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**Draft Environmental Management Plan (EMP)**

# The Proposed Exploration Activities on Exclusive Prospecting License (EPL) No. 9488 near Uis Settlement in the Erongo Region, Namibia

**MEFT Application No.:** **APP-005191**

**Proponent:** **Tarah Hainana**

**P. O. Box 3039 Windhoek, Namibia**

**August 2025**

## DOCUMENT INFORMATION

Title: Draft Environmental Management Plan (EMP) for the Proposed Exploration Activities on Exclusive Prospecting License (EPL) No. 9488 near Uis Settlement in the Erongo Region, Namibia

### Prepared by:



| | |
|---|---|
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| **Signature:** |  |
| **Date:** | August 2025 |

# SERJA'S 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 the proposed Exploration Activities on Exclusive Prospecting License (EPL) No. 9488 near Uis Settlement in the Erongo Region, Serja Hydrogeo-Environmental Consultants cc declare that we:

- do not have, to our knowledge, any information or relationship with the Proponent (Mr. Tarah Hainana), the Ministry of Environment, Forestry and Tourism (MEFT)'s Department of Environmental Affairs and Forestry (DEAF) or the Competent Authority (Ministry of Industries, Mines and Energy (MIME) that may reasonably have 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:** August 2025

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## LIST OF ABBREVIATIONS

**DDTA:** Daure-Daman Traditional Authority

**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 Prosecting License

**ESA**: Environmental Scoping Assessment

**GG:** Government Gazette

**GN:** Government Notice

**I&APs**: Interested and Affected Parties

**MAFWLR:** Ministry of Agriculture, Fisheries, Water and Land Reform

**MEFT:** Ministry of Environment, Forestry and Tourism

**MIME:** Ministry of Industries, Mines and Energy

**NHC:** National Heritage Council

**PPE:** Personal Protective Equipment

**SHE Officer:** Safety, Health & Environment Officer

# 1 INTRODUCTION

## 1.1 Project Background and Location

Tarah Hainana (hereinafter referred to as the Proponent) applied to the Ministry of Mines and Energy (MME), now the Ministry of Industries, Mines and Energy (MIME), for the exploration rights on Exclusive Prospecting License (EPL) No. 9488 on the 29th of May 2023. However, the approval of the EPL is 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 a potential for base & rare metals, dimension stones, industrial minerals, and precious metals. Thus, upon granting the EPL rights by the MIME, the Proponent intends to prospect and explore within the boundaries of the EPL.

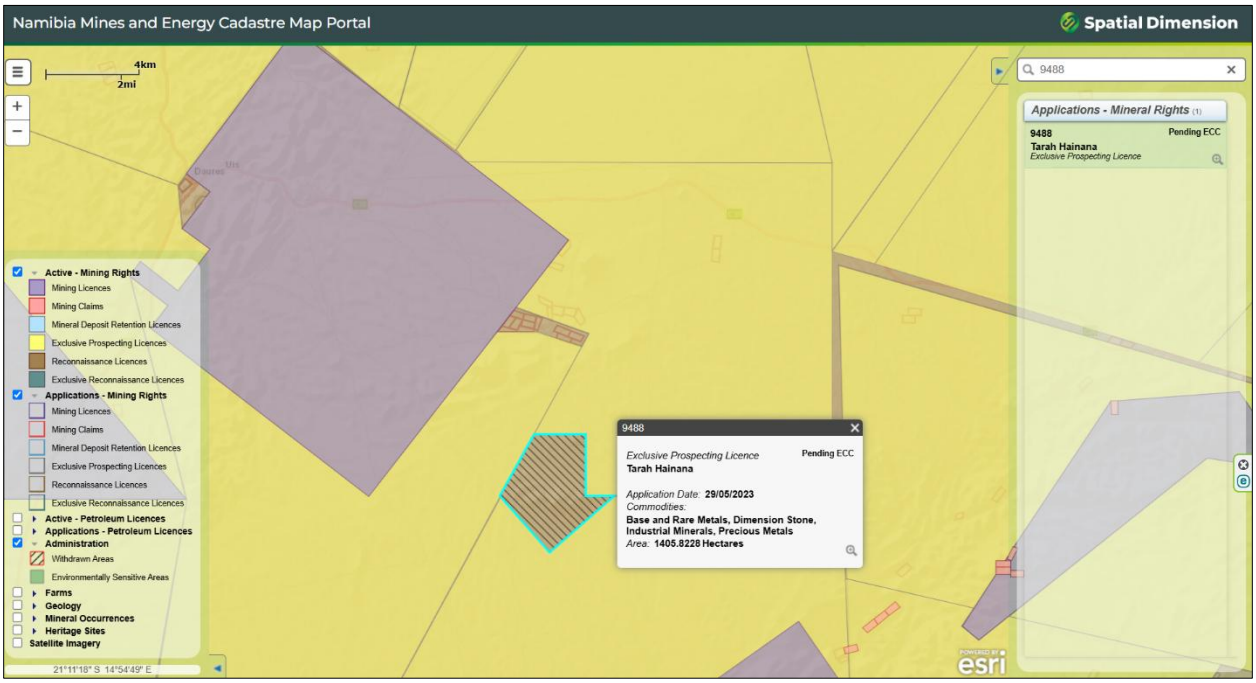


**Figure 1-1: The status of EPL-9488 on the Namibia Mining Cadastre Map Portal (https://portals.landfolio.com/namibia/)**

The Proponent intends to prospect and explore for mineral commodities within EPL-9488 (Base & Rare Metals, Dimension Stone, Industrial Minerals, and Precious Metals). The EPL covers an area of 1,405.8228 hectares (Ha) and is located about 25km southeast of Uis Settlement (Figure 1-2.) and within the Tsiseb Conservancy (Figure 1-3) and under the Daure-Daman Traditional Authority in the Erongo Region.

