

# **ENVIRONMENTAL MANAGEMENT PLAN (EMP) FOR A LITHIUM PROCESSING PLANT**

## **1. Overview**

Long Fire Investment (Pty) Ltd (the proponent), acquired mineral rights over the to extract base and rare metals, dimension stone, industrial minerals, non-nuclear fuels, and precious metals over the area earmarked for the construction of lithium processing plant. The proponent intends to carry lithium processing operations on mining claim 73418. Mining claim 73418 is located approximately 50 km southwest of Uis settlement, within Okombahe Reserve, in Erongo Region. This Environmental Management Plan (EMP) is a comprehensive strategy that outlines measures to manage and mitigate environmental impacts associated with the operation of a processing plant. For a lithium processing plant, it is crucial to implement an effective EMP to ensure sustainable practices, minimize adverse effects on the environment, and comply with regulatory requirements.

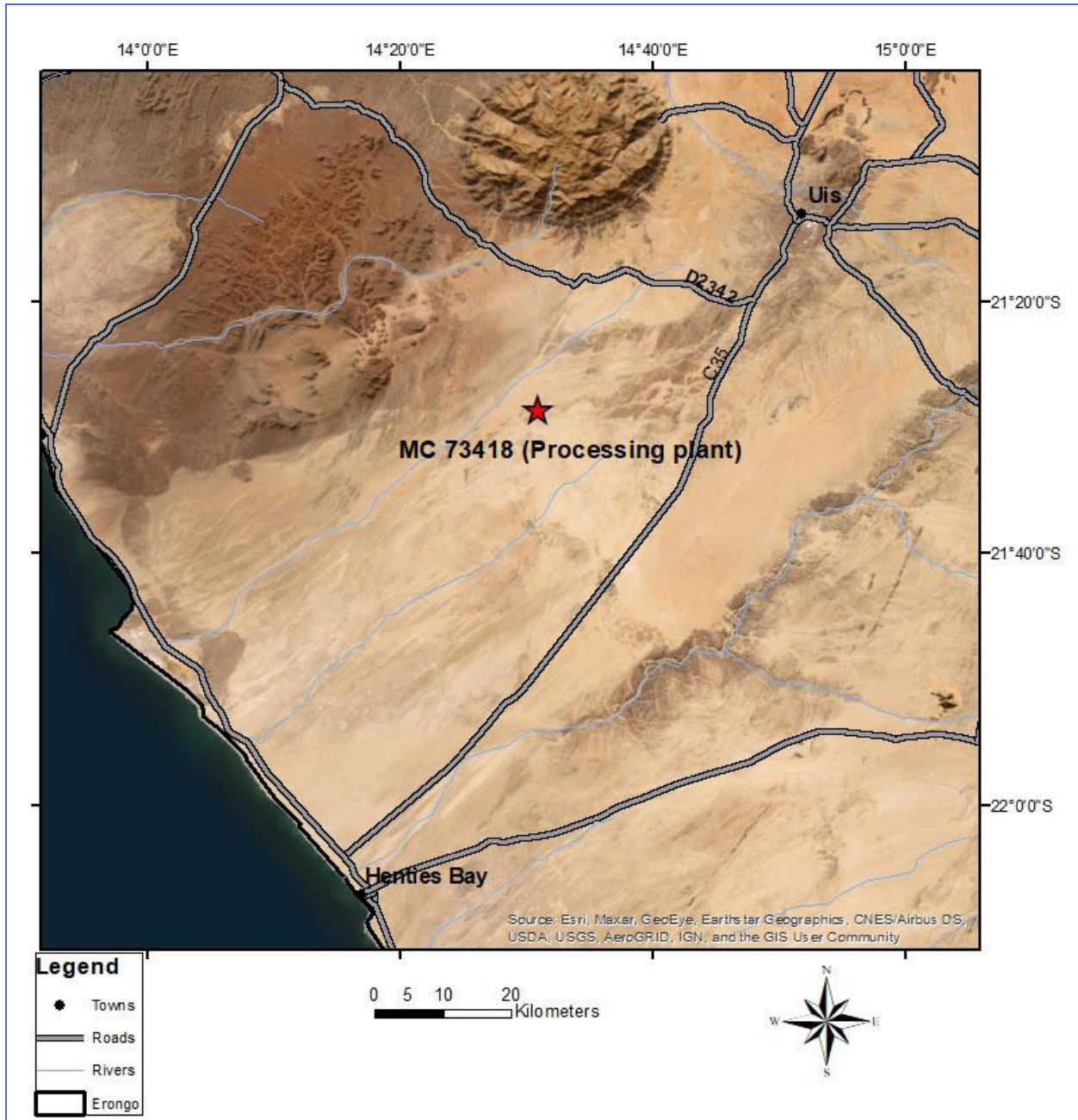


Fig. 1. Proposed location lithium processing plant on mining claim 73418, 50 km from Uis settlement, Dâures constituency, Erongo Region, Namibia

The plant's operations will be committed to complying with all relevant environmental laws, regulations, and permits. The proponent acknowledges the significance of environmental awareness and training for all personnel involved in the project. The project values the input and concerns of community members and aims to foster a positive relationship with them throughout the project's duration. The project's dedication to environmental preservation, sustainability, and

responsible operation as well as its commitment to minimizing its environmental footprint and making a positive impact on the surrounding environment and nearby communities cannot be overemphasized.

### **1.1 Purpose of the Environmental Management Plan (EMP):**

The Environmental Management Plan (EMP) serves as a crucial roadmap for promoting environmental protection, sustainability, and responsible practices throughout the entire lifecycle of the lithium processing plant. Its main purpose is to ensure that the plant's operations have minimal negative impacts on the environment and surrounding communities while maximizing positive contributions to the ecosystem. The EMP acts as a guide, outlining strategies, actions, and goals to achieve environmental goals effectively. Overall, the purpose of the Environmental Management Plan is to integrate environmental considerations into every aspect of the processing plant's operation, encouraging a peaceful relationship between the plant, the environment, and the communities it serves. Through proactive environmental management, the plant aims to achieve environmental excellence, benefiting both the present and future generations.

The EMP's purpose can be outlined as follows:

- ✓ The primary purpose of the EMP is to preserve the environment by identifying potential environmental impacts during the construction, operation, and closure phases of the processing plant. It helps prevent harm to the natural surroundings, including air, water, soil, and biodiversity, safeguarding them for future generations.
- ✓ The EMP ensures that the processing plant complies with all relevant environmental laws, regulations, and permits. By following these rules, the plant can avoid penalties, legal issues, and maintain a good standing with regulatory authorities.
- ✓ The EMP focuses on promoting sustainability in the plant's operations. It sets clear objectives and targets to optimize resource usage, reduce waste generation, and minimize the overall environmental footprint of the plant.

- ✓ The plan identifies potential environmental risks and hazards associated with the plant's activities. It outlines specific measures to mitigate these risks and prevent environmental accidents or incidents.
- ✓ The EMP emphasizes the importance of engaging with the local community and relevant stakeholders. It facilitates open dialogue, incorporating their concerns and feedback into the decision-making process, and building positive relationships.
- ✓ The plan establishes emergency preparedness and response procedures to handle environmental incidents promptly and effectively. By having these protocols in place, the plant can minimize damage to the environment and ensure a swift and efficient response during crises.
- ✓ The EMP promotes a culture of continuous improvement in environmental performance. It encourages regular monitoring, evaluation, and reporting to track progress towards environmental goals and identify areas for enhancement.
- ✓ Implementing a comprehensive EMP enhances the plant's reputation, showing a genuine commitment to environmental responsibility. This positive image fosters social acceptance and support from the local community and other stakeholders.
- ✓ EMP addresses post-closure activities, such as land rehabilitation and restoration, ensuring that the processing plant leaves a positive environmental legacy once its operations conclude.
- ✓ By prioritizing environmental protection and sustainability, the EMP demonstrates the plant's commitment to corporate social responsibility, making it an environmentally responsible and accountable corporate entity.

Additionally, this EMP's primary objectives are to:

- ✓ Creating policies to safeguard environmental resources and, when practical, raise the value of environmental elements.
- ✓ Create strategies to lessen the negative effects of the planned project;
- ✓ Ensure compliance with regulatory authority requirements;
- ✓ Reacting to unanticipated situations and offering feedback for ongoing environmental performance improvement.
- ✓ Whenever possible, develop policies to raise the value of environmental elements.

