register; and to provide for incidental matters.	Contact Details at National Heritage Council of Namibia Mrs. Erica Ndalikokule (NHC Director)
The National Monuments Act (No. 28 of 1969): Ministry of Education, Arts and Culture (MEAC)	The Act enables the proclamation of national monuments and protects archaeological sites.	Ms. Agnes Shiningayamwe (Regional Heritage Officer) – National Heritage Council of Namibia Tel: +264 61 301 903

4 ENVIRONMENTAL IMPLEMENTATION RESPONSIBILITIES

Codebreak Investments is ultimately responsible for the implementation of the EMP (management and mitigation measures provided under the next chapter). 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 set in **Chyba! Nenalezen zdroj odkazů..**

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

Role (Person and or Institution)	Responsibilities
Codebreak Investment (Proponent)	<ul style="list-style-type: none"> -Managing the implementation of this EMP and updating and maintaining it when necessary. -Management and monitoring of individuals and/ or equipment on-site in terms of compliance with this EMP and issuing fines for contravening EMP provisions.
Exploration Manager	<p>This individual will be responsible to ensure 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"> -Ensure that relevant commitments contained in the EMP Action Plans are adhered to. -Ensure relevant staff is trained in procedures entailed in their duties. -Maintain records of all relevant environmental documentation for the project. -Reviewing the EMP annually and amending the document when necessary. -Issuing fines to individuals who may be in breach of the EMP provision and if necessary, removing such individuals from the site. -Cooperate with all relevant interested and affected parties/stakeholders. -Development and management of schedules for daily activities
Environmental Control Officer (ECO) or Safety, Health & Environmental (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 external qualified and experienced person, referred to in this EMP as the Environmental Control Officer (ECO). The ECO will have the following responsibilities:</p> <ul style="list-style-type: none"> -Management and facilitation of communication between the Proponent, PR and Interested and Affected Parties (I&APs) regarding this EMP.

Role (Person and or Institution)	Responsibilities
	<ul style="list-style-type: none"> -Conducting site inspections of all areas with respect to the implementation of this EMP (monitor and audit the implementation of the EMP). -Advising the Proponent or Exploration/Site Manager on the removal of person(s) and/or equipment not complying with the provisions of this EMP. -Making recommendations to the PR with respect to the issuing of fines for contraventions of the EMP. -Undertaking an annual review of the EMP and recommending additions and/or changes to this document.
Public Relations Officer (PRO)	<p>The PRO will be responsible for the following tasks:</p> <ul style="list-style-type: none"> -Liaising between the affected landowners, communities and the Proponent. -Ensure effective communication with stakeholders, local communities, traditional authorities, media (if necessary) and the public. -Organising and overseeing public relations activities, Managing public relations issues. -Preparing and submitting public relations reports, if required. -Collaborating with personnel and maintaining project-related open communication among personnel.
Other responsibilities include Archaeology: Chance Finds Procedure (CFP) Implementation Roles	<ul style="list-style-type: none"> A. Operator: exercise due caution if archaeological remains are found B. Site Manager and ECO: secure site and advise management timeously C. Archaeologist: inspect, identify, advise management, and recover remains.

The key potential impacts identified and management measures that will be implemented by the above-given persons are presented under the next chapter.

5 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

5.1 Identified Key Potential Impacts

The potential positive and negative impacts that have been identified from the prospecting activities are listed as follow:

Positive impacts:

- Socio-economic development: temporary employment creation and skills transfer.
- Investment opportunities/infrastructure-related development benefits,
- Produce a trained workforce and small businesses that can service the communities.
- Boosting the local economic growth through corporate social responsibility (CSR).
- Increased support for local businesses through the procurement of locally available goods and services.

Negative impacts:

- Disturbance of existing communal grazing areas,
- Physical land/soil disturbance and prone to erosion
- Impact on fauna and flora (habitat disturbance and poaching).
- Water resources (over-abstraction of water) and soils pollution.
- Air quality issue owing to dust generation
- Occupational and community health and safety risks/hazards
- Vehicular traffic safety and services infrastructure (local roads).
- Vibrations and noise associated with drilling activities.
- Environmental pollution from poor waste management,
- Archaeological or cultural heritage impact and social nuisance and land use conflicts.

5.2 The Environmental Management and Mitigation Measures

The management actions are aimed at avoiding the above-listed potential negative impacts, where possible. Where it is impossible to avoid these impacts, measures are provided to reduce the impacts' significance while maximizing the Project benefits (positive impacts).

The management and mitigation measures recommended for the potential impacts described and assessed in the Scoping Report were based on the following project stages (phases):

- Planning Phase (Table 5-1), prospecting, Exploration and Site Maintenance (Table 5-2), and decommissioning and Rehabilitation (Table 5-3).