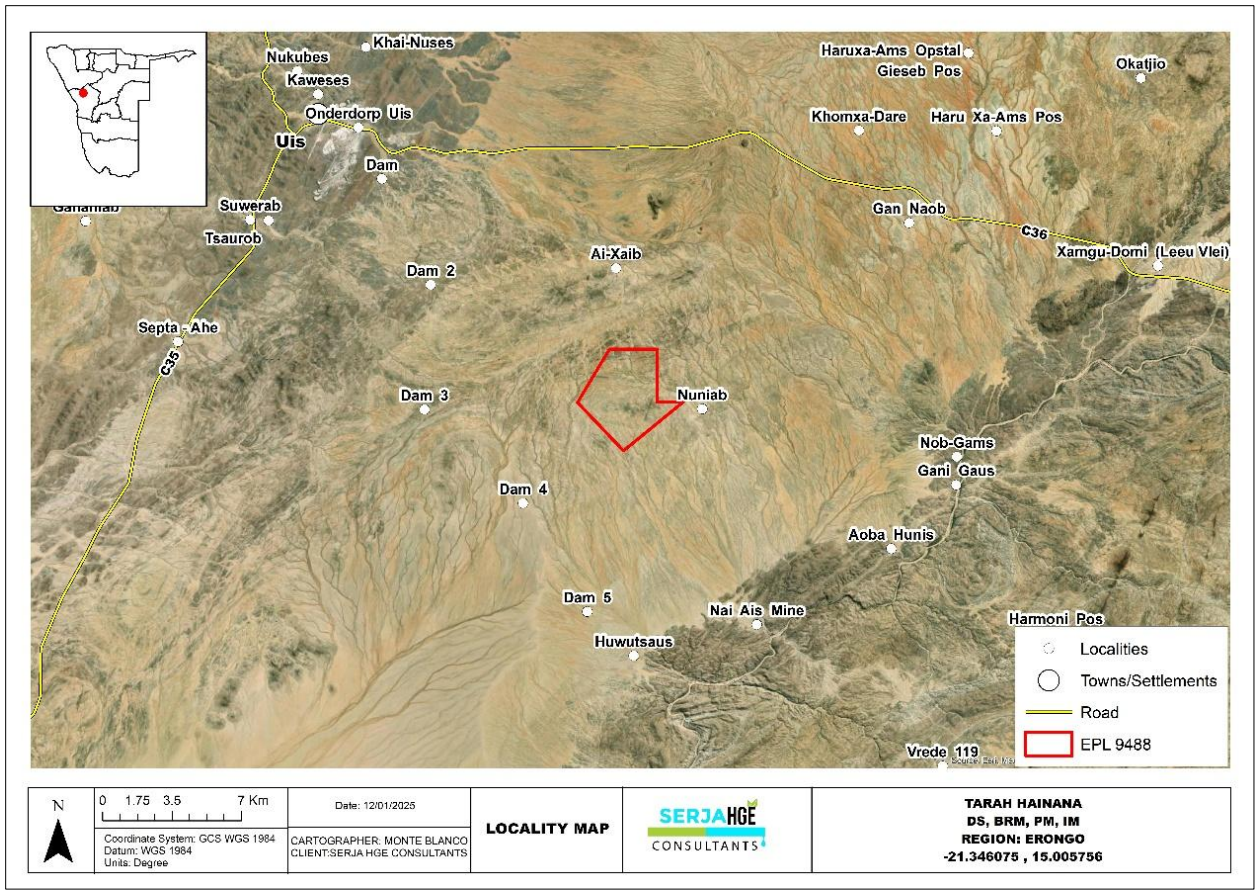


**Figure 1-2: Locality Map of EPL-9488 southeast of Uis in the Erongo Region**

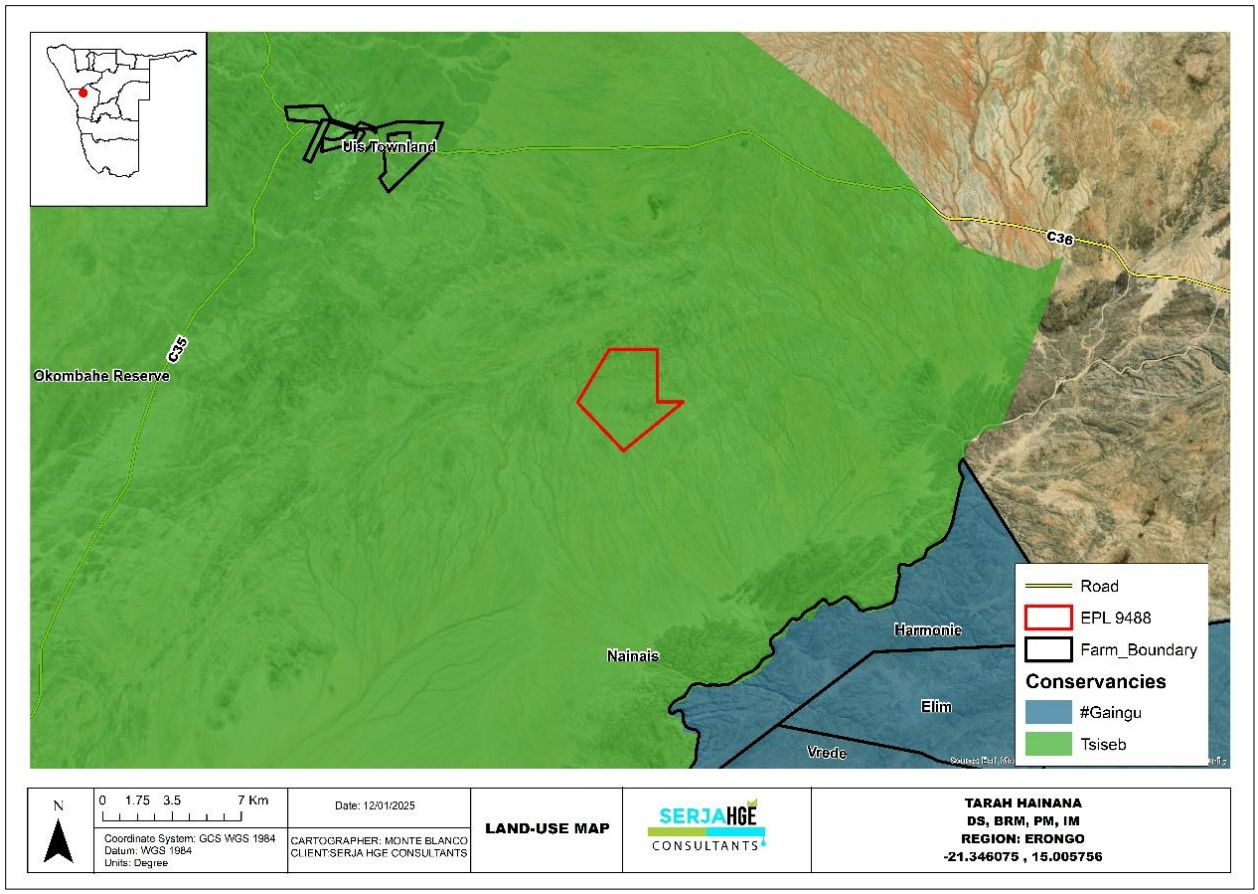


**Figure 1-3: The location of EPL-9488 within the Tsiseb Conservancy**

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

The Draft EMP was developed following Regulation 8(j) of the EIA Regulations (2012) that 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 land custodians/users), facilitating the recruitment and procurement processes, etc.
- **Exploration phase –** The stage during which actual groundwork (prospecting and 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

Before mobilizing to the site and undertaking any groundwork for the proposed activities at the site (EPL-9488), the Proponent will be required to sign land access and use agreements with the land custodians (the Daure-Daman Traditional Authority) and the land users (Tsiseb Conservancy). The consents for land use have been obtained from the two custodians.