## 1.2 Phases of the Project Included in the EMP

This EMP addresses the following phases:

**Construction phase:** The physical development and establishment of the facility are done during the construction phase of a lithium processing plant to get it ready for use. The construction of the facility will take approximately 18 months to complete. Mitigation measures and monitoring plan are implemented.

- 1) **Operation phase:** This is when the operations of the plant in place and a lithium concentrate will be in production. The phase when mitigation measures are implemented, and the monitoring plan put in place with a lifespan of 12 years. Mitigation measures and monitoring plan are implemented.
- 2) **Decommissioning, site closure and rehabilitation:** Rehabilitation measures will have to put in place before decommissioning. The closure period will commence once the last planned lithium stockpile of lithium ore has been processed.

## 1.3 Legal Repercussions and EMP Obligations

The Ministry of Environment, Forestry and Tourism (MEFT)'s Directorate of Environmental Affairs (DEA) will receive the EMP for review and approval. The DEA will award the Proponent an Environmental Clearance Certificate (ECC) to start the exploration in the requested region after they are satisfied with the EMP's contents. The suggestions of the Environmental Management Plan are connected to the ECC. Each role-player, including contractors and subcontractors, is made accountable for implementing the relevant sections of the EMP and is obligated to adhere by the terms outlined in this document once the ECC is given, making the EMP a legally binding document.

### **Environmental Management Principles:**

When it comes to taking care of the environment, there are some important guiding principles that are followed at the lithium processing plant. These principles will help in ensuring that the plant is doing its part to protect the planet and create a sustainable future as well as guide the journey of taking care of the environment at the lithium processing plant. By following them, the plant contributes to creating a greener, healthier, and more sustainable world for everyone.

Below is a brief look at what the principles encompasses:

- ✓ Sustainability (Thinking about the future): Sustainability means using resources wisely today without harming the ability of future generations to meet their needs. It's like looking out for our children and grandchildren, so they can enjoy a healthy and thriving planet, just like we do.
- ✓ Preventing pollution (Keeping things clean): Taking steps to minimize waste and pollution right from the start helps keep our surroundings clean and protect the air, water, and soil.
- ✓ Precautionary Approach (Better safe than sorry): When it comes to the environment, it's better to be safe than sorry. Taking precautions and acting responsibly, even if there's some uncertainty about potential risks, helps ensure the well-being of our environment.
- ✓ Integrating environmental considerations (Being mindful always): Caring for the environment is not just about one thing - it's about considering the environment in everything we do. It means striking a balance between what's best for the planet and our project.
- ✓ Continuous improvement (Always striving to do better): The commitment to continuous improvement means always looking for ways to take better care of the environment. It's like embarking on a journey of learning and getting better at what we do.
- ✓ Complying with laws and regulations (Doing the right thing): Following rules and regulations set by the authorities is not just a requirement; it's the right thing to do. It's about being responsible citizens and ensuring we meet environmental standards.
- ✓ Transparency and stakeholder engagement (Keeping everyone in the loop): Being open and honest about our environmental efforts is important. Engaging with people around us and involving them in decisions helps build trust and ensures that we're all working together for a common goal.
- ✓ Biodiversity conservation (Protecting nature's richness): Nature is incredibly diverse and beautiful, and it's crucial to protect that diversity. Taking steps to safeguard plants, animals, and ecosystems helps maintain nature's precious richness.
- ✓ Life cycle approach (Thinking about the whole story): Considering the entire life cycle of what we do - from the beginning to the end - helps us make better choices and reduce our impact on the environment throughout the process.
- ✓ Corporate social responsibility (CSR) (Caring for the community): Caring about the communities we work in means giving back and making a positive impact beyond our project. It's about being responsible members of the community and contributing to its well-being.

- ✓ Resource Efficiency (Using resources wisely): Using resources efficiently, such as turning off lights when not needed or finding ways to use less water, helps reduce waste and protect the environment.

## 2. Administrative plan: Roles and responsibilities

As an extension of the earlier parts, the environmental characteristics that the proposed project may effect have been divided into negative and positive impacts. The objectives, indicators to be observed, deadlines to be met, and roles and duties of different stakeholders in the EMP are all summarized in this section.

**Table 1:** Roles and responsibilities of various stakeholders to the EMP.

<b>Role</b>	<b>Responsibilities and roles</b>
<b>Proponent</b>	<ul style="list-style-type: none"> <li>✓ In charge of overseeing and carrying out the EMP</li> <li>✓ Ensure that environmental regulations are explained to all staff members throughout the planned project and that staff members are aware of the EMP's rules.</li> <li>✓ Charged with delivering the materials needed to execute the project's duties</li> <li>✓ Appoint a safety manager, a health manager, and supporting officers. - Ensure that all employees receive safety training.</li> </ul>
<b>Safety Health and Environment manager</b>	<ul style="list-style-type: none"> <li>✓ Keep an eye on everyday activities and make sure that employees follow the EMP</li> <li>✓ Monitor actions linked to safety, health, and the environment</li> <li>✓ Maintain an up-to-date list of employees who have finished site induction, maintain the community issues and concerns register, and retain records of complaints.</li> <li>✓ Ensure ecologically friendly and safe operations</li> <li>✓ Receiving, documenting, and addressing complaints</li> <li>✓ Assure that sufficient resources are available for the EMP's implementation</li> <li>✓ In charge of overseeing the upkeep, changes, and management of this EMP</li> </ul>
<b>Foreman on duty</b>	<ul style="list-style-type: none"> <li>✓ Inform the Manager of Safety, Health, and the Environment of any violations or accidents.</li> <li>✓ Ensure that all contract employees, subcontractors, and site visitors are aware of this EMP's requirements and that they always abide by them.</li> </ul>
<b>Project personnel</b>	<ul style="list-style-type: none"> <li>✓ Comply with the guidelines outlined in the EMP</li> </ul>

	<ul style="list-style-type: none"> <li>✓ Make sure projects personnel have completed a site induction, and notify the environmental manager of any operations or situations that depart from the EMP as well as any non-compliant problems or accidents.</li> </ul>
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The role of each officer in the various management strategies covered in the preceding part is highlighted in the following table.

Table 2: Roles and responsibilities of various stakeholders, environmental indicators and objectives.

<b>Objectives</b>	<b>Indicators</b>	<b>Responsibility</b>
To prevent any form of hydrocarbon spills on site	No hydrocarbon spillage visible round the project site	SF,PS, ENC
To prevent any form of litter be it paper, metal, plastic and human waste on and around the site	No sign of trash around the project site.	SF,PS, ENC
To reduce land and soil disturbance	Driving tracks and excavation shall be restricted and only be visible within the project site.	SM, SF, ENC
To safeguard and preserve the project area's flora and fauna.	Minimum levels of habitat disturbance	SM,SF, ENC
To reduce site dust production and atmospheric pollution	The maximum permissible concentration of dust particles/emissions that may harm people and animals must not be exceeded in the area around a construction site and on gravel roads.	SM,SF, ENC
To ensure adherence to legal standards	Assurance procedures must be implemented, and regular inspections with a focus on remedial action must be carried out, documented, and recorded.	EC, PP, ENC

Table 3: The objectives should be implemented in accordance with the guidelines shown in the table.

<b>Objectives</b>	<b>Indicators</b>	<b>Responsibility</b>
Preventing any hydrocarbon spills on or around the project site	No hydrocarbon spillage visible round the project site	Personnel on duty, Foreman on duty
To keep the project site and the surrounding area free of all litter, including paper, metal, plastic, and human waste.	No litter or/and remnants of litter shall be visible around the project site	All employees, Environmental Officer, safety, Health and Environment Manager.



To minimize land and soil disturbance	Driving tracks and excavation shall be restricted and only be visible within the project site.	Personnel on duty, Foreman on duty and Environmental Officer.
To protect and conserve fauna and flora within the project area	Minimum levels of habitat disturbance	Safety, Health and Environment Manager, Environmental Officer and personnel on duty
To minimize dust generation on site and atmospheric pollution	The maximum permissible concentration of dust particles/emissions that may harm people and animals must not be exceeded in the area around a construction site and on gravel roads.	Foreman on duty, Environmental Officer and Safety Health and Environment Manager.
To ensure compliance with statutory requirements	Assurance procedures must be implemented, and regular inspections with a focus on remedial action must be carried out, documented, and recorded.	Environmental Manager, Safety Health and Environment Manager.