Table 5-1: The Environmental management and mitigation measures for the Planning Phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Planning Phase					
EMP implementation and training	Lack of EMP awareness and implications thereof	<ul style="list-style-type: none"> -A Comprehensive Health and Safety Plan for the Project activities should be compiled. -An EMP non-compliance penalty system should be implemented on site. -The Proponent should appoint an Environmental Control Officer (ECO) to be responsible for managing the EMP implementation and monitoring. 	<ul style="list-style-type: none"> -All required EMP implementation Plans, and Systems are compiled and in place. ECO is appointed 	<ul style="list-style-type: none"> -Proponent -Exploration Manager 	Pre-exploration
Authorizations	Lack of Agreements, Permits/ Licenses	<ul style="list-style-type: none"> -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. -Notify the landowners of the intention to commence work on time (at least 2 months before mobilizing to site). -The permits, agreements referred to herein include: <ul style="list-style-type: none"> (a) Land access by landowners (Farm Bruno) and consent from /Gaio Daman TA / other relevant authorities (b) Waste management disposal permits (c) Water supply agreements or groundwater abstraction & use permit from MAWLR (if they drill a new borehole and directly abstracting from an existing borehole). (d) Onsite fuel storage permit from MME for any petroleum stored onsite 	<ul style="list-style-type: none"> -Applicable permits and licenses are obtained from relevant authorities. -Agreements/permits signed and obtained on time, minimum. 2 months prior to planned commencement date of works. 	<ul style="list-style-type: none"> -Proponent -Exploration Manager 	Pre-exploration

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Communication between the Proponent and landowners	Lack of communication between landowners and Proponent on land use / access	<ul style="list-style-type: none"> -The Proponent should appoint a Public Relation Officer (PRO) to liaise with the land users. -A clear communication procedure/plan which should include a grievance mechanism should be developed. -A Complaint's logbook should record all issues raised, and amicable solutions should be provided. 	<ul style="list-style-type: none"> A PRO is appointed -Ongoing Engagements & Consultation with relevant authorities and communities 	-Proponent	PRO appointment (Prior to project activities) and perform throughout
Employment	<p>Creation of employment opportunities</p> <p>The conflicts and tension arising owing to giving employment opportunities to outsiders over locals for work they can perform.</p>	<ul style="list-style-type: none"> -Contractors should give all unskilled and semi-skilled work to be given to the locals before considering outsiders. This is to avoid the influx of outsiders into the area for works that can be done the locals. -The anticipated work opportunities and number of positions should be announced through the local leadership (respective local leadership such as the /Gaiodaman TA, local community development committees, and Sesfontein Constituency office. -The name of the prospective workers should be screened by the local leaders to verify their place of origin to ensure that the opportunities reserved for the locals are not given to outsiders. -Equal opportunities should be given to both men and women, where possible. -Where possible, the locals employed during exploration should be provided with the necessary training of skills required to avoid bringing in many out-of-area employees. 	-Number of locals employed for exploration activities are mainly from the local communities for all the work that they can do.	-Exploration Manager	Pre-exploration and when necessary, throughout

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Procurement of goods and services	The conflicts arising owing to offering opportunities to outsiders over locals for services and goods they can offer	<ul style="list-style-type: none"> -The procurement stage for the exploration should follow a fair and transparent process. -Procurements for services and goods that are locally and nationally available should be open only to Namibian companies with strong local participation. -The business opportunities such as site clearing, cleaning services and, where necessary, site maintenance works should be given to local companies. 	<ul style="list-style-type: none"> -Number of hired contractors. -Record of hired or contracted companies or services providers 	<ul style="list-style-type: none"> -Proponent -Exploration Manager 	Pre-exploration
Corporate Social Responsibilities (CSR)	The lack of support in the community during exploration may lead to tensions or mistrust from the communities towards Codebreak	<ul style="list-style-type: none"> -The Proponent should ensure that the hired unskilled and semi-skilled are trained and intellectually capacitated to work with little to no supervision while onsite. -Obligation to honour CSR commitment to the communities by investing in community projects, such as water supply improvements, donations, and funding some community projects, where possible. -Water borehole(s) that are drilled for the Project should be donated to the communities through the Directorate of Rural Water Supply & Sanitation Coordination at MAWLR, so that they can be properly handed over to the communities. 	<ul style="list-style-type: none"> -Visible involvement in investing in the communities through community project support -The drilled boreholes with water potential are handed over to MAWLR for further development 	<ul style="list-style-type: none"> -Proponent -Exploration Manager 	Throughout the project cycle