The anticipated duration of the proposed prospecting and exploration activities is between anticipated to last between (6) and twenty-four (24) months. However, should the anticipated timeframe turn out to be insufficient or, depending on the exploration findings, by the end of 24 months, this may be stretched longer for some more months and communicated with the relevant stakeholders.

## 2.1 Current Site Conditions

In the consultation meetings on the 14th of August 2025, it was indicated that the EPL site had been previously mined until 2012/2013 (over 10 years ago) by a different miner who had mining claims inside the EPL. This was also confirmed during the site visit undertaken on the 14th of August 2025. The previous mining activities entailed the quarrying of white granite, as shown in the photos in Figure 2-1.

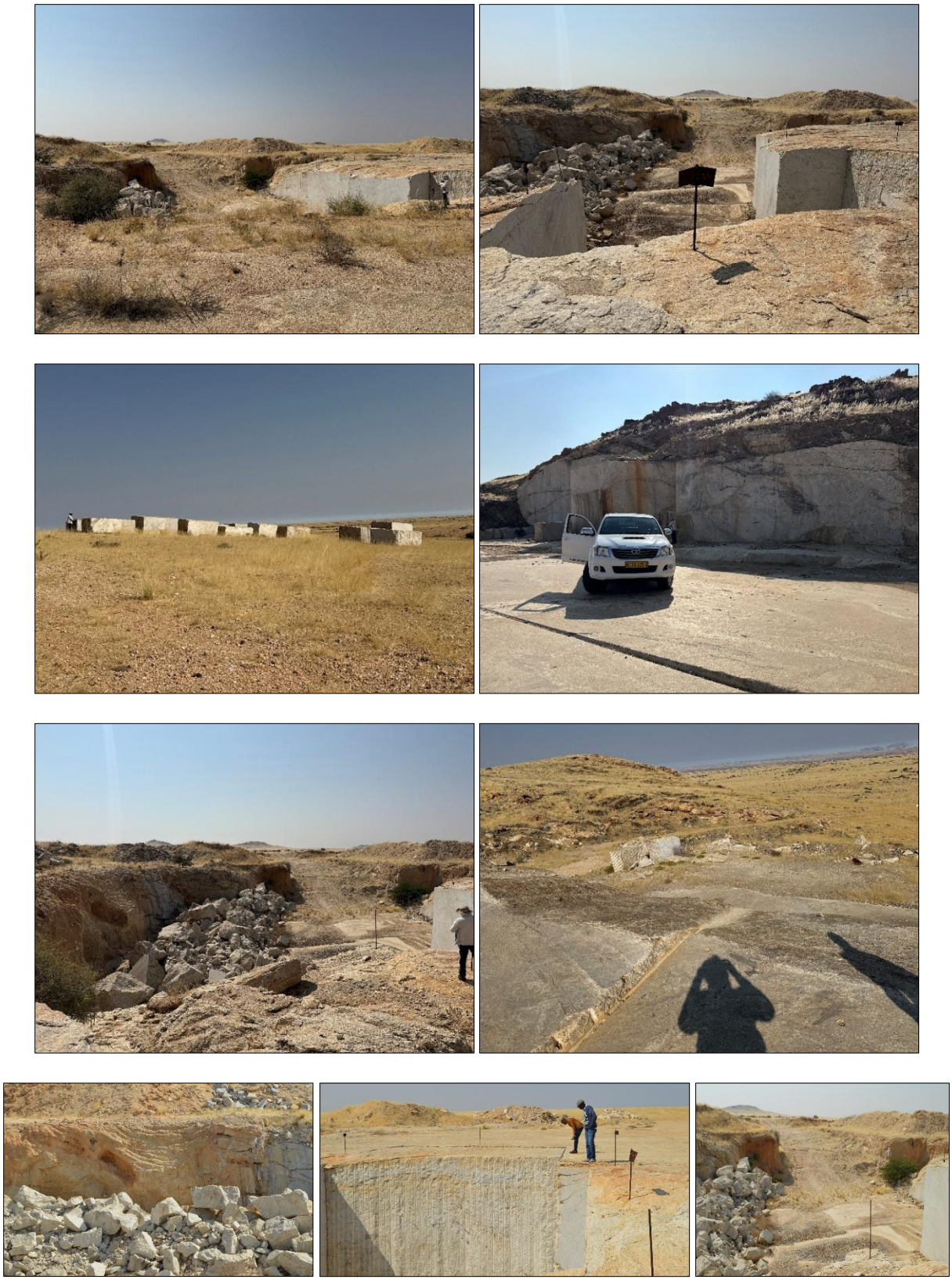

**Figure 2-1: The signs of previous quarrying work within EPL-9488 until 2012/2013**

## 2.2 Duration of the Proposed Prospecting and Exploration Works

The exploration programmes are based on an iterative, results-driven, and phased nature. Therefore, it is not possible at an early stage of exploration to give exact areas for future drilling or an exact duration of the exploration activities (Resilient Environmental Solutions, 2019).

Soil sampling programmes, 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 programmes may initially range from two weeks to a month at a time, depending on the planned programme or based on the results of the programme. 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 programmes.

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 2 exploration categories of the commodities (Base & Rare Metals, Dimension Stone, Industrial Minerals, Nuclear Fuels, and Precious Metals) potentially occurring on the EPL. The exploration methods are presented in the ESA Report, but are also summarized below.

## 2.3 Planned Exploration Methods

The proposed activities will be done using both non-invasive and invasive techniques, as summarized below and detailed under Chapter 2 of the ESA Report:

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

## 2.4 Decommissioning and Rehabilitation of Disturbed Sites

Once the exploration activities on the EPL are completed, the Proponent will need to put site rehabilitation measures in place. To ensure the project activities are ceased in an environmentally friendly manner and the site is rehabilitated by carrying out the following:

- Dismantling and removal of campsites 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 practice onsite will include:

- Backfilling of pits and trenches used for sampling,

- Closing and capping of exploration boreholes 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 as close to their original state 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 following 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 activities required of the EPL.