The mitigation measures to be implemented during the phases of construction, operation, closure, and decommissioning are listed in the following tables, with the proponent being accountable for doing so.

Table 4: A summary of the project's environmental consequences, mitigation strategies, and monitoring plan.

<b>Construction phase</b>			
<b>Environmental impacts</b>	<b>Proposed mitigation measures</b>	<b>Responsibility</b>	<b>Monitoring plan</b>
<b>Air pollution</b>	<ul style="list-style-type: none"> <li>✓ Regular servicing of machinery and vehicles.</li> <li>✓ Keep contractors and employees updated.</li> <li>✓ Manage the operation and speed of construction vehicles.</li> <li>✓ Performing routine maintenance on heavy machinery, construction equipment, and automobiles.</li> <li>✓ Provide dust masks to the workforce.</li> </ul>	Personnel on duty, Foreman on duty and Environmental Officer	<ul style="list-style-type: none"> <li>• Amount of dust produced.</li> <li>• Level of landscaping executed.</li> </ul>
<b>Noise pollution</b>	<ul style="list-style-type: none"> <li>✓ All noise levels should be kept under check.</li> <li>✓ Any planned extraordinary noise should be brought to the attention of the staff.</li> <li>✓ Regular maintenance of heavy machinery, equipment, and vehicles.</li> <li>✓ If a worker is required to work in a noisy setting, they should be given personal hearing protection.</li> </ul>	Foreman on duty, Environmental Officer, Safety Health and Environment Manager.	<ul style="list-style-type: none"> <li>• Amount of noise produced</li> </ul>
<b>Solid waste</b>	<ul style="list-style-type: none"> <li>✓ The presence of properly positioned trash cans and recycling bins on the property should deter littering.</li> <li>✓ On-site recycling of plastic, paper, and cans should be promoted.</li> <li>✓ The proponent or an outside contractor should empty the containers on a regular basis.</li> <li>✓ To discourage littering, the area should provide handy locations for containers with bulk storage facilities.</li> </ul>	Personnel on duty, Environmental Officer and Safety Health and Environment Manager	<ul style="list-style-type: none"> <li>• Presence of dust bins/waste collection points.</li> </ul>

<b>Oil leaks and spills</b>	<ul style="list-style-type: none"> <li>✓ To prevent contamination by percolation, the contractor should have a sealed designated area where maintenance is performed.</li> <li>✓ In case it leaks, oil products should be handled carefully on bounded surfaces.</li> <li>✓ To avoid oil leaks, equipment and vehicles should be carefully maintained.</li> </ul>	Personnel on duty, Foreman on duty Environmental Officer and Safety Health and Environment Manager	<ul style="list-style-type: none"> <li>• Absence of oil spills and leaks on site.</li> </ul>
<b>First aid</b>	<ul style="list-style-type: none"> <li>✓ Qualified staff must maintain a first aid kit that is fully stocked.</li> </ul>	Safety Health and Environment Manager, Safety and Health Officer.	<ul style="list-style-type: none"> <li>• Contents of the first aid kits.</li> </ul>
<b>Visual</b>	<ul style="list-style-type: none"> <li>✓ Environmental considerations will always be adhered to before clearing roads and the any surrounding within and around site.</li> </ul>	Safety Health and Environment Manager, Environmental Officer	<ul style="list-style-type: none"> <li>• Employees to be trained on how to minimize impacts that can easily be identified with the eye.</li> </ul>
<b>Archaeological sites</b>	<ul style="list-style-type: none"> <li>✓ The sites will be surrounded by buffer zones.</li> <li>✓ Follow the practical suggestions given by the archaeologist to lessen the effects of quarrying activities on archaeological sites.</li> <li>✓ Prior to the start of development, all archaeological sites must be recognized and safeguarded.</li> </ul>	All personnel on duty, Environmental officer, Safety Health and Environment Manager	<ul style="list-style-type: none"> <li>• Register of all archaeological sites identified.</li> </ul>
<b>Occupational health and safety</b>	<ul style="list-style-type: none"> <li>✓ Provide personal protection equipment and teach workers how to use machinery and equipment safely.</li> <li>✓ Qualified staff must maintain a first that is well stocked.</li> <li>✓ Report any incidents or accidents, and provide treatment and compensation for any injured workers.</li> <li>✓ Provide enough and appropriate sanitary facilities that should be maintained clean.</li> </ul>	Safety and Health Officer, Safety Health and Environment Manager	<ul style="list-style-type: none"> <li>• Workers using personal protective equipments.</li> <li>• Availability of a well-stocked first aid box.</li> <li>• Clean sanitary facilities.</li> </ul>
<b>Fauna</b>	<ul style="list-style-type: none"> <li>✓ Wherever feasible, some habitat regions like the river and tunnel outcrops shall be avoided.</li> <li>✓ Should the necessity arise, a fauna survey will be carried out to assess the impact of fragmented habitat on game species.</li> </ul>	Personnel on duty, Environmental Officer, Safety Health and Environment Manager	<ul style="list-style-type: none"> <li>• Regular monitoring of any unusual signs of animal habitat.</li> </ul>

	<ul style="list-style-type: none"> <li>✓ No animal may be killed, captured, or otherwise injured.</li> <li>✓ Food should never be left out since it will attract animals and may cause human-animal conflict.</li> </ul>		
<b>Alien invasive plants</b>	<ul style="list-style-type: none"> <li>✓ Ensure that invasive plants and seeds are removed from machinery and trucks.</li> <li>✓ Using an area management plan to eradicate invasive plants.</li> <li>✓ Stop invasive plant migration from nearby lands and contain nearby infestations.</li> <li>✓ Informing site visitors about various invasive plant species.</li> </ul>	Environmental Officer, Environmental Manager	<ul style="list-style-type: none"> <li>• Regular monitoring of any signs of alien plants.</li> </ul>
<b>Loss of vegetation</b>	<ul style="list-style-type: none"> <li>✓ Before clearing a road or site, environmental concerns will always be taken into account.</li> <li>✓ Vehicle movement in riverbeds, rocky outcrops, and vegetation-sensitive areas shall be avoided.</li> <li>✓ Only specific tracks will be available for vehicle travel.</li> </ul>	Environmental Officer, Safety Health and Environment Manager	<ul style="list-style-type: none"> <li>• Warning signs on site</li> <li>• Restored vegetation</li> </ul>

<b>Operational Phase</b>			
<b>Environmental/ Social Impact</b>	<b>Proposed mitigation measures</b>	<b>Responsibility</b>	<b>Monitoring plan</b>
<b>Noise pollution</b>	<ul style="list-style-type: none"> <li>✓ All noise levels should be kept under check.</li> <li>✓ Any planned extraordinary noise should be brought to the attention of the staff.</li> <li>✓ Regular maintenance of heavy machinery, equipment, and vehicles.</li> </ul>	All employees, Safety Health and Environment Manager Environmental Officer	<ul style="list-style-type: none"> <li>• Amount of noise produced</li> </ul>