Table 5-2: The Environmental management and mitigation measures for the Prospecting, Exploration and Site Maintenance Phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Prospecting, Exploration and Site Maintenance Phase					
EMP implementation and training	Lack of EMP awareness and implications thereof	<ul style="list-style-type: none"> -EMP trainings should be provided to all workers on site. -All site personnel should be aware of necessary health, safety, and environmental considerations applicable to their respective work. -The implementation of this EMP should be monitored. The site should be inspected, and a compliance audit done throughout <u>the project activities, monthly.</u> -Implement an EMP non-compliance penalty system. 	<ul style="list-style-type: none"> -Compliance monitoring conducted bi-annually and should be recorded. -The ECC is renewed every 3 years -Records of EMP training conducted. 	-ECO	Throughout the exploration phase
Communication between the Proponent and landowners / communities	Lack of communication (proper liaison) between landowners and Proponent with regards to land use/access	<ul style="list-style-type: none"> -The PRO should be introduced to the land/farm owners and their contact details provided to them prior to undertaking activities for easy communication. -The Proponent should compile a clear communication procedure / plan which should include a grievance and response mechanism. The Plan should be provided to the community through local leadership (/Gaio-Daman Traditional Authority) -The open communication channels should be maintained for community members to communicate their grievances and they should be addressed amicably. 	<ul style="list-style-type: none"> PRO is part of the project personnel. -Records of Community and landowners; consultation -Communities grievances are addressed to satisfaction -Land access agreement conditions and consents respected 	<ul style="list-style-type: none"> -Exploration Manager -PRO 	Throughout exploration

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Existing land uses	Disturbance of land use or conflict in land use	<p>-Exploration activities should only be undertaken at a 500m radius from the following areas:</p> <ul style="list-style-type: none"> *Planned campsite area *Community horse racing open space *Farmhouses or structures *Soccer field, schools and church <p>This will also apply to the archaeological and cultural sites such as the graveyards, rock painting/engraving on some farms, the significant tree (on Farm Condor).</p>	<p>-The radius restriction to the community sites areas is adhered to</p> <p>-There are no complaints of intruding the radius buffer by the communities</p>	<p>-Exploration Manager</p> <p>-Proponent</p>	Throughout Exploration
Grazing land	Loss of grazing areas	<p>-Any unnecessary removal or destruction of grazing land, due to exploration activities should be avoided.</p> <p>-Vegetation found on the site, but not in the targeted exploration areas should not be removed but left to preserve biodiversity and grazing land.</p> <p>-Workers should refrain from driving off road (creating new tracks) that may contribute to the loss of grazing land.</p>	<p>-Limited cleared sites</p> <p>-Less access tracks</p> <p>-No complaints from communities regarding significant land / vegetation clearing</p>	<p>-Exploration Manager</p> <p>-ECO</p>	Throughout exploration
Soils	Physical soil / land disturbance and loss of topsoil	<p>-Stockpiled topsoil and drill materials should be used to backfill the excavated and disturbed site areas/spots.</p> <p>-The topsoil that was stripped from certain site areas to enable project works and can be returned to its initial position, should be returned.</p>	<p>-No proliferation of informal vehicle tracks.</p> <p>-No new erosion gullies.</p>	-ECO	Throughout exploration

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<p>-Soils that are not within the intended footprints of the site areas should be left undisturbed and soil conservation implemented as far as possible.</p> <p>-Project vehicles/machinery should stick to access roads provide and not to unnecessarily create further tracks on and around the site by driving offroad→ soil compaction.</p> <p>-Effective stabilisation of altered landforms to minimise soil erosion.</p>			
Water Resources Use	Over-abstraction (water demand and availability)	<p>-The Proponent should cart water for drilling from elsewhere outside the low groundwater potential site areas of the EPL to relieve pressure of the available resources. Agreements for water supply should be made between the willing water supplier and the Proponent.</p> <p>- Should the Proponent consider drilling new water supply boreholes, Borehole Drilling and Groundwater Abstraction permits should be applied for the Department of Water Affairs at MAWLR.</p> <p>-Water abstracted from boreholes or supplied by carting should be used efficiently.</p> <p>-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.</p>	<p>-Water supply agreements are in place</p> <p>-Water permits are obtained</p> <p>-inspection of water storage tanks on site</p>	-Exploration Manager	<p>Throughout the exploration phase</p> <p>Once off supply agreement</p>