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

| Legislation/Policy/ Guideline | Relevant Provisions | Implications for this project |
|---|---|---|
| Environmental Management Act EMA (No 7 of 2007) | Requires that projects with significant environmental impacts be subject to an environmental assessment process (Section 27).<br><br>Details principles that are to guide all EAs. | The EMA and its regulations should inform and guide this EA process.<br><br>Should the ECC be issued to the Proponent, it should be renewed every 3 years, counting from the date of issue.<br><br>Contact details at the Department of Environmental Affairs and Forestry (DEAF), Ministry of Environment, Forestry and Tourism (MEFT), Office of the Environmental Commissioner<br><br>**Mr. Timoteus Mufeti**<br><br>**Tel: +264 61 284 2701** |
| Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878) | Details requirements for public consultation within a given environmental assessment process (GN 30 S21).<br><br>Details the requirements for what should be included in a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15). | |
| 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 these EPL are obtained from the Ministry of Industries, Mines and Energy (MME).<br><br>Contact person and details at the MIME (Mining Commissioner)<br><br>**Mrs. Isabella Chirchir**<br><br>**Tel: +264 61 284 8251.** |

| Legislation/Policy/ Guideline | Relevant Provisions | Implications for this project |
|---|---|---|
| Traditional Authority Act (Act No. 25 of 2000): | The Traditional Authorities should be involved in the planning of land use and development for their area. | The affected communal land falls under the Daure-Daman Traditional Authority (DD TA). Therefore, the DD TA should be consulted throughout.<br>**Chief Zacharius Seibeb: DD TA (in Uis)**<br>**Email:** dauredaman@gmail.com |
| Water Resources Management Act (No 11 of 2013) | Ensure that the water resources of Namibia are managed, developed, used, conserved, and protected in a manner. **Therefore, a Groundwater Abstraction & Use Permit should be applied for. A 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, a need to apply for an abstraction permit.** | The Water Permit should be applied for from the Ministry of Agriculture, Fisheries, Water, and Land Reform (MAFWLR)<br>**Department of Water Affairs (DWA)**<br>**Contact: Mr. Franciskus Witbooi Division: Water Policy and Water Law Administration Division**<br>**Tel: +264 61 208 7158** |
| | For any project wastewater planned for discharge into the environment, **a discharge permit should be applied for and obtained.** | **MAFWLR, DWA's Water Environment Division**<br>**Contact: Ms. Elise Mbandeka**<br>**Tel: +264 61 208 7167** |
| Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001) | Regulation 3(2)(b) states that "No person shall possess or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area" | The Proponent should obtain the necessary authorisation from the MIME for the storage of fuel on-site (Consumer Installation Permit).<br>**Mr. Carlo McLeod** (Ministry of Mines and Energy: Acting Director – Petroleum Affairs)<br>Tel: +264 61 284 8291 |
| National Heritage Act No. 76 of 1969 | Call for the protection and conservation of heritage resources and artefacts. | Should any archaeological material, such as bones, unknown graves, old weapons/equipment, etc, be found 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.<br>Contact Details at the National Heritage Council (NHC) of Namibia |

| Legislation/Policy/ Guideline | Relevant Provisions | Implications for this project |
|---|---|---|
| | | **Mrs. Erica Ndalikokule – NHC Director**<br>**Tel: +264 61 301 903** |

# 4 EMP IMPLEMENTATION RESPONSIBILITIES

Tarah Hainana (the Proponent) and his exploration partners (if any) are 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 presented in Table 4-1.

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

| Role | Responsibilities |
|---|---|
| Tarah Hainana (Proponent) with Exploration Partners and or their Representative | -Managing the implementation of this EMP and updating and maintaining it when necessary.<br>-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 | 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:<br>-Ensure that relevant commitments contained in the EMP are adhered to.<br>-Ensure relevant staff are trained in procedures entailed in their duties.<br>-Maintain records of all relevant environmental documentation for the project.<br>-Reviewing the EMP annually and amending the document when necessary.<br>-Issuing fines to individuals who may be in breach of the EMP provision and, if necessary, removing such individuals from the site.<br>-Cooperate with all relevant interested and affected parties/stakeholders.<br>-Development and management of schedules for daily activities |
| Environmental Control Officer (ECO) / Safety, Health & Environment (SHE) Officer | The Proponent may assign the responsibility of ensuring EMP compliance throughout the project life cycle to a designated member of staff or an external qualified and experienced person, referred to in this EMP as the Environmental Control Officer (ECO) / SHE Officer. The ECO will have the following responsibilities:<br>-Management and facilitation of communication between the Proponent, PR, and Interested and Affected Parties (I&APs) regarding this EMP. |

| Role | Responsibilities |
|---|---|
| | -Conducting site inspections of all areas concerning the implementation of this EMP (monitor and audit the implementation of the EMP).<br>-Advising the Proponent or Exploration Manager on the removal of person(s) and/or equipment not complying with the provisions of this EMP.<br>-Making recommendations to the PR for the issuing of fines for contraventions of the EMP.<br>-Undertaking an annual review of the EMP and recommending additions and/or changes to this document. |
| Public Relations Officer (PRO) | The PRO will be responsible for the following tasks:<br>-Liaising between the stakeholders, the public, and the Proponent.<br>-Ensure effective communication with stakeholders, media (if necessary), and the public.<br>-Organising and overseeing public relations activities, managing public relations issues.<br>-Preparing and submitting public relations reports, if required.<br>-Collaborating with personnel and maintaining project-related open communication among personnel. |

# 5 ENVIRONMENTAL MANAGEMENT MEASURES

## 5.1 Key identified Potential negative Impacts

The key potential 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,
- Payment of land use fees to the Conservancy and Traditional Authority to assist in uplifting the communities near the EPL and Uis.
- Procurement of local goods and services for exploration by small and medium businesses to promote local entrepreneurship empowerment and local economic development.

- The presence of EPL crew, particularly the Exploration Manager and Environmental Control Officer (ECO), will aid in deterring crime against wildlife (anti-poaching). This will be done through raising continuous anti-poaching awareness among the workers and their responsibility to report suspicious movements in the area to the Exploration Manager and ECO while working/operating in the area.
- Assisting the anti-poaching team in the Conservancy with basic needs and other possible aids (donations) through the Conservancy (as per signed Memorandum of Understanding).

Negative (adverse) impacts:

- Physical land/soil disturbance,
- Impact on local biodiversity (fauna and flora); potential illegal harvesting of protected vegetation and wildlife hunting (poaching), and habitat disturbance in the area (Conservancy),
- Potential impact on water resources and soils, particularly due to pollution,
- Visual impact from unrehabilitated explored areas on the EPL may pose as an eyesore to travellers (including tourists) using the C36 and local access roads,
- Accidental fire outbreaks related to the project activities,
- Air quality issue: potential dust generated from the project activities such as drilling, possibly trenching, and movement of heavy trucks on unpaved access roads,
- Potential occupational health and safety risks (trenches and drilled holes risk to wildlife), and
- Vehicular traffic safety and impact on services infrastructure, such as local roads.