	<ul style="list-style-type: none"> <li>✓ If a worker is required to work in a noisy setting, they should be given personal hearing protection.</li> </ul>		
<b>Visual</b>	<ul style="list-style-type: none"> <li>✓ Environmental considerations will always be adhered to before clearing roads and the any surrounding within and around site.</li> </ul>	Safety Health and Environment Manager Environmental officer	<ul style="list-style-type: none"> <li>• Employees to be trained on how to minimize visual impacts</li> </ul>
<b>Fauna</b>	<ul style="list-style-type: none"> <li>✓ Wherever feasible, some habitat regions like the river and tunnel outcrops shall be avoided.</li> <li>✓ Should the necessity arise, a fauna survey will be carried out to assess the impact of fragmented habitat on game species.</li> <li>✓ No animal may be killed, captured, or otherwise injured.</li> <li>✓ Food should never be left out since it will attract animals and may cause human-animal conflict.</li> </ul>	All employees, Environmental officer Safety Health and Environment Manager	<ul style="list-style-type: none"> <li>• Regular monitoring of unusual signs of animal habitat.</li> </ul>
<b>Alien invasive plants</b>	<ul style="list-style-type: none"> <li>✓ Ensure that invasive plants and seeds are removed from machinery and trucks.</li> <li>✓ Using an area management plan to eradicate invasive plants.</li> <li>✓ Stop invasive plant migration from nearby lands and contain nearby infestations.</li> <li>✓ Informing site visitors about various invasive plant species.</li> </ul>	Safety Health and Environment Manager Environmental officer Foreman and personnel on duty	<ul style="list-style-type: none"> <li>• Regular monitoring of any signs of alien invasive plants</li> </ul>
<b>Loss of vegetation</b>	<ul style="list-style-type: none"> <li>✓ Before clearing a road or site, environmental concerns will always be taken into account.</li> <li>✓ Vehicle movement in riverbeds, rocky outcrops, and vegetation-sensitive areas shall be avoided.</li> <li>✓ Only specific tracks will be available for vehicle travel.</li> </ul>	Safety Health and Environment Manager	<ul style="list-style-type: none"> <li>• Restored vegetation</li> </ul>

<b>Solid waste</b>	<ul style="list-style-type: none"> <li>✓ The presence of properly positioned trash cans and recycling bins on the property should deter littering.</li> <li>✓ On-site recycling of plastic, paper, and cans should be promoted.</li> <li>✓ The proponent or an outside contractor should empty the containers on a regular basis.</li> <li>✓ To discourage littering, the area should provide handy locations for containers with bulk storage facilities.</li> </ul>	<p>Safety Health and Environment Manager Environmental Officer</p> <p>All foremen, personnel on duty</p>	<ul style="list-style-type: none"> <li>• Amount of waste on site.</li> <li>• Availability of dust bins, waste collection point.</li> </ul>
<b>Oil leaks and spills</b>	<ul style="list-style-type: none"> <li>✓ To prevent contamination by percolation, the contractor should have a sealed designated area where maintenance is performed.</li> <li>✓ In case it leaks, oil products should be handled carefully on bounded surfaces.</li> <li>✓ To avoid oil leaks, equipment and vehicles should be carefully maintained.</li> </ul>	<p>Environmental Officer, Safety Health and Environment Manager, Foremen, personnel duty</p>	<ul style="list-style-type: none"> <li>• No observed/detected oil spills and leaks on site</li> </ul>
<b>Archaeological sites</b>	<ul style="list-style-type: none"> <li>✓ The sites will be surrounded by buffer zones.</li> <li>✓ Follow the practical suggestions given by the archaeologist to lessen the effects of quarrying activities on archaeological sites.</li> <li>✓ Prior to the start of development, all archaeological sites must be recognized and safeguarded.</li> </ul>	<p>Environmental and safety manager</p>	<ul style="list-style-type: none"> <li>• Up to date register of all archaeological sites identified in the vicinity.</li> </ul>
<b>First aid</b>	<ul style="list-style-type: none"> <li>✓ Qualified staff must maintain a first aid kit that is fully stocked.</li> </ul>	<p>Safety and health Officer, Safety Health and Environment Manager</p>	<ul style="list-style-type: none"> <li>• Contents of the first aid kit.</li> </ul>

<b>Fire preparedness</b>	<ul style="list-style-type: none"> <li>✓ Emergency action plan for firefighting incidents should be in place.</li> <li>✓ Ensure that all firefighting tools are always available and are routinely serviced, maintained, and inspected.</li> <li>✓ Directions to the emergency escape, the best path to take, and the meeting place in case of fire.</li> </ul>	Health safety officer Safety Health and Environment Manager	<ul style="list-style-type: none"> <li>• Fire signs put up in strategic places.</li> <li>• Availability of well-maintained firefighting equipments.</li> </ul>
<b>Environmental health and safety</b>	<ul style="list-style-type: none"> <li>✓ Provide employees with training on personal safety and catastrophe readiness.</li> <li>✓ Provide enough and appropriate sanitary facilities that should be maintained clean.</li> <li>✓ Conduct yearly audits of health and safety.</li> <li>✓ Report any incidents or accidents, and treat and recompense any injured employees.</li> <li>✓ Qualified staff must maintain a first aid kit that is fully stocked.</li> </ul>	Safety Health and Environment Manager	<ul style="list-style-type: none"> <li>• Provide sanitary facilities.</li> <li>• Copies of annual audit.</li> </ul>

<b>Decommissioning phase</b>			
<b>Impacts</b>	<b>Proposed mitigation measures</b>	<b>Responsibility</b>	<b>Monitoring plan/Indicator</b>
<b>Noise and air pollution</b>	<ul style="list-style-type: none"> <li>✓ Personal hearing protection must be worn by workers in noisy section.</li> </ul>	Health safety and Environment Manager	<ul style="list-style-type: none"> <li>• Amount of noise and</li> </ul>

	<ul style="list-style-type: none"> <li>✓ Regular maintenance of vehicles, equipments, heavy machinery on regular basis.</li> <li>✓ Workers should be provided with dust mask to wear at all times.</li> <li>✓ Decommissioning work can only be carried out during the day.</li> </ul>	Environmental Officer	dust generated
<b>Disturbed physical environment</b>	<ul style="list-style-type: none"> <li>✓ Implement a comprehensive program of environmental restoration, including the introduction of suitable vegetation for ground stabilization.</li> </ul>	Health safety and Environment Manager Environmental Officer	
<b>Solid waste</b>	<ul style="list-style-type: none"> <li>✓ A waste collection business under contract shall collect solid waste.</li> <li>✓ Waste from excavations should be reused or backfilled.</li> <li>✓ An open pit needs to be walled off to keep out animals and illegal visitors.</li> <li>✓ To enable grass regrowth, waste dumps must be slanted and lined with top soil.</li> </ul>	Health safety and Environment Manager Environmental Officer	<ul style="list-style-type: none"> <li>• Amount of waste on site.</li> <li>• Presence of well-maintained receptacles and central collection point.</li> </ul>
<b>Visual</b>	<ul style="list-style-type: none"> <li>✓ Any permanent structures that are no longer needed or pose potential risks should be removed. This could include buildings, infrastructure, and equipment that are not essential for site restoration or post-closure monitoring.</li> </ul>	Safety Health and Environment Manager Environmental officer	<ul style="list-style-type: none"> <li>•</li> </ul>
<b>Occupational health and safety</b>	<ul style="list-style-type: none"> <li>✓ Provide workers with training on handling tools and equipment safely.</li> <li>✓ Supply personal eye protection (PEE).</li> <li>✓ Qualified employees are required to keep first aid kits that are fully stocked.</li> <li>✓ Mark off the area that will be decommissioned.</li> </ul>	Health and safety officer, Environmental Officer, Health safety and Environment manager	<ul style="list-style-type: none"> <li>• Workers using protective equipments.</li> <li>• Availability of a first aid box.</li> </ul>



### 3. Identified potential Impacts, monitoring, and suggested mitigation strategies

#### Beneficial impacts

Creating jobs; raising money through taxes and royalties; promoting local development

#### Negative implications

Noise and vibration effects; dust production; fume emission; occupational health and safety impacts; impacts on ground and surface water; impacts on terrestrial biodiversity (flora and fauna), heritage, and archeology; aesthetic influence; security, safety, and occupational health issues; explosion and fire risks; solid waste management issues

#### 3.1 Identified impacts on bio-physical environment

##### Negative Impacts

The following environmental impacts could occur during the processing project's phases of building, operation, and decommissioning:

##### 3.1.1 Habitat destruction and fragmentation

Table 5: Qualitative impact assessment for terrestrial biodiversity.

Mitigation	Severity	Duration	Spatial Scale	Consequence	Probability of Occurrence	Significance
Unmitigated	<b>M</b>	<b>M</b>	<b>M</b>	<b>L</b>	<b>M</b>	<b>M</b>
Mitigated	<b>L</b>	<b>L</b>	<b>L</b>	<b>L</b>	<b>L</b>	<b>L</b>

##### Mitigation measures

- ✓ Site Selection and Design: Choosing a location that minimizes impacts on sensitive ecosystems and habitats, avoiding areas with high biodiversity will lessen environmental damages.
- ✓ Adhere to the terms outlined in the site-access contracts, particularly as they pertain to the regions used for professional hunting. The delicate hunting season needs to be considered specifically.
- ✓ Please Don't disturb the invertebrates in the area or along the gravel road stretch.