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<p>-On communal land, where groundwater is encountered, the borehole(s) should be handed over to the Rural Water Supply Offices of MAWLR for further development and proper handing over to the communities. DO NOT HAND OVER WATER BOREHOLES TO INDIVIDUALS (SINGLE HOMES).</p> <p>-Project Water storage tanks should be inspected daily to ensure that there is no leakage, resulting in wasted water.</p> <p>-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.</p>			
Soils and water resources	Soils and water resources pollution	<p>-Spill control preventive measures should be in place on site to management soil contamination.</p> <p>-Project personnel should be sensitized on the impacts of soil pollution and advised to follow appropriate fuel delivery and handling procedures.</p> <p>-Develop and prepare countermeasures to contain, clean up, and mitigate the effects of an oil spill.</p> <p>-Ensure basic Spill Prevention, Control, and Countermeasure (SPCC) Plan training for all personnel.</p> <p>-Project machines and equipment should be equipped with drip trays to contain possible oil spills.</p>	<p>-No complaints of pollutants on the soils and eventually in the water due to exploration activities</p> <p>-No visible oil spills on the ground or pollution spots.</p> <p>-Waste containers provided at exploration work sites and campsites</p> <p>-Non-permeable material to cover the</p>	<p>-Exploration manager</p> <p>-ECO</p>	Throughout exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<ul style="list-style-type: none"> -Polluted soil should be removed immediately and put in a designate waste type container for later disposal. -Drip trays must be readily available on fuel 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). -Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility. -Washing of equipment contaminated hydrocarbons, as well as the washing and servicing of vehicles should take place at a dedicated area (impervious surface), where contaminants cannot contaminate soil or water resources. -Toilet water should be treated using chemical portable toilets and periodically emptied out before reaching capacity and transported to a wastewater treatment facility. 	<p>ground surface at areas where hydrocarbons and potential pollutants are utilized.</p>		
Biodiversity	Loss of Fauna and Flora	<ul style="list-style-type: none"> -Avoid unnecessary removal of vegetation, thus promoting a balance between biodiversity and Project operations. -If necessary and obstructing the project activities, the permit to remove protected tree species such as the <i>Vachellia (Acacia) reficiens</i> (red-thorn camel thorn trees) and <i>Colophospermum mopane</i> (mopane) should be 	<ul style="list-style-type: none"> -No disturbance to unmarked areas. -The permit to remove the necessary protected trees such as camelthorn and mopane is obtained from the nearest Forestry Directorate prior 	<ul style="list-style-type: none"> -Exploration Manager -ECO 	Throughout the exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<p>obtained from the nearest Forestry Directorate at MEFT in the Kunene Region.</p> <ul style="list-style-type: none"> -Avoid the disturbance and removal of vegetation that is not within the targeted exploration site areas. -Shrubs or trees found along trenching, drilling, or sampling spots on sites should not be unnecessarily removed. -The Movement of vehicle and machinery should be restricted to existing roads and tracks to prevent unnecessary damage to the 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 seller. -Vegetation clearing should be kept to a minimum. -Workers should refrain from disturbing, killing or stealing farm animals and killing small soil and rock outcrops' species found on sites. -The stealing, killing and intentional disturbance of local livestock is strictly prohibited -Provide Environmental awareness training to workers on the importance of biodiversity preservation. 	<p>to removing them (only if obstructing operations)</p> <ul style="list-style-type: none"> -No complaints from locals regarding unauthorised vegetation removal or cutting down of trees. -No complaints of wildlife hunting by the project personnel. -No intentional disturbance and destruction of site vegetation and faunal species -Barricading tape (to indicate working areas) -Visible preservation of onsite vegetation 		