## 5.2 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 |
|---|---|---|---|---|---|
| **Planning Phase** | | | | | |
| EMP implementation and training | Lack of EMP awareness and implications thereof | -A Comprehensive Health and Safety Plan for the project activities should be compiled.<br>-An EMP non-compliance penalty system should be implemented on-site.<br>-The Proponent should appoint an Environmental Control Officer (ECO) or SHE Officer to be responsible for managing the EMP implementation and monitoring. | -All required EMP implementation Plans and Systems are compiled and in place.<br>-ECO is appointed | -Proponent | Pre-exploration |
| Authorizations | Lack of Agreements, Permits/ Licenses | -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.<br>-The permits, agreements referred to herein include:<br>(a) Land use agreement through Memorandum of Agreement (MoA) with the Daure-Daman TA and Tsiseb Conservancy.<br>(b) Waste management disposal permits from the relevant facility operator/owner<br>(c) Water supply agreements or groundwater abstraction & use permit (if abstracting directly from a borehole, river, or dam)<br>(d) Fuel storage permit from MIME for petroleum stored onsite. | -Applicable permits and licenses to be obtained from relevant authorities.<br>-MoAs between the Traditional Authority and Conservancy are in place | -Proponent | Pre-exploration |
| Communication between the Proponent and land custodians/users | Lack of communication between land custodians/users and the Proponent concerning land use/access | -The Proponent should appoint a Public Relations Officer (PRO) to liaise with the authorities and land users.<br>-A clear communication procedure/plan, which should include a grievance mechanism, should be developed. | -A PRO is appointed<br>-Ongoing Consultation throughout the project, when and as required.<br>-PRO contact details provided to land custodians<br>-Complaint's logbook | -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 | -Where possible, source the unskilled and semi-skilled labour for casual work from the local communities, such as Uis and villages/farms near the EPL. Out-of-area employment should be justified, for example, by the unavailability of local skills.<br>-Contractors should give all unskilled and semi-skilled work to the locals before considering outsiders. This is to avoid the influx of outsiders into the area for work that can be done by the locals.<br>-The anticipated work opportunities and number of positions should be announced through the local leadership offices (Daures Constituency and Daure-Daman TA).<br>-The names 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.<br>-Where possible, the locals (such as graduates and youth) employed during exploration should be provided with the necessary training of skills required to avoid bringing in many out-of-area workers. | -Number of locals employed for exploration activities | -Proponent in collaboration with the Drilling contractors | Pre-exploration and, when necessary, throughout |
| Land use fees for socio-economic development | Local socio-economic development | -Commit to the conditions listed in the Memorandum of Agreements (MoA) signed with authorities such as the Daure-Daman Traditional Authority and Tsiseb Conservancy.<br>-The payments of land use fees should be made as agreed. | -Proof of funds paid to the respective authorities' bank account and related records. | -Proponent | Pre-exploration and, when necessary, throughout |
| Specialised 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 such services and goods. | -Number of hired contractors.<br>-Record of hired or contracted companies or service providers | -Proponent<br>-Exploration Manager | Pre-exploration |
| Presence of the exploration crew in the area | Combating/fighting anti-poaching | -Commit to assisting the Tsiseb Conservancy in fighting against poaching (crime against wildlife) while in the area by creating awareness among the project workers and the impact of such crimes on the host environment and the country at large. | -Proof of assistance rendered to the Tsiseb Conservancy in combating poaching in the area. | -Proponent<br>-Exploration Manager | Pre-exploration and throughout the project phases |

| Aspect | Impact | Management and Mitigation Measure(s) | Key Performance Indicator (KPI) | Implementation Responsibility | Timeline |
|---|---|---|---|---|---|
| | | -Report any suspicious activities related to wildlife crime to the Conservancy and the nearest Police.<br>-Assist the Conservancy and, if needed, the wildlife rangers in the area with basic needs to use when in the field, where possible. | | | |
| **Prospecting and Exploration Phase** | | | | | |
| EMP implementation and training | Lack of EMP awareness and implications thereof | -EMP trainings should be provided to all workers on-site.<br>-All site personnel should be aware of the necessary health, safety, and environmental considerations applicable to their respective work.<br>-The implementation of this EMP should be monitored.<br>The site should be inspected, and a compliance audit done throughout **the project activities, monthly, and biannually for overall EMP implementation.**<br>-EMP non-compliance penalty system should be implemented. | -Records of EMP compliance/monitoring conducted biannually<br>-The ECC is renewed every 3 years<br>-Records of EMP training conducted. | -Exploration Manager<br>-ECO | Throughout the exploration phase |
| Communication between the Proponent and land custodians/users | Lack of communication (proper liaison) between land custodians and the Proponent on land use | -The PRO should be introduced to the stakeholders and their contact details provided to them before undertaking activities for easy communication.<br>-The Proponent should compile a clear communication procedure/plan, which should include a grievance and response mechanism. | -PRO is part of the project personnel.<br>-Records of stakeholders' continued consultation<br>-Public grievances addressed to their satisfaction<br>-Complaint's logbook | -PRO | Throughout exploration |
| Water Resources Use | Over-abstraction (water demand and availability) | -Water should be used efficiently, and recycling and reusing of water for certain site activities should be encouraged.<br>-Consider carting water for drilling from elsewhere outside the site area to not put pressure on the available resources. Agreements for water supply should be made between the willing water supplier and the Proponent. | -Water supply agreements<br>-Proof/ recording/ quantification of water saving efforts.<br>-Water supplying agreements | -Proponent<br>-Exploration Manager | Once-off supply agreement<br>Throughout the exploration phase |

| Aspect | Impact | Management and Mitigation Measure(s) | Key Performance Indicator (KPI) | Implementation Responsibility | Timeline |
|---|---|---|---|---|---|
| | | -If the carted water is directly abstracted from a certain borehole or boreholes, the Proponent should apply for a Groundwater Abstraction & Use Permit from the DWA of MAFWLR.<br>-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, where possible.<br>-Water storage tanks should be inspected daily to ensure that there is no leakage, resulting in wasted water on site.<br>-Water conservation awareness and saving measures training should be provided to all the project workers to understand the importance of conserving water and become accountable. | -Water storage tanks on site | | |
| Soils | Physical soil/land disturbance and loss of topsoil | -Stockpiled topsoil and drill materials should be used to backfill the excavated and disturbed site areas/spots.<br>-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.<br>-Soils that are not within the intended footprints of the site target areas should be left undisturbed, and soil conservation implemented as far as possible.<br>-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 and erosion.<br>-Off-road driving in the EPL area is strictly prohibited. Stick to approved site access roads by the Conservancy. | -No proliferation of informal vehicle tracks created by project activities.<br>-No new erosion gullies.<br>-No complaints from the Conservancy or other stakeholders about the unnecessary creation of tracks in the area (visual nuisance). | -Exploration Manager<br>-ECO | Throughout exploration |
| Soils and water resources | Soils and water resources pollution | -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. | -No complaints of pollutants on the soils and eventually in the water due to exploration activities | -Exploration Manager<br>-ECO | Throughout the exploration phase |