- ✓ Prevent the development of several road strips, which may disturb the locations where different mammals reproduce.
- ✓ If the necessity arises, a fauna survey will be carried out to assess the impact of fragmented habitat on game species.
- ✓ Care will be taken to make sure there isn't any rubbish laying about because wild animals might eat it.
- ✓ No employee shall be allowed to hunt, snare, or take any wild animal in any other way.
- ✓ Observed bird deaths and nest removal should, whenever possible, be documented in a biodiversity data-base and made public.
- ✓ As much as is practically possible, the footprint of the area to be disturbed will be minimized.
- ✓ Before beginning the development activities, remove special fauna and delicate fauna and, if possible, relocate to a less delicate/disturbed site.
- ✓ The amount of disturbed regions must be minimized. Only the current tracks should be used, and off-road driving should be prohibited.
- ✓ Before beginning the development activities, remove special fauna and delicate fauna and, if possible, relocate to a less delicate/disturbed site.
- ✓ Suggest using native plants in the landscaping rather than exotic ones because they require less upkeep and perform crucial ecological tasks like sequestering carbon from decomposing materials at the same time.
- ✓ Where it is obvious that some major species will be eliminated, consideration should be given to proposing to rescue the individuals involved and relocate them to nearby gardens.
- ✓ Disturbance of marginal vegetation in the highlands should be limited.
- ✓ The protected and indigenous species should be reintroduced in the region, and where possible, removed plants should be transplanted or replaced with new plants

### Monitoring

- ✓ Consistent monitoring of any unexpected signs in an animal's habitat.

### 3.1.2 Air quality impacts: dust generation and fume emissions

Table 6. Qualitative assessment of air quality impacts.

Mitigation	Severity	Duration	Spatial Scale	Consequence	Probability of Occurrence	Significance
Unmitigated	<b>M</b>	<b>M</b>	<b>L</b>	<b>M</b>	<b>M</b>	<b>M</b>
Mitigated	<b>L</b>	<b>L</b>	<b>L</b>	<b>L</b>	<b>L</b>	<b>L</b>

To minimize air quality impacts during the operations, the project can implement several mitigation measures:

- ✓ **Dust Control:** Use water sprays and cover exposed areas to suppress dust during operations, reducing its spread to surrounding areas. The proponent must decide whether to halt under extreme wind conditions until the wind has subsided.
- ✓ **Vehicle Management:** Maintain vehicles properly to minimize emissions and schedule deliveries during off-peak hours to reduce congestion and air pollution. Establishing a routine maintenance and repair schedule for vehicles
- ✓ **Alternative Materials:** Consider using eco-friendly and low-VOC materials to reduce emissions during curing.
- ✓ **Work Practices:** Encourage best practices among workers, such as reducing idling times for machinery and vehicles, to minimize air quality impacts. Use of additional required PPE (gloves, work suits, sun hats, etc.) and personal protective equipment (PPE) for effective dust control and respiratory protection.
- ✓ **Community Communication:** Keep the local community informed about activities, potential air quality impacts, and mitigation efforts to address any concerns they may have.

### Monitoring

- ✓ Daily inspection of the transportation routes and dust prone areas to ensure that mitigation measures are in place.
- ✓ Daily inspection on site all workers in dust prone areas are wearing their protective clothes.

- ✓ Installation of dust receptors in and around the site for purposes of dust generation monitoring.

### 3.1.3 Noise and vibration impacts

Table 7: Qualitative assessment of noise and vibration impact.

Mitigation	Severity	Duration	Spatial Scale	Consequence	Probability of Occurrence	Significance
Unmitigated	<b>M</b>	<b>L</b>	<b>M</b>	<b>L</b>	<b>M</b>	<b>M</b>
Mitigated	<b>L</b>	<b>L</b>	<b>L</b>	<b>L</b>	<b>L/M</b>	<b>L</b>

Mitigation measures for noise and vibration during operations:

If mitigation measures are implemented, the project will demonstrate consideration for the environment. Proactive efforts to manage noise and vibration impacts contribute to a more harmonious relationship between the project and the receiving environment. To reduce the impact of noise and vibration, the following mitigation measures can be implemented:

- ✓ Using quieter equipment: Employ modern, quieter machinery and equipment to minimize noise levels during operations. Choose equipment with lower noise emissions and vibration characteristics.
- ✓ Scheduling work wisely: Plan for higher noise and vibration activities during less sensitive hours, avoiding early mornings, late evenings, and weekends when people are more likely to be at home or trying to rest.
- ✓ Noise barriers and enclosures: Erect noise barriers or enclose equipment to contain noise within the site and limit its spread to surrounding areas.
- ✓ Monitoring and adjustment: Regularly monitor noise levels and vibrations during operations. If noise levels exceed acceptable limits, consider adjusting work practices or using additional noise reduction measures.
- ✓ Compliance with regulations: Ensure that all activities adhere to local regulations and guidelines concerning noise and vibration limits.

- According to ISO 18000, noise levels for employees working an 8-hour shift shouldn't be greater than or equal to 85dBA.
- Workers working near high noise machinery and vehicles should be provided with ear protection equipment such as ear muffs and earplugs.
- Safe minimum distance from noise generating activities should be introduced.
- Horns/hooters as a general communication tool should not be allowed, but use it only where necessary as a safety measure.

### Monitoring

To determine the current ambient noise levels in the vicinity of the proposed project, noise monitoring may be done. Programs for noise monitoring must to be developed and implemented by qualified professionals. The kind of acoustic indices that are recorded is determined by the kind of noise that is being monitored, according to a noise specialist. To ensure that the noise levels at the site do not exceed permitted limits, noise levels should be continuously monitored.

#### 3.1.4 Groundwater and surface water contamination

Table 8. Qualitative impact assessment of surface and groundwater.

Mitigation	Severity	Duration	Spatial Scale	Consequence	Probability of Occurrence	Significance
Unmitigated	<b>M/H</b>	<b>M</b>	<b>M/L</b>	<b>H/M</b>	<b>M</b>	<b>M</b>
Mitigated	<b>L</b>	<b>L</b>	<b>L</b>	<b>L</b>	<b>L</b>	<b>L</b>

Mitigation Measures to be enforced:

- ✓ No disposal of waste products of any type in or near surface water bodies or potential groundwater recharge sites.
- ✓ Non-toxic and biodegradable lubricant will be utilized.
- ✓ Wastewater and contaminated water should be controlled for proper disposal and should not be released into the environment.
- ✓ Project machinery and equipment as well as vehicles not in use should have drip trays underneath to catch any potential oil leaks.

- ✓ Spill kits will be readily available on site, and all vehicle maintenance and refueling will be done on impermeable surfaces. In order to control and address pollution accidents, workers and/or contractors will be taught on how to use the spill kits.
- ✓ During orientation, emphasize environmental awareness for both contractors and employees.
- ✓ Accessibility to equipment for spill prevention and response, which should always be visible to and available to all employees.
- ✓ Obtain a spill response action plan in the event of an accident, and any spills will be cleaned up right away to the satisfaction of the environmental manager by removing the spillage and the contaminated soil and by disposing of them at a recognized facility as specified in the spill response action plan.
- ✓ On-site designated waste collection tanks must be located far from waterways, and this isolation must always be maintained.

Monitoring

Implement groundwater monitoring wells around the site to assess any potential impacts on groundwater quality.

3.1.5 Waste generation and management

Table 9 Qualitative impacts assessment for waste management.

Mitigation	Severity	Duration	Spatial Scale	Consequence	Probability of Occurrence	Significance
Unmitigated	L	H	L	M	M	L
Mitigated	L	L	L	L	L	L

Effective waste management measures:

To manage waste responsibly, the following measures can be implemented:

- ✓ Waste segregation: Encourage workers to segregate waste at the source to separate recyclable materials from non-recyclables and hazardous waste.
- ✓ On-site recycling: Implement on-site recycling programs to reuse materials like concrete and metal scraps, reducing the volume of waste sent to landfills.
- ✓ Hazardous waste Handling: Handle hazardous waste according to strict regulations, ensuring proper storage, labeling, and transportation to licensed disposal facilities.