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Illegal hunting	Illegal hunting of wildlife	<p>-The Poaching (illegal hunting) of wildlife on both commercial and communal farms as well as the #Khoadi//Hôas Conservancy at large is strictly prohibited.</p> <p>-The No tolerance to Poaching Policy should be developed and applicable to all site personnel.</p> <p>-All poaching activities should be reported to the Namibian Police (NamPol).</p>	<p>-Incident reports of illegal hunting of wildlife by the Project workers and records.</p> <p>-Contact details of the NamPol are provided and visible onsite</p>	-ECO	During site set up, and throughout exploration
Land Use	Conflict between land uses and exploration activities	<p>-The exploration team (personnel) should comply with the conditions and requirements set in the land and use access agreements (for commercial and communal land).</p> <p>-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.</p> <p>-The Project workers and vehicles should be limited to the actual EPL only but not unnecessarily wander and drive around other land uses sites, respectively.</p> <p>-The Proponent should ensure that their activities comply with the conditions set by the competent, regulatory, and affected authorities such that the proposed exploration activities do not severely impact the different existing activities within and around the EPL.</p>	<p>-Land access and use permits/authorizations.</p> <p>-Compliance with conditions set within operational permits by relevant and affected authorities.</p> <p>-Little to no complaints of significant interference from the neighbouring land users</p>	<p>-PRO</p> <p>-Proponent</p> <p>-Exploration Manager</p>	Throughout the exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Road use and safety	Comprising of road safety and increase in vehicular traffic flow	<p>The transportation of exploration materials, equipment and machinery should be limited to twice a week only to reduce the pressure on local roads.</p> <p>-The heavy truck loads should comply with the maximum allowed speed limit for respective vehicles while transporting materials and equipment/machinery on the public and access roads is 40km/h.</p> <p>-The potential carted water to the site (from other source of water supply) should be done twice a week in container that can supply and store water for most of the week, to reduce daily water-carting trucks on the road.</p> <p>-Vehicles drivers should possess of valid and appropriate driving licenses and adhere to the road safety rules.</p> <p>-Drivers should drive 40km/hour and be on the lookout for livestock and wildlife as well as people on roadsides.</p> <p>-Ensure that access roads are well equipped with temporary road signs conditions to cater for vehicles.</p> <p>-Vehicles should be in a road worthy condition and serviced regularly (accidents from mechanical faults).</p> <p>-Vehicle's drivers should not be allowed to operate vehicles while under the influence of alcohol.</p> <p>-To control traffic movement on site, deliveries from and to site should be carefully scheduled. This should optimally be during weekdays between of 8am and 5pm.</p>	<p>-No complaints from members of the public regarding vehicular traffic issues related to the project activities.</p> <p>-All personnel operating the project vehicles and machinery are appropriately licensed and possession of valid driving licenses.</p> <p>-No creation of unnecessary tracks on site.</p>	<p>-Proponent</p> <p>-ECO</p>	Throughout exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Local services and infrastructure	Overuse and damaging of roads, and buried services such as cables and pipelines	<p>-The heavy trucks transporting materials and services to site should be scheduled to travel twice a week to avoid daily travelling to site, unless on cases of emergencies.</p> <p>-Frequent maintenance of local roads should be done to ensure that the roads are in a good condition for other roads users such as locals, and travellers from and outside the area.</p> <p>-The heavy trucks transporting materials and services to site should be scheduled to travel at least twice or thrice a week to avoid daily travelling to site, unless on cases of emergencies.</p> <p>-Consult with local communities through their leaders and MAWLR as well as commercial farm owners to indicate areas with known buried pipelines or cables so that they are not damaged by exploration invasive works such as trenching and drilling.</p>	<p>-Visible efforts of maintaining access and community roads by the Proponent</p> <p>-Marked routes for buried pipelines and cables</p> <p>-Consultation with service providers, landowners and authorities on possible buried services and infrastructure lines</p>	<p>-Proponent</p> <p>-Exploration Manager</p>	Throughout exploration, when necessary
Occupational and Community Health and safety	General health and safety associated with project activities in both phases	<p>-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.</p> <p>-Commit to and make provision for bi-annual full medical check-up for all personnel at site to monitor the impact of Project related activities on them.</p>	<p>-Comprehensive health and safety plan for all exploration activities compiled.</p> <p>-Occupational Health and Safety Personnel</p> <p>Health and Safety Trainings</p>	<p>-Proponent</p> <p>-Exploration Manager</p> <p>-ECO</p>	Throughout exploration and trainings offered as and when required

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<p>-Heavy vehicle, equipment and fuel storage site should be properly secured, and appropriate warning signage placed where visible.</p> <p>-The 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.</p> <p>-Trenches should be temporarily fenced off during sampling, and once completed, they should be backfilled thereafter.</p> <p>-Project personnel should be provided with an awareness training of the risks of mishandling equipment and materials on site as well as health and safety risk associated with their respective jobs.</p> <p>-Backfill trenches and fence them off when needed to be open longer than it should be (do not leave unsecured).</p> <p>-Ensure that after completion of exploration holes and trenches, drill cuttings are put back into the hole and the holes filled and levelled, and trenches backfilled.</p> <p>-An emergency preparedness plan should be compiled, and all personnel appropriately trained.</p> <p>-Personnel should not be allowed to drink alcohol prior to and during working hours nor allowed on site when under the influence of alcohol as.</p>	<p>-Well-furnished first aid kits</p> <p>-Trained worker to administer first aid</p>		