| Aspect | Impact | Management and Mitigation Measure(s) | Key Performance Indicator (KPI) | Implementation Responsibility | Timeline |
|---|---|---|---|---|---|
| | | -Sensitize project employees about the impacts of soil pollution and advise them to follow appropriate fuel handling procedures.<br><br>-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.<br><br>-Ensure employees receive basic Spill Prevention, Control, and Countermeasure (SPCC) Plan training.<br><br>-Project machines and equipment should be equipped with drip trays to contain possible oil spills when operated on site.<br><br>-Polluted soil should be removed immediately and put in a designated waste-type container for later disposal.<br><br>-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).<br><br>-Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility.<br><br>-Washing of equipment contaminated with 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.<br><br>-Toilet water should be treated using chemical portable toilets and periodically emptied before reaching capacity and transported to a wastewater treatment facility. | -No visible oil spills on the ground or pollution spots.<br><br>-Complaint's logbook<br><br>-Availability of waste containers<br><br>-Non-permeable material to cover the ground surface in areas where hydrocarbons and potential pollutants are utilized. | | |
| Biodiversity | Loss of Fauna and Flora | **<u>Fauna (animals)</u>**<br><br>-Refrain from disturbing or killing small soil and animal species found in rock outcrops on and around the site.<br><br>-Breeding sites for occurring on and around the EPL should not be destroyed or disturbed. | -No disturbance to unmarked areas.<br><br>-No complaints from locals regarding unauthorised | -ECO | Throughout the exploration phase |

| Aspect | Impact | Management and Mitigation Measure(s) | Key Performance Indicator (KPI) | Implementation Responsibility | Timeline |
|---|---|---|---|---|---|
| | | -Exploration trenches and boreholes should be secured (temporary fencing) and backfilled and capped after sampling is completed to prevent animals from falling into trenches.<br>-Incorporate Environmental awareness and biodiversity preservation into the employment contracts of all workers.<br>**Flora (vegetation):**<br>-Avoid unnecessary removal of the already scarce vegetation to promote a balance between biodiversity and the project.<br>-Vegetation found on the site, but not in the targeted exploration site areas or access route, should be left undisturbed/avoided.<br>-Vehicle movement should be restricted to existing roads and tracks to prevent unnecessary damage to the surrounding vegetation.<br>-No onsite vegetation should be cut or used for firewood.<br>-Access roads should be created in a manner that disturbs minimal vegetation.<br>-Environmental awareness on faunal and floral biodiversity preservation should be provided to the workers and contractors. This should be incorporated into the workers' contracts. | vegetation removal or cutting down of trees.<br>-No complaints of wildlife hunted by the project workers.<br>-No intentional disturbance and destruction of site vegetation and faunal species<br>-Barricading tape (to indicate working areas)<br>-Visible preservation of onsite vegetation | | |
| Illegal hunting | Illegal hunting of wildlife | -The Poaching (illegal hunting) or disturbance/harming of wildlife on the EPL and surrounding areas is strictly prohibited.<br>-A No Tolerance to Poaching Policy should be developed and applied to all site personnel (workers) as well as project visitors.<br>-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. | -Proven incident reports of illegal hunting of wildlife by the crew were reported to the Police.<br>-Contact details of the Anti-poaching Police Unit are provided and visible on-site | -Exploration Manager<br>-ECO | During site setup and throughout exploration |
| Land Use | Conflict between land uses and | -Exploration activities should not in any way hinder the existing land uses within the EPL but rather promote co-existence | -Land use permits/authorizations. | -Exploration Manager<br>-Proponent | Throughout the exploration phase |

| Aspect | Impact | Management and Mitigation Measure(s) | Key Performance Indicator (KPI) | Implementation Responsibility | Timeline |
|---|---|---|---|---|---|
| | exploration activities | throughout the project operations while respecting other land users (Conservancy and related operations).<br>-Limit the project activities to the actual EPL active sites only, but do not unnecessarily wander and drive around the area.<br>-Ensure that the project 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 around the EPL. | -Compliance with conditions set within operational permits by relevant and affected authorities.<br>-Little to no complaints of significant interference from the neighbouring land users | -ECO | |
| Visual (aesthetic) | The scarring of the landscape and the presence of exploration vehicles and machinery may impact the scenic view of the area for tourists and travellers on the roads. | -The exploration activities should be done away from the roads, and the explored sites rehabilitated as far as possible.<br>-Concentrated stone block sampling in the areas behind the mountain that overlook the local roads. In other words, exploration activities that are likely to leave visible scars on the hills or mountains should be done in areas behind these mountains and not on the areas that are visible from the road.<br>-Minimize the land scarring by targeting specific areas only.<br>-The campsite should be established behind outcrops where possible to limit their obvious presence to road users (tourists and travellers alike). | -No complaints of visual nuisance from the travellers or Conservancy<br>-No disturbed site areas are left without rehabilitation<br>-Exploration works are limited to areas far from the roads. | Exploration Manager | Throughout the exploration phase |
| Road use and safety | Increase in vehicular traffic flow | -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.<br>-Drivers of all project phases' vehicles should have valid and appropriate driving licenses and adhere to the road safety rules.<br>-Drivers should drive slowly (40km/hour or less) and be on the lookout for wildlife.<br>-Ensure that the site access roads are well equipped with temporary road signs.<br>-Project vehicles should be in a roadworthy condition and serviced regularly to avoid accidents owing to mechanical faults. | -No complaints from members of the public regarding vehicular traffic issues related to the project activities.<br>-All personnel operating the project vehicles and machinery are appropriately licensed and in possession of valid driving licenses. | -Exploration Manager<br>-ECO | Throughout the exploration phase |

| Aspect | Impact | Management and Mitigation Measure(s) | Key Performance Indicator (KPI) | Implementation Responsibility | Timeline |
|---|---|---|---|---|---|
| | | -Vehicle drivers should only make use of the designated site access roads provided and as agreed.<br>-Vehicle drivers should not be allowed to operate vehicles while under the influence of alcohol.<br>-Project vehicles should be parked within the boundary or demarcated areas for such purpose.<br>-Deliveries from and to the site should be done optimally during weekdays and between the hours of 8 am and 5 pm.<br>-The site access road(s) should be maintained to an acceptable standard for the vehicles. | -Demarcated areas for parking, offloading, and loading zones are on sites.<br>-No creation of unnecessary tracks on site. | | |
| Local roads | Overuse and maintenance | -The heavy trucks transporting materials and services to the site should be scheduled to travel a maximum of twice a week to avoid daily travelling to the site, unless in cases of emergencies.<br>-Consider frequent maintenance of local roads in the area to ensure that the roads are in good condition for other road users, such as travellers and tourists from outside the area. | -Visible efforts of maintaining access and communal roads by the Proponent | -Proponent<br>-Exploration Manager | Throughout exploration, when necessary |
| Occupational Health and Safety | General health and safety associated with project activities in both phases | -During inductions, provide project workers with an awareness training of the risks of mishandling equipment and materials on site and the health & safety risks associated with their respective jobs.<br>-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.<br>-Heavy vehicle, equipment, and fuel storage sites should be properly secured, and appropriate warning signage placed where visible.<br>-Drilled exploration holes that will no longer be in use or are to be used later after being drilled should be properly marked for visibility and capped/closed off. | -Comprehensive health and safety plan for all exploration activities compiled.<br>-Quarterly refresher training on health & safety<br>-Occupational Health and Safety Personnel<br>Health and Safety Training<br>-Availability of fully-furnished first aid kits<br>-Trained worker to administer first aid | -Proponent<br>-Exploration Manager<br>-ECO | Throughout exploration and training offered as and when required |