- ✓ Waste minimization: Emphasize waste reduction through proper planning and material estimation, avoiding excessive orders that may result in waste.
- ✓ Waste collection Points:
  - Set up designated waste collection points on the site to facilitate easy waste disposal and segregation by workers.
  - Suitable receptacles for waste disposal should be provided at appropriate locations on site. These receptacles be clearly marked for different waste types.
  - The project site should be equipped with separate waste bins for general/domestic waste and hazardous waste.
  - The collected solid waste should be disposed at registered and approved disposal site agreed upon by both Municipality and the proponent.
  - Strictly, no burning of waste on the site or at the disposal site, as it possesses environmental and public health impacts.
- ✓ Contractor education: Educate contractors and workers on the importance of waste management and the implementation of waste reduction practices.

### 3.1.6 Visual impact

Table 10 visual impacts impact evaluation.

Mitigation	Severity	Duration	Spatial Scale	Consequence	Probability of Occurrence	Significance
Unmitigated	<b>L</b>	<b>M</b>	<b>L</b>	<b>M</b>	<b>M</b>	<b>L</b>
Mitigated	<b>L</b>	<b>L</b>	<b>L</b>	<b>L</b>	<b>L</b>	<b>L</b>

#### Effective Visual Impact Mitigation Measures:

To manage visual impacts, the following measures can be employed:

- ✓ Use natural or artificial screening and landscaping to minimize the visibility of equipment and temporary structures from public viewpoints.
- ✓ Implement effective dust control measures to reduce airborne dust and debris, maintaining clear views and reducing visual disturbances.
- ✓ Use minimum and informative signage to avoid visual clutter and maintain a clean aesthetic.
- ✓ Consider the appearance of temporary structures, such as fences and barriers, and use materials and colors that complement the surroundings.
- ✓ Engage in revegetation and restoration efforts to restore the landscape to its original or improved condition.
- ✓ Properly manage nighttime lighting to minimize light pollution and glare that may impact the nocturnal visual experience.
- ✓ Care must be made to ensure that all restored areas resemble the surrounding area in terms of visual character, vegetation cover, and terrain, and that any unfavorable visual consequences are remedied to the environmental consultant's satisfaction.
- ✓ Minimize topsoil disturbance, preserve existing trees, and add native plants to encourage re-vegetation.
- ✓ As part of the restoration procedure, overburden will be reinserted into the excavation.
- ✓ Keep off-road equipment and vehicles inside the approved area.
- ✓ Excavations, vehicle footprints, and land markings must be returned as much as possible to their former visible and physical states.

### 3.1.7 Occupational Health, Safety, and Security:

Table 11: Impact evaluation for occupational health, safety and security.

Mitigation	Severity	Duration	Spatial Scale	Consequence	Probability of Occurrence	Significance
Unmitigated	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>
Mitigated	<b>L</b>	<b>L/M</b>	<b>L</b>	<b>L</b>	<b>L/M</b>	<b>L</b>

Here are the key aspects and details concerning occupational health, safety, and security during construction:

- ✓ Conduct health assessments for workers before they start their tasks to identify any pre-existing health conditions that could affect their work or safety.



- ✓ Provide adequate facilities for personal hygiene, including clean drinking water, sanitation, and areas for handwashing.
- ✓ Establish onsite medical aid facilities and ensure trained personnel are available to handle medical emergencies promptly.
- ✓ Implement proper protocols for the safe handling and storage of hazardous materials, ensuring workers' exposure to harmful substances is minimized.
- ✓ Regularly monitor workers' health to identify and address any emerging health issues related to their work environment.
- ✓ Conduct thorough risk assessments to identify potential hazards at the construction site and implement measures to mitigate these risks.
- ✓ Ensure that all workers wear appropriate PPE, such as helmets, safety goggles, gloves, and safety footwear, to protect them from potential injuries.
- ✓ Provide comprehensive training to workers on construction site safety, emergency procedures, and the proper use of equipment and tools.
- ✓ Implement fall protection measures, such as guardrails and safety harnesses, to prevent falls from heights.
- ✓ Regularly inspect and maintain construction equipment to ensure they are in safe working condition.
- ✓ Implement traffic control measures to protect workers from vehicle-related accidents within the construction site.
- ✓ Control access to the construction site to prevent unauthorized entry and protect valuable materials and equipment.
- ✓ Install security cameras and conduct regular monitoring to deter theft and vandalism.
- ✓ Employ trained security personnel to patrol the construction site and respond to any security breaches.
- ✓ Securely store construction materials to prevent theft or damage.
- ✓ Implement robust cybersecurity measures to protect sensitive data and prevent cyber threats.

### 3.1.8 Hazardous waste and material management

Table 12: Shows the qualitative impacts assessment of hazardous waste and materials.

Mitigation	Severity	Duration	Spatial Scale	Consequence	Probability of Occurrence	Significance
Unmitigated	M	L	L	M	L	L
Mitigated	L	L	L	L	L	L

Mitigation Measures:

- ✓ The dangerous Substances Ordinance (No. 14 of 1974), which governs the storage and maintenance of chemicals and other dangerous materials, must be followed. Where necessary, all necessary licenses and permits must also be obtained.
- ✓ Given the risk to human health while handling and using any hazardous substance, it is crucial that all personnel receive training on how to handle these compounds safely as well as on how to administer First Aid in the event of a spill or intoxication.
- ✓ Each substance's storage space needs to be bunded and able to contain 120% of the entire volume of that substance's on-site storage.
- ✓ Job safety analyses to pinpoint specific potential occupational risks and, when necessary, industrial hygiene examinations to track and confirm chemical exposure levels;
- ✓ Programs for training in hazard communication and recognition to help workers identify and address chemical dangers at work. Aspects of hazard identification, safe operating and material handling procedures, safe work practices, fundamental emergency procedures, and special risks specific to their occupations should all be covered in programs. Material Safety Data Sheets for handling hazardous compounds should be incorporated into training.
- ✓ The provision of adequate personal protective equipment (PPE), including sanitary facilities, emergency eyewash and shower stations, and footwear, masks, protective clothes, and goggles in the proper locations.
- ✓ Maintaining accident and incident investigation reports on file, as well as monitoring and record-keeping activities, such as audit procedures meant to check and record the efficacy of prevention and control of exposure to occupational hazards.

3.2 Socio-economic impacts

Positive Impacts

## Employment Creation

### Improvement strategies:

- ✓ To increase the supply of local skills, the proponent will roll out training initiatives (such as grant programs and on-the-job training).
- ✓ It is suggested that local residents and those from the neighborhood should be given preference when hiring, especially when no special knowledge is required.
- ✓ The recruitment procedure takes gender equality into account.
- ✓ Previously underprivileged Namibians should be given employment preference.

### Revenue generation:

Operating companies must pay taxes in accordance with Namibian law. Given that the government diverts tax revenue to the general public, the proponent's payment of taxes to the government will help the entire country.

### Improvement strategies:

- Regular payment of taxes payable in accordance with Namibian law.

## Negative Impacts

### 3.2.1 Disturbance of the grazing are

Table 17: Impact assessment for grazing area disturbance.

Mitigation	Severity	Duration	Spatial Scale	Consequence	Probability of Occurrence	Significance
Unmitigated	<b>M</b>	<b>M/H</b>	<b>M</b>	<b>L/M</b>	<b>M/H</b>	<b>M</b>
Mitigated	<b>L</b>	<b>L/M</b>	<b>L</b>	<b>L</b>	<b>L/M</b>	<b>L</b>

- ✓ In order to protect biodiversity and grazing land, vegetation that is present on the site but not in the intended exploration regions should be kept alone.
- ✓ When grazing property is harmed, come to an agreement with landowners on the appropriate compensation.
- ✓ Any needless removal or damage of grazing area owing to exploration activities should be avoided.
- ✓ Workers should avoid driving off road and making unnecessary tracks that may lead to soil erosion and the loss of grazing land.

- ✓ The employees need to be made aware of the value of grazing land for the cattle in the area.