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-The site areas that are considered temporary risks should be equipped with "danger" or "cautionary" signs written in English and <i>Damara-Nama</i> for easy understanding by community members (locals).			
	Potential increase of prevalence of HIV and AIDS, as well as other sexually transmitted diseases (STDs) prevalence	-The workers should be engaged in health talks and training about the dangers of engaging in unprotected sexual relations which results in contracting HIV/AIDS and other sexual related infections. -Provision of condoms and sex education through distribution of pamphlets and health trainings. These pamphlets can be obtained from local health facilities.	-No new infections recorded linked to exploration workers -Occupational health and safety personnel -Sex and Health Education/Awareness -Provision of condoms at the campsite	-Exploration Manager -ECO	Throughout exploration
	Accidental fire outbreak	-Portable, and frequently serviced fire extinguishers should be provided on site. -No open fires to be created by project personnel on farms. -Potential flammable areas and structures such as fuel storage tanks should be marked as such with clearly visible signage.	-No wildfires recorded (due to presence of workers) -Fire extinguishers (1 per vehicle), 1 per working site and 2 at the campsite	-Exploration Manager -ECO	Throughout exploration
Archaeology and heritage	Accidental disturbance of archaeological	-The Proponent and Contractors should adhere to the provisions of Section 55 of the National Heritage Act No. 27 of 2004 in event significant heritage and culture	-Preservation of all artefacts and objects that	-Exploration Manager	As and when required, i.e., prior to site set

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
	<p>or heritage objects</p>	<p>features are discovered while conducting exploration works.</p> <p>-On-site personnel and contractor crews must be sensitized to exercise and recognize “Chance Finds Heritage”.</p> <p>-During the prospecting and exploration works, it is important to take note and recognize any significant material being unearthed and making the correct judgment on which actions should be taken (refer to CFP Appendix 1 attached hereto).</p> <p>-The footprint impact of the proposed activities should be kept to minimal to limit the possibility of encountering chance finds within the EPL’ boundaries.</p> <p>-During the removal of topsoil and subsoil on the site for exploration purposes, the site should be monitored for subsurface archaeological materials by a qualified Archaeologist.</p>	<p>are discovered on and around project site</p> <p>-Salvage equipment</p> <p>-Flag tapes</p> <p>-GPS (site marking)</p>	<p>-ECO</p> <p>-Operator</p> <p>-Archaeologist</p> <p>-Archaeologist</p>	<p>up, and during exploration.</p>
<p>Littering and waste management (general waste and sanitation)</p>	<p>Environmental Pollution</p>	<p>-Project personnel should be sensitized to dispose of waste in a responsible manner and not to litter.</p> <p>-Ensure that there are no wastes left on the sites at the end of each day.</p> <p>-All domestic and general operational waste produced daily should be contained onsite until such that time it will be transported to the nearest designated waste sites.</p>	<p>-No visible litter within and around the Project area owing to the Project</p> <p>-Provision of sufficient waste storage containers</p> <p>-Waste management awareness</p>	<p>-ECO</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"> -Do not bury or burn waste onsite or anywhere else. -The exploration sites should be equipped with separate waste bins for hazardous and general/domestic waste. -Sewage waste should be stored as per the portable chemical toilets supplied on site and regularly disposed of at the nearest treatment facility -Oil spills should be taken care of by removing and treating soils affected by the spill. -A penalty system for irresponsible disposal of waste on site and anywhere in the area should be implemented. -An emergency plan should be available for major/minor spills at the site during operation activities and during the transportation of the product(s) such as fuel to site -A penalty system for irresponsible disposal of waste on site and anywhere in the area should be implemented. -Ensure careful storage and handling of fuels on site. 	<ul style="list-style-type: none"> -Waste disposal permits to municipalities Environmental, Health and Safety Statements and Policy -Waste storage containers 		
	<p>Wastewater generated by exploration workers living on-site.</p>	<ul style="list-style-type: none"> -Potential contaminants such as hydrocarbons (fuels) and wastewater should be contained on site and disposed of in accordance with municipal wastewater discharge standards so that they do not contaminate surrounding soils and eventually groundwater -Provision of toilet facilities for workers (mobile/portable chemical toilet if possible). 	<ul style="list-style-type: none"> -Adequate toilet and basic ablution facilities on site. -Sewage removal operator -Waste treatment agents/chemicals 	<ul style="list-style-type: none"> -Exploration Manager -ECO 	<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"> -No open defecation is allowed on the farms and general community areas. Make use of provided toilets. -Emptying of chemical toilets according to the manufacturer's specifications. 			
Air Quality	Dust generation	<ul style="list-style-type: none"> -Exploration vehicles should not drive at a speed more than 40 km/h to avoid dust generation around the area. -Ensure that the exploration schedule is limited to the given number of days of the week (weekdays). This will keep the vehicle-related dust level minimal in the area. -When and if the project reaches the advanced stages of exploration, 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 onsite. 	<ul style="list-style-type: none"> -No complaints from the public about vehicle emissions and dust generation. -Visible efforts to curb dust -Dust suppressant (Water) 	<ul style="list-style-type: none"> -Exploration Manager -ECO 	Throughout exploration phase
Noise	Nuisance	<ul style="list-style-type: none"> -Noise from operations' vehicles and equipment on the sites should be at acceptable levels. -The exploration should not be done during the night or very early in the mornings. -No drilling should take place within 500m of a homestead or farmhouse. To minimize the noise impact to residents. -Exploration hours should be from 07h30 to 17h00, thus avoiding noise generated by exploration equipment and the movement of vehicles before or after hours. 	<ul style="list-style-type: none"> -No complaints from communities about excessive noise. -Noise protective equipment for workers 	<ul style="list-style-type: none"> -Exploration Manager -ECO 	Throughout exploration