| Aspect | Impact | Management and Mitigation Measure(s) | Key Performance Indicator (KPI) | Implementation Responsibility | Timeline |
|---|---|---|---|---|---|
| | | -Trenches should be temporarily fenced off during sampling, and once completed, they should be backfilled thereafter<br>-Drill cuttings and excavated materials should be put back into the hole and the holes filled and levelled, and trenches backfilled respectively.<br>-An emergency preparedness plan should be compiled, and all personnel appropriately trained.<br>-Workers should not be allowed to enter the working sites when under the influence of alcohol, as this may lead to mishandling of equipment, which results in injuries and other health and safety risks.<br>-Ensure that goods and projected loads are securely fastened to vehicles to avoid falling and injuring people.<br>-Warning signage should be erected at hazardous site areas such as open trenches.<br>-The site areas that are considered temporary risks should be equipped with "danger" or "cautionary" signs written in languages such as Afrikaans, Damara-Nama, and English. | | | |
| | Potential increase in the prevalence of HIV and AIDS, as well as other sexually transmitted diseases (STDs) prevalence | -Engage workers in sexual health talks and training about the dangers of engaging in unprotected sexual relations, which result in contracting HIV/AIDS and other sexually transmitted infections.<br>-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 Uis. | -No new infections recorded linked to project workers<br>-Occupational health and safety personnel<br>-Sex and Health Education/Awareness<br>-Provision of condoms at the campsite | -Exploration Manager<br>-ECO | Throughout exploration |
| | Accidental fire outbreak | -Portable and serviced fire extinguishers should be provided at the site and camp.<br>-No open fires to be created by project personnel on-site. | -No wildfires recorded (due to presence of workers)<br>-Fire extinguishers (1 per vehicle) and 1 per working site | -Proponent<br>-ECO | Throughout exploration |

| Aspect | Impact | Management and Mitigation Measure(s) | Key Performance Indicator (KPI) | Implementation Responsibility | Timeline |
|---|---|---|---|---|---|
| | | -Consider using gas or paraffin cookers to prepare food instead of open fires. The cook/stove's fire should be put out before leaving the camp.<br><br>-Make provision for smoking areas for crew members who smoke. This is to ensure that the cigarettes' fire is completely put out and disposed of in the allocated bins at the smoking area.<br><br>-Potential flammable areas and structures, such as fuel storage tanks, should be marked as such with visible signage.<br><br>-Raise awareness among workers on the impact of careless handling of fires and flammable substances in the fire. | | | |
| Archaeology and heritage | Accidental disturbance of archaeological or heritage objects | **The mitigation measures provided herein should be implemented alongside the Archaeological Management Plan (AMP) appended to the AHIA Report for EPL-9488.**<br><br><u>Impact on archaeology and graves</u><br><br>-A buffer zone of 200m radius is highly recommended and should be implemented during the exploration phase. Also, due to the nature of the landscape, as far as cultural landscape is considered, it is recommended to implement cautious measures such as the Chance Find Procedure during prospecting and exploration phases on the EPL.<br><br>-If any archaeological materials or 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 Heritage Authority, 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.<br><br>-Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and exploration contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, | -Preservation of all artefacts and objects that are discovered on and around the project site<br><br>-Salvage equipment<br><br>-Archaeologist to recommend further actions<br><br>-Flag tapes<br><br>-GPS (site marking) | -Exploration Manager<br><br>-ECO<br><br>-Operator (Driller or Excavating personnel)<br><br>\ | As and when required, i.e., before site set up, and during exploration. |

| Aspect | Impact | Management and Mitigation Measure(s) | Key Performance Indicator (KPI) | Implementation Responsibility | Timeline |
|---|---|---|---|---|---|
| | | historical, archaeological or palaeontological artefacts, as set out in the National Heritage Act (Act No. 27 of 2004), Section 52 (2).<br><br>-Any pile of stones or mound of earth looking even remotely like a grave should be avoided at all costs.<br><br>-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.<br><br>-Cognizance must be taken of the larger cultural & 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).<br><br>-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.<br><br>-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 ceases immediately and a qualified archaeologist is called in to investigate the occurrence.<br><br>-Bi-annual auditing is highly recommended | | | |
| Littering and waste management | Environmental Pollution | -Responsibly dispose of waste and do not litter.<br><br>-After each day's work, ensure that there are no wastes left on the working sites or scattered around the camp. | -No visible litter around the project area<br>-Provision of sufficient waste storage containers | -ECO<br>-Exploration Manager | Throughout the exploration phase |

| Aspect | Impact | Management and Mitigation Measure(s) | Key Performance Indicator (KPI) | Implementation Responsibility | Timeline |
|---|---|---|---|---|---|
| (general waste and sanitation) | | -All domestic and general operational waste produced daily should be contained on-site until it is transported to designated waste sites.<br>-No waste may be buried or burned on site or anywhere else.<br>-The exploration site should be equipped with separate waste bins for hazardous and general/domestic waste.<br>-Oil spills should be taken care of by removing and treating the soil affected by the spill.<br>-A penalty system for the irresponsible disposal of waste on-site and anywhere in the area should be implemented.<br>-Ensure careful storage and handling of hydrocarbons on site.<br>-An emergency plan should be available for major/minor spills at the site during operational activities. | -Waste management awareness<br>-Waste disposal permits to municipalities<br>-Environmental, Health, and Safety Statements and Policy | | |
| | Wastewater is generated by exploration workers living on-site. | -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.<br>-No open defecation is allowed on and around the site.<br>-Sewage waste should be stored as per the portable chemical toilets supplied on site and regularly disposed of at the nearest treatment facility<br>-Provide sufficient toilet facilities for workers (mobile/portable chemical toilet if possible).<br>-Emptying of chemical toilets according to the manufacturer's specifications. | -Adequate toilet and basic ablution facilities on site<br>-Chemical toilets<br>Sewage removal operator<br>-Waste treatment agents/chemicals. | -Exploration Manager<br>-ECO | Throughout the exploration phase |
| Air Quality | Dust generation | -Exploration vehicles within the area should not be driven at a speed of more than 40 km/h to avoid dust generation.<br>-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 | -No complaints from the public about vehicle emissions and dust generation. | -Exploration Manager<br>-ECO | Throughout the exploration phase |