### 3.2.2 Socio-economic concerns

- ✓ Increased influx of jobseekers to the area as individuals come in quest of employment possibilities during the project's operating period
- ✓ Increased danger of HIV/AIDS and other STDs spreading as a result of increased movement of workers and contractors to and from the area.
- ✓ Due to an increase in crime, this could result in a potential rise in the number of unemployed persons in the area as well as the creation or expansion of informal settlements
- ✓ Effects on the population's composition and size
- ✓ Increased difficulties related with informal settlement
- ✓ Negative effects on the workers' and the community's health and safety
- ✓ Effects on cultural and spiritual values
- ✓ Impact from loss of grass for domestic livestock in "exclusive use zone"
- ✓ Factors related to demographics: Attraction of additional

#### Mitigation Measures:

- ✓ By hiring members of the neighborhood and encouraging contractors to do the same, the population shift can be reduced.
- ✓ Prevent the growth of unauthorized communities near the project area.
- ✓ Whenever possible, safety signs will be placed up to reduce the perception of risk.
- ✓ Additionally, all site visitors and staff will be required to take a safety introduction training.
- ✓ Uphold the commitments outlined in site-access contracts
- ✓ Provide contact information to a named individual who will function as a point of contact between community and the project personnel

#### Methods for monitoring:

- ✓ Whenever required, the proponent will hold public meetings.

Table 18: Qualitative impacts assessment for socio economic.

Mitigation	Severity	Duration	Spatial Scale	Consequence	Probability of Occurrence	Significance
Unmitigated	<b>M</b>	<b>L</b>	<b>M</b>	<b>M</b>	<b>M</b>	<b>M</b>
Mitigated	<b>M</b>	<b>L</b>	<b>M</b>	<b>M</b>	<b>L</b>	<b>L</b>

### 3.3 Monitoring, Reporting, and Corrective Action

#### 3.3.1 Monitoring of EMP

- ✓ All storage and handling of chemicals and dangerous materials must comply with the Dangerous Substances Ordinance (No. 14 of 1974). Necessary licenses and permits should be obtained where applicable.
- ✓ Proper training in the safe handling of hazardous substances and administering First Aid in case of spills or intoxication is essential for all personnel.
- ✓ Storage spaces for hazardous substances must be bunded to contain at least 120% of the substance's volume.
- ✓ Job safety analyses and industrial hygiene examinations will be conducted to identify and confirm potential occupational risks and chemical exposure levels.

#### 3.3.2 Inspections and Audits

To ensure compliance with the EMP and relevant environmental laws, performance against EMP commitments will be continuously monitored, and corrective actions will be taken as needed.

##### Internal Inspections/Audits

An internal compliance monitoring program will be implemented, including:

1. Kick-off and close-out audits for all contractors at each exploring phase:
  - ✓ Before starting work, contractors' standard operating procedures (SOPs) and method statements will be audited to ensure alignment with EMP commitments.
  - ✓ After completing their work, contractors' performance will be audited to assess their adherence to EMP commitments.
2. Monthly internal EMP performance audits during the initial building phase and decommissioning.
3. Ad hoc internal inspections may be conducted based on recommendations or as needed by relevant management.

##### External Audits

- ✓ An independent audit of EMP performance will occur at the conclusion of every project phase and annually during the exploration phase.

- ✓ Specialist monitoring or auditing may be required to address complaints, official requests, or situations requiring professional expertise.
- ✓ The Department of Environmental Affairs (DEA) may conduct compliance inspections of exploratory activities and provide a written report of findings to the proponent, contributing to ongoing improvement.

### Documentation

Records of inspections, audits, and monitoring reports will be maintained as required by law. Actions based on inspection/audit results will be documented, tracked, and resolved.

### Reporting

Environmental compliance reports will be submitted to the Ministry of Environment, Forestry, and Tourism every two years.

### Environmental Management System Framework

The proponent and Contractors will develop and implement an environmental management system (EMS). This section outlines the structure for creating the project EMS. All environmental management paperwork will be organized and managed by relevant managers, including Environmental documents, performance criteria, and policies.

### Policy and Performance Standards

The EMP includes an initial environmental policy with objectives, goals, and commitments that can be tailored to align with the proponent's specific environmental values and dedication to sustainability.

### Enviro-Legal Documentation

Approved environmental assessment and EMP documents, along with relevant permits and authorizations, will be accessible to the project proponent and exploration team. An up-to-date register of applicable environmental laws and regulations will be maintained.

### Impact Aspect Register

A continuously updated register will identify project aspects with potential environmental impacts and corresponding management measures. The Aspect Impact Register will be based on the initial EMP and will be updated throughout the project.

### Procedures and Method Statements

The implementation of EMP commitments will be supported by specific procedures and method statements developed by relevant exploration staff and Contractors. These will cover various aspects, including safe execution, incident response, monitoring, and EMP compliance for unforeseen activities.

### Register of Roles and Responsibilities

Roles and responsibilities related to environmental commitments will be documented during project planning and risk assessments. The comprehensive register will be continuously updated as needed.

### Environmental Management Schedule

The project will maintain a schedule of planned environmental actions, including risk assessments, meetings, soil management, waste collection, training, stakeholder engagement, inspections, and reporting.

### Change Management

A change management procedure will be implemented to update environmental documentation, procedures, method statements, and action plans as needed due to changes in SOPs, project scope, ad hoc actions, project phases, or responsibilities.

### Environmental Code of Conduct

The Environmental Code of Conduct applies to all individuals within the project site boundaries, including subcontractors, visitors, permanent staff, and temporary workers. Adherence to the Code of Conduct is mandatory, and violations will be addressed by the Environmental Coordinator (ENC) through warnings and disciplinary actions. Repeated noncompliance may lead to permanent removal from the construction sites.

## 4. Site Closure and Rehabilitation

The closure phase will begin once all planned blocks of lithium ore have been extracted from the pit, marking the end of active mining. The proponent's site rehabilitation strategy aims to carefully reshape and evenly distribute previously removed topsoil and overburden rocks to encourage the regrowth of natural vegetation. Proper fencing around the pits will be implemented to prevent unauthorized access and potential accidents involving animals. The primary objective of mine rehabilitation is to repair the damage caused by mining activities, striving to return the disturbed environment as close as possible to its pre-mining condition. This includes addressing access roads, vehicle tracks, stockpile and rock pile areas for removal and restoration. The vision for site closure is to establish a safe, stable, and non-polluting landscape that facilitates integrated, self-sustaining, and valuable opportunities, leaving a positive and enduring legacy.

### Site Closure and Rehabilitation Activities

During the closure phase, the following activities will be undertaken:

- ✓ Disposal of waste, including hazardous and domestic waste, to licensed landfills in Omaruru town.
- ✓ Cleaning, treatment, and restoration of disturbed and/or contaminated areas to their original state.
- ✓ Demolition of camping structures.
- ✓ Removal of on-site equipment, including storage tanks, solar panels, and heavy-duty generators.
- ✓ Rehabilitation and closure of access tracks and secondary roads in consultation with landowners.
- ✓ Utilization of recovered topsoil and subsoil to reconstruct the original soil profile.
- ✓ Safe disconnection and certification of power and water services before decommissioning works begin.
- ✓ Disposal of remaining inert equipment and decommissioning waste to the nearest licensed general waste disposal facility.
- ✓ Salvaging of usable equipment prior to and during decommissioning.
- ✓ Flushing or emptying tanks, pipes, and sumps containing hydrocarbons before removal to ensure no residues remain.

#### Remediation of Contaminated Areas

Any soil contaminated with hydrocarbons will be identified, excavated, and disposed of following the nearest town council's disposal requirements at appropriate sites. The management of removed soils will be determined based on the nature and extent of contamination. Equipment used for chemical storage or transportation will be thoroughly cleaned and disposed of at suitable facilities.

#### Waste Management

Waste management activities include:

- ✓ Proper handling, classification, and disposal of hazardous waste.
- ✓ Avoiding burying or burning waste.
- ✓ Disposal of non-hazardous substances in nearby landfill sites.
- ✓ Fencing of temporary salvage yards for security, particularly if located close to public roads.

### 5. Public Consultation

#### 5.1 Legal Framework

Public consultation plays a vital role in the environmental impact assessment process, allowing stakeholders and interested members of the public to obtain more information about the proposed project and raise any concerns they may have. Namibia's Environmental Management Act of 2007, along with its EIA regulations of 2012, govern the environmental impact assessment procedures in the country. The Act aims to prevent and mitigate significant environmental effects caused by



activities by ensuring that interested and affected parties have the opportunity to participate throughout the assessment process. It also mandates that the findings of the assessment must be taken into account before any decisions are made regarding the activities.