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		<p>-When operating the drilling machinery onsite, workers should be equipped with PPE such as earplugs to reduce exposure to excessive noise.</p>			
Social nuisance	Local properties disturbance and values	<p>-The Project personnel should be informed of the importance of respecting local properties (not to damage houses, fences or killing their livestock wildlife).</p> <p>-Project personnel found guilty of intruding peoples 'privately owned properties should be called in for disciplinary hearing and/or dealt with as per their employer' (Proponent)'s code of employment conduct</p> <p>-Respect the communal and local private properties, values, and norms.</p> <p>-No one should be allowed to wander in people's private yards or fences without permission.</p> <p>-The killing of or in any way disturbance of local livestock and wildlife in the area (farms or communal area) is prohibited.</p> <p>-Avoid cutting down or damaging of private and community vegetation.</p> <p>-Out-of-area personnel employed (due to their unique work skills) should respect the local values and norms to co-live-in harmony with the local communities.</p>	<p>-No complaints from landowners or community members about property theft, disturbance, or intrusion related to the Project workers</p> <p>-Land access agreement and consents conditions are adhered to</p>	-Exploration Manager	Throughout the exploration phase

5.3 Management Measures for the Rehabilitation of Disturbed Sites and Decommissioning

The management measures to be implemented for the rehabilitation of explored sites and sites disturbed owing to the Project activities are provided in Table 5-3.

Table 5-3: The Mitigation measures for the Decommissioning Phase and Site Rehabilitation

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Decommissioning Phase and Site Rehabilitation					
Rehabilitation	Disturbance and damaging of land site land	<ul style="list-style-type: none"> -All drilled boreholes and excavated pits related to the project activities should be capped and backfilled. -All waste generated and stored on site during exploration activities should be disposed of at the respective nearest solid waste management sites. -The stockpiled topsoil should be levelled soon after completion of works at sites. -Any temporary setup on site should be dismantled, and the area rehabilitated as far as practicable, to their original state. -Explored areas on worksites should be progressively rehabilitated by stockpiling and backfilling. 	<ul style="list-style-type: none"> -Capped boreholes and backfilled pits -No sign of waste or littering seen on site and around site areas. -No stockpiled topsoil (topsoil is levelled after completion of each work) -Photo records of backfilled sites 	<ul style="list-style-type: none"> -Proponent -Exploration Manager 	Progressive rehabilitation done throughout the exploration phase and complete decommission and rehabilitation done after completion of exploration.
Infrastructure and structures	Decommissioning of services and infrastructures	-Dismantling of temporary structures such as campsite and office spaces and donate them to the communities or if cannot be donated, these structure materials should be transported to the nearest municipal dumpsite (upon prior consultation and approval by the respective Council).	<ul style="list-style-type: none"> -Structures are demolished, and rubbles taken to an approved dumpsite -Useful and safe structures and 	<ul style="list-style-type: none"> -Proponent -Exploration Manager 	At the completion of the exploration works

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Structures should be donated to the communities if still in good condition and safe. -All the waste generated from the last disposal to the last days on site should be transported to the nearby approved municipal dumpsite. -Transport all machinery and equipment as well as vehicles to designated offsite storage facilities.	infrastructures donated to communities -Waste transported to approved dumpsites		
Rehabilitation funds	The lack of planning for financial and technical resources	-Make provision of both financial and technical resources for progressive rehabilitation. -A Rehabilitation Trust Fund should be created and a committee to oversee this should be created. The committee would consist of local community leaders, Traditional Authority and possibly Regional Council.	-Records of finances set aside for decommissioning activities -Excavators and other backfilling/demolishing machinery	-Proponent -Exploration Manager	Updated throughout the exploration phase