| Aspect | Impact | Management and Mitigation Measure(s) | Key Performance Indicator (KPI) | Implementation Responsibility | Timeline |
|---|---|---|---|---|---|
| | | near exploration sites to suppress the dust that may be emanating from certain exploration areas on the EPL.<br>-Dust masks, eye protective glasses, and other respiratory personal protective equipment (PPE) such as face masks should be provided to the workers in on-site drilling areas, where they are exposed to dust.<br>-Excavating equipment should be regularly maintained to ensure drilling and excavation efficiency and to reduce dust generation and harmful gaseous emissions. | -Visible efforts to curb dust<br>-Complaint's logbook<br>-Dust suppressant (Water) | | |
| Noise | Nuisance | -Noise from operations' vehicles and equipment on the sites should be at acceptable levels.<br>-Exploration hours should be restricted to between 07h30 and 17h00 to avoid noise and vibrations generated by exploration equipment and the movement of vehicles before or after hours.<br>-When operating the drilling machinery onsite, workers should be equipped with personal protective equipment (PPE) such as earplugs to reduce exposure to excessive noise. | -Complaint's logbook<br>-Noise protective equipment for workers | -ECO<br>-Exploration Manager | Throughout exploration |

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

| Aspect | Impact | Management and Mitigation Measure(s) | Key Performance Indicator (KPI) | Implementation Responsibility | Timeline |
|---|---|---|---|---|---|
| **Progressive Rehabilitation and Decommissioning Phase** | | | | | |
| Rehabilitation | Disturbance and damage to the land site land | -All drilled boreholes and excavated pits related to the project activities should be capped and backfilled, respectively.<br>-All waste generated and stored on site during exploration activities should be disposed of at the nearest solid waste management sites. | -Capped boreholes and backfilled pits/trenches<br>-Excavators and other backfilling/demolishing machinery | -Proponent<br>-Exploration Manager | Progressive rehabilitation is done throughout the exploration phase, and complete decommission and rehabilitation |

| Aspect | Impact | Management and Mitigation Measure(s) | Key Performance Indicator (KPI) | Implementation Responsibility | Timeline |
|---|---|---|---|---|---|
| | | -The stockpiled topsoil should be levelled soon after completion of works at sites.<br>-Any temporary setup on site should be dismantled, and the area rehabilitated as far as practicable, to its original state.<br>-Explored areas on worksites should be progressively rehabilitated by stockpiling and backfilling.<br>-Provision of both financial and technical resources for progressive rehabilitation.<br>-The Tsiseb Conservancy should be consulted to approve and sign off on Site Rehabilitation Completion | -No sign of waste or littering seen on site and around site areas.<br>-Carrying away of waste, and removal of vehicles and equipment from the site<br>-No stockpiled topsoil (topsoil is levelled after completion of each work)<br>-Campsite dismantled, -Campsite dismantled, site levelled and materials taken away from the site<br>-Visible signs of stockpiled topsoil<br>-Record of trenches excavated, and boreholes drilled<br>-Waste containers on sites<br>-Photo records of backfilled sites<br>-Records of finances set aside for decommissioning activities | | are done after completion of exploration works. |

## 5.3 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 |
|---|---|---|---|---|---|---|---|---|---|
| **Water and soil pollution** | | | | | | | | | |
| Soil pollution by hydrocarbons (fuel and lubricant spills) | Complaints from land custodians/users or occupiers of land within the project sites | To prevent contamination of site soils | No complaints from land custodians or the public about visible oil spills | Inspection of complaints logbooks | Weekly | ECO | ECO-> Exploration Manager | A logged complaint | Further consultations with the land custodians or users/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 public about open defecation. | Visual observation. Inspection of the complaint’s 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 the 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 the threshold is exceeded |
|---|---|---|---|---|---|---|---|---|---|
| | | | No new erosion gullies | | | | | gullies in work areas | |
| **Air quality (Dust)** | | | | | | | | | |
| Increase in dust generation, which might negatively affect occupational and residential respiratory health. | Complaints from the public about an increase 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 the complaint's 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 vehicle fumes | Same as above. | No complaints from the public about increased vehicle emissions | Inspection of the complaint's 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 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 was 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 the 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 Public Health and Safety** | | | | | | | | | |
| No health and safety plan for exploration activities. | Compiled a 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<br>Inspection of complaints logbooks | Daily/ weekly | ECO and Exploration Manager | ECO-> Exploration Manager | Health and safety incident | Remedy the consequences |
| Potential increase in the outbreak of wildfires due to project activities | Occurrence of wildfires | To prevent environmental damage caused by wildfires | No wildfires 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 |
| **Archaeology and cultural heritage** | | | | | | | | | |
| 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<br><br>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 the site and give further instructions/actions |

| 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 |
|---|---|---|---|---|---|---|---|---|---|
| **Employment creation and Corporate Social Responsibility (CSR)** | | | | | | | | | |
| Creation of employment, procurement of goods and services | Employment opportunities<br>-Community projects support<br>- Local/regional procurement | To ensure that locals benefit from the Project | Employment, community support, and local and regional 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 the generated noise does not disturb residents. | Complaints from residents about the noise generated. | Inspection of the 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 the increase in traffic on the roads.<br>Complaints about damage to RA roads caused by the movement of project | 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 a traffic increase or damage to RA roads | Find alternative access roads for the workforce.<br>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 |
|---|---|---|---|---|---|---|---|---|---|
| | vehicles and machinery. | | | | | | | | |
| **HIV and AIDS** | | | | | | | | | |
| 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 |
| **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 the project site | Clean-up of the affected areas and ensuring workers utilise the 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 landscapes 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 the provided measures and continual improvements. |
| **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 (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 finds.

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

**Compliance**: The "chance finds" procedure is intended to ensure compliance with relevant provisions of the National Heritage Act (27 of 2004), especially Section 55 (4): "*a person who discovers any archaeological …. object ……must as soon as practicable report the discovery to the Council*". The procedure of reporting set out below must be observed so that heritage reported to the NHC is correctly identified in the field. Manager/Supervisor must report the findings 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**. Tampering with the materials is an offence under the Heritage Act and punishable upon conviction under the law.

**Responsibility:**

**Operator:** To exercise due caution if archaeological remains are found

**Foreman:** To secure the site and advise management timeously

**Superintendent:** To determine the safe working boundary and request an inspection

**Archaeologist:** To inspect, identify, advise management, and recover remains

**Procedure:**

Action by a 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 the foreman

Action by the foreman

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

b) Cease any works in the immediate vicinity

Action by the superintendent

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

b) Determine and mark the exclusion boundary

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

Action by an Archaeologist

a) Inspect site and confirm addition to project GIS

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

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

In the event of discovering human remains

a) Actions as above

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

c) Advise and liaise with NHC and Police

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