According to Section 21 of the EIA Regulations, the person conducting a public consultation process must notify all potential interested and affected parties by:

- 1) Displaying a notice board at a publicly visible place on the boundary or fence of the site where the proposed activity is or will be undertaken.
- 2) Providing written notice to:
  - (i) Owners and occupants of land adjacent to the site or any alternative site for the activity.
  - (ii) The relevant local authority council, regional council, and traditional authority where the site or alternative site is located.
  - (iii) Any other government entity with jurisdiction over any aspect of the activity.
- 3) Publishing the application in at least two newspapers widely circulated in Namibia, once a week for two consecutive weeks.

In compliance with the regulations, public notices were published in local newspapers during July 2022. The public consultation process commenced on July 3, 2022, with the closing date for registration and submission of written objections, comments, and inputs set for July 30, 2022. The EIA Regulations clearly specify that potential interested and affected parties must be given a reasonable opportunity (21 days) to provide their comments on the application under Section 21(6) of the EIA Regulations.

A stakeholder register, detailed in Table 25, was established on July 3, 2022. A public meeting was held on July 9, 2022, at Dâure Daman Traditional Authority's Community Hall in Okombahe. Attendance records, meeting minutes, and photos from the event are included as annexes to this report.

The public was invited through newspaper advertisements (attached to the EIA report) to submit written comments, inputs, or objections concerning the proposed processing activities. The background information document (BID) annexed to the EIA report was provided to all registered stakeholders and identified Interested and Affected Parties (I&APs). However, as of now, no submissions have been received.

The following information was provided to the relevant parties in order to address and clarify the concerns that were raised:

The proposed lithium processing plant

(Public consultation\_supplementary information)

### Identified stake holders

- ✓ Traditional authority,
- ✓ Tsiseb Conservancy,
- ✓ Interested and affected Parties

### 1) Objectives of the public consultation

Summary of the objectives of the public consultation:

- ✓ To provide an overview of the Environmental Impact Assessment (EIA) and Public Participation Process;
- ✓ To provide stakeholders / I&APs with information regarding the proposed project;
- ✓ To afford stakeholders and I&APs an opportunity to give input on the project;
- ✓ To gather public comments raised for inclusion in the EIA Report and decision-making process;
- ✓ To make sure that all potential impacts on the Environment are taken into consideration;
- ✓ To provide the competent authority with the necessary information which will allow them to make informed decisions;
- ✓ To obtain information that may influence the design project.

### 2) Overview of the proposed project

- ✓ Location: on MC 73418
- ✓ Capacity: 1 million of ore t/a
- ✓ The project has a service life of 15 years
- ✓ Target mineral: spodumene
- ✓ Final product: lithium concentrate
- ✓ Concentrate grade: 5%
- ✓ Water source: 40 boreholes to be drilled (16250m<sup>3</sup>/d).
- ✓ Power: diesel generators

### Two phases:

- ✓ Construction of the plant (period;)
- ✓ Operation of the plant

### Source of lithium

- ✓ Initially Lithium to be sourced from mining claims 73409 – 73418

### Presentation of the project

Processing process will involve:

- ✓ Crushing to ore 0.5-8mm
- ✓ Grinding

- ✓ Classification
- ✓ Heavy medium separation (HMS) to produce a concentrate
- ✓ Re-crushing & re-separation of middlings
- ✓ Magnetic separation
- ✓ Fine ore flotation
- ✓ Fine ore dehydration

### 3) Main Potential Impacts

Potential impacts during construction and operational phases:

- ✓ Biodiversity (dust, noise),
- ✓ Air quality (Exhaust gas, raw ore, concentrate transportation, crushing and screening unloading),
- ✓ Noise (crusher, heavy duty vehicles) and socio-economic (96 employees, entrepreneurial opportunities, boost local businesses),
- ✓ Waste (waste engine oil, tailings & magnetic water, wastewater),
- ✓ Visual impacts (loss of existing land cover and changes in landscape views),
- ✓ Archaeology (No artefacts within the project area, NHC report was completed),
- ✓ Potable water usage
- ✓ Ground water obstruction

The potential impacts will be assessed and where necessary measures will be put in place to ensure that they avoided / minimized, where possible. Environmental protection budget has been forms part of the investment.

Wastes:

- ✓ Exhaust gas & dust (dry fog dust suppression measures, regular watering of production sites and transportation routes)
- ✓ Solid waste (will dumped at the tailing site after dehydration - dry tailings)
- ✓ Waste liquid (thickener overflow water, dense overflow water, and filter press water & magnetic tail water will be collected and pumped back to the concentrator for reuse), 86.15% will recycled
- ✓ Sewage water will be treated and used on roads to suppress dust and irrigating the premises
- ✓ Noise (use of low-noise equipment, basic vibration reduction, machine room sound insulation and sound absorption measures)

### 4) Way forward /Process that follows

- ✓ Finalize the EIA draft Report,
- ✓ Specialist studies to be undertaken,
- ✓ submit the EIA to the Ministry of Environment and Tourism where public comments will be welcomed for 14 days,
- ✓ submit the Final EIA report

## 6. Conclusion

Long Fire Investment (Pty) Ltd, the proponent, has acquired mineral rights for extracting various metals in the area designated for the construction of a lithium processing plant. The plant will operate on mining claim 73418, situated approximately 50 km southwest of Uis settlement, within Okombahe Reserve, Erongo Region. This Environmental Management Plan (EMP) outlines a comprehensive strategy to manage and mitigate environmental impacts related to the plant's operations. It is crucial to implement an effective EMP to ensure sustainable practices, minimize adverse effects on the environment, and comply with regulatory requirements.

The project is committed to adhering to all relevant environmental laws, regulations, and permits. Environmental awareness and training for all personnel involved in the project are highly valued. The project aims to engage positively with the community and consider their input and concerns throughout its duration. Emphasis is placed on environmental preservation, sustainability, responsible operation, and minimizing the project's environmental footprint to leave a positive impact on the surrounding environment and communities.

Potential positive and negative impacts of the proposed lithium processing operations on mining claim 73418 were identified and assessed. The EMP provides mitigation measures and recommendations to minimize these impacts to acceptable levels. The EMP should be used as a reference document during all project phases, and regular audits should ensure compliance. Parties responsible for non-compliance with the EMP should be held accountable for any required rehabilitation.

Overall, the potential environmental impacts of the project are expected to be of low probability, localized extent, and low magnitude and duration. This report serves as a framework for integrating mitigation measures and applicable legal tools to ensure compliance and sustainability. Adequate human and financial resources must be provided by the proponent to implement the proposed mitigations effectively and ensure proper environmental management during the planned activities.

## 7. Recommendations

- ✓ It is recommended that the establishment of the lithium processing plant on the project site be granted an Environmental Clearance Certificate, provided that:
- ✓ The EMP's mitigations are fully implemented as specified, and improvements are made where necessary.
- ✓ The Proponent and all their workers comply with the legal requirements governing this type of project and its associated activities.
- ✓ In summary, the following should be observed:

- ✓ The proponent must take necessary actions to implement the EMP and minimize adverse environmental impacts.
- ✓ All contractors and employees must be fully informed about the EMP provisions, guidelines, and legislative requirements, and adequate insurance cover should be in place.
- ✓ Environmental risks associated with construction and processing activities should be considered and planned for, with best practices implemented to minimize impacts.
- ✓ Close liaison and consideration with relevant landowners and regulatory authorities are essential, with advance notices and permissions obtained for access.
- ✓ Operations should adhere to the EMP, implementing necessary mitigation measures, monitoring, and stipulated rehabilitation measures.
- ✓ If portable water is discovered during borehole drilling, the proponent should support other land users in accessing freshwater for consumption, wildlife, and agriculture, as requested by the local community/landowners. Relevant underground water abstraction permits must be obtained from the Ministry of Agriculture, Water, and Land Reform, with observation of abstraction and monitoring conditions.
- ✓ Any damage to vegetation, land surface, or landowner property resulting from the development should be corrected promptly.

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