6 ENVIRONMENTAL MONITORING AND REPORTING

To ensure that the implementation of recommended environmental management measures is working and produces the desired results (minimizing the "medium" and uphold 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 6-1. 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 6-1: Environmental and Social Monitoring Actions (updated 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 threshold is exceeded
Water and soil pollution									
Soil pollution by hydrocarbon (fuel and lubricant spills)	Complaints from landowners or occupiers of land within the project sites	To prevent contamination of site soils	No complaints from landowners or community members about visible oil spills	Inspection of complaints logbooks	Weekly	ECO	ECO-> Exploration Manager	A logged complaint	Further consultations with the landowners / communities
Wastewater generated by exploration workers living on-site.	Open defecation and urination.	To prevent environmental pollution	Adequate toilet facilities on site. Complaints from the public about open defecation.	Visual observation. Inspection of complaints logbook.	Weekly	ECO	ECO-> Exploration Manager	A logged complaint	Clean-up of affected areas.
Soils									
Loss of topsoil	Increased loss of soil	To prevent loss of topsoil	No proliferation of informal vehicle tracks.	Visual observation	Weekly	ECO	ECO-> Exploration Manager	Proliferation of new vehicle tracks Formation of new	Rehabilitation of affected explored areas

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
			No new erosion gullies					gullies in work areas	
Air quality									
Increase in dust generation, which might negatively affect occupational and residential respiratory health.	Complaints from public about increased in dust generation.	To reduce public complaints and prevent negative changes in air quality due to exploration activities	No complaints from the public about increased dust generation.	Inspection of complaints logbook.	Weekly	ECO	ECO-> Exploration Manager	A logged complaint	Dust suppression around working areas to reduce fugitive dust
Hydrocarbon emissions from vehicles	Complaints from the public about increased vehicles 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
Poaching (Illegal hunting)									
Illegal hunting of wildlife	Reported poaching incidents by projects team	To prevent illegal hunting of wildlife	Incidents 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 incidents report logged with the local Police Service	Appropriate action will be decided by the local Police Service
Habitat loss (Biodiversity)									

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
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
Occupational and Community / Public Health and Safety									
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 environment damage caused by wildfires	No wildfires recorded (due to 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
Archaeology and cultural heritage									
Potential disturbance of archaeological and cultural heritage resources	Presence or unearthing of archaeological or cultural heritage resources	To prevent 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 of archaeological or cultural heritage resources	Cease all activities on site and wait for NHC to inspect site and give further instructions / actions
Employment creation and Corporate Social Responsibility (CSR)									

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
Creation of employment, procurement of goods and services	Employment opportunities -Community projects support -Local procurement	To ensure that locals benefit from the Project	Employment, community support and local procurement	Inspection: employed, procurement & community project records	Monthly	Exploration Manager	Exploration Manager or Proponent	Number of CSR projects	Open communication and reasonable requests / proposals
Noise									
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
Vehicular Traffic									
Increase in traffic density on declared Roads Authority (RA) roads or damage to these.	Complaints from the public about increase in traffic on the roads. Complaints about damage to RA roads caused by movement of project vehicles and machinery.	To ensure continued ease of access to local roads by residents / communities	No complaints from the public about increase off 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
HIV and AIDS									

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
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 STIs 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
Social nuisance: Property invasion or disturbance and damage									
Potential intrusion or damage/destruction of private or public properties	Unauthorized intrusion and or damage to properties	To prevent crashes and tensions between the Proponent and the landowners	No complaints of property damage or intruding by project personnel	Liaison with property owners or occupiers of land	Monthly	PRO	Exploration Manager (or Proponent) -> PRO -> Landowners / occupiers of the land (communities)	Arising new complaints	PRO to warn the personnel on respecting people's properties. If persists, then Code of Conduct to be implemented
Environmental Pollution (Littering)									
Environmental pollution from solid waste during exploration activities.	Scattered litter	To prevent littering of the general project area	No visible litter around the project area	Visual observation	Daily	ECO	ECO -> Exploration Manager	Visible littering around project site	Clean-up of the affected areas and ensuring workers utilise waste containers provided.
Visual									
Visual impact owing to the project's exploration activities	Contrasting landscape (eyesore to travellers 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.

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
Site Rehabilitation									
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 levelling of topsoil and backfilling of pits / holes

APPENDIX 1: 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 objectmust as soon as practicable report the discovery to the Council*”. The procedure of reporting set out below must be observed so that heritage remains reported to the NHC are correctly identified in the field.

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

- National Heritage Council of Namibia (+264 61 244 375 / 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 offence under the heritage act and punishable upon conviction by the law.

Responsibility:

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

Procedure:

Action by person identifying archaeological or heritage material:

- 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

Action by foreman

- 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.