

**ENVIRONMENTAL MANAGEMENT PLAN  
FOR PROPOSED EXPLORATION ACTIVITIES ON EPL 7878,  
NEAR OTJAPITJAPI SETTLEMENT,  
KUNENE REGION**



**Prepared By**

**ECO-WISE ENVIRONMENTAL CONSULTING CC**

**P.O Box 40168 Windhoek**

**Cell: +264 813 826460**

**Email: [ecowise@protonmail.com](mailto:ecowise@protonmail.com)**

**Prepared For**

**KAOKO MINING NAMIBIA (PTY) LTD**

**P.O. Box 1121 Tsumeb**

**Tel: +264 67 220504**

**Fax: +264 67 220509**



**TABLE OF CONTENTS**

LIST OF TABLES ..... 2

1.1 BACKGROUND..... 3

1.2 PROJECT ACTIVITIES ..... 3

2. EMP AIMS AND OBJECTIVES..... 3

3. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK..... 3

4. ENVIRONMENTAL MANAGEMENT PLAN IMPLEMENTATION FRAMEWORK ..... 8

4.1 ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN ADMINISTRATION AND TRAINING..... 8

4.2 ROLES AND RESPONSIBILITIES..... 8

5. ENVIRONMENTAL MANAGEMENT PLAN ..... 9

5.1 MANAGEMENT OF NEGATIVE IMPACTS ASSOCIATED WITH EXPLORATION PHASE 10

5.2 MANAGEMENT OF SOCIO-ECONOMIC IMPACTS ASSOCIATED WITH EXPLORATION ..... 17

5.4 POSITIVE IMPACTS ASSOCIATED WITH THE PROJECT ..... 20

5.5 MANAGEMENT OF IMPACTS AT POST-EXPLORATION PHASE..... 22

6. ENVIRONMENTAL MONITORING..... 23

7. CONCLUSIONS ..... 24

**LIST OF TABLES**

**Table 1:** Relevant legislation and policies related to the project..... 4

**Table 2:** Monitoring of identified impacts..... 23

## **1.1 BACKGROUND**

Eco-Wise Environmental Consulting cc has been appointed by Kaoko Mining Namibia (Pty) Ltd as an independent environmental consultancy to undertake the Environmental Impact Assessment (EIA), develop an Environmental Management Plan and apply for an Environmental Clearance Certificate for the proposed exploration activities on EPL 7878 near Otjapitjapi Settlement, Kunene Region.

This Environmental Management Plan (EMP) has been developed to manage all the impacts, which were identified during the environmental assessment of the project. The EMP has been developed in terms of the Environmental Management Act (EMA) No 7 of 2007, EMA regulations of 2012, international environmental treaties and conventions binding to Namibia. Exploration is listed as an activity, which cannot be undertaken without an EIA. The project therefore falls under mining and quarrying activities.

## **1.2 PROJECT ACTIVITIES**

The following activities will be done under exploration:

- Research and reconnaissance
- Trenching and drilling
- Geochemical sampling and analysis
- Mapping

## **2. EMP AIMS AND OBJECTIVES**

The environmental management plan (EMP) aims to take a pro-active route by addressing potential problems before they occur. The objectives of the EMP are therefore;

- To outline mitigation measures in order to manage environmental and socio-economic impacts associated with the project
- Provide a framework for implementing the management actions recommended in the EIA for exploration activities.
- To ensure that the project will comply with relevant environmental legislations of Namibia and other requirements throughout its activities.

## **3. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK**

Legislations are used as guiding tools during the development of an EMP. The Proponent will be required to abide to different policies, laws, regulation relating to the project. The Environmental Management Act No. 7 of 2007 was the main legislative, which was used as a guiding tool during the development of the EMP. Table 1, indicate the relevant legislations related to the project.

**Table 1:** Relevant legislation and policies related to the project

Aspect	Legislation	Relevant Provisions	Relevance to the Project
<b>The Constitution</b>	Namibian Constitution First Amendment Act 34 of 1998	<ul style="list-style-type: none"> <li>- According to article 91(c) it provides for duty to guard against ‘‘the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia’’</li> <li>- Article 95 (l) deals with the ‘‘maintenance of ecosystems, essential ecological processes and biological diversity’’ and sustainable use of the country’s natural resources.</li> </ul>	<ul style="list-style-type: none"> <li>- During exploration activities, sustainable practices should be performed.</li> </ul>
<b>Environmental</b>	Environmental Management Act 7 of 2007	<ul style="list-style-type: none"> <li>- States that, projects with significant environmental impacts are subject to an environmental assessment process (Section 27).</li> <li>- Requires for adequate public participation during the environmental assessment process for interested and affected parties to voice their opinions on a project (Section 2).</li> </ul>	<ul style="list-style-type: none"> <li>- The EMA should guide the management of this project.</li> <li>- Adverts should be published in two local newspapers twice.</li> <li>- The public and relevant authorities should be consulted during the process of public participation as per the requirement of the act</li> <li>- The EMP which will guide on the management of the environment should be drafted as per the requirement of the act</li> </ul>

	EIA Regulations (2012)	- Lists all activities, which cannot be undertaken without an EIA.	<ul style="list-style-type: none"> <li>- This project is listed under mining and quarrying activities.</li> <li>- Activity 3.3 states that resource extraction, manipulation, conservation and related activities require an EIA.</li> </ul>
	Convention on Biological Diversity (1992)	- Article 1 lists the conservation of biological diversity amongst the objectives of the convention.	- The Proponent should consider the impact of the project on the biodiversity of the area. The EPL is located within the Omatendeka Conservancy hence the need to conduct the operations in a sustainable manner.
	Nature Conservation Ordinance No. 4 of 1975	Chapter 6 provides for legislation regarding the protection of indigenous plants	- Indigenous and protected plants should be protected within the areas of works.
	Minerals (Prospecting and Mining) Act, 1992 (Act 33 of 1992)	To provide for the reconnaissance, prospecting and mining for, and disposal of, and the exercise of control over, minerals in Namibia; and to provide for matters incidental thereto. "mineral" means any substance, whether in solid, liquid or gaseous form, occurring naturally in, on or under any land and having been formed by, or subjected to, a geological process, excluding-(c) subject to the provision of subsection (2), soil, sand, clay, gravel or stone (other than rock material specified in Part 2 of schedule 1).	- The intended activity involves exploration of minerals mainly copper ore.

<b>Soil</b>	Soil Conservation Act 6 of 1969	This act covers the prevention and combating of soil erosion; the conservation, improvement and manner of use of the soil and vegetation; and the protection of water sources	- Limited trenching will leave earthed soils hence it should not be left un-rehabilitated.
<b>Water</b>	Water Act 54 of 1956	- Prohibits the pollution of underground and surface water bodies.	- If drilling activities go below the level of the water table, they might be possibilities of pollution. Hence the pollution of water resources should be avoided during the exploration process.
<b>Health and Safety</b>	Labour Act (No 11 of 2007)	- This act emphasizes and regulates basic terms and conditions of employment, it guarantees prospective health, safety and welfare of employees and protects employees from unfair labour practices.	- The Proponent will be obliged to create a safe working environment for the employees.
	Public Health and Environmental Act, 2015	- The act mainly emphasis on proper management of the environment, to prevent negative health impacts. - The act promotes proper waste management.	- Proper waste management should be promoted to prevent nuisance, which can consequently affect public health. - Recycling, reuse and reduce must be practised at all times thus if any waste is generated.

	Heritage Act	<ul style="list-style-type: none"> <li>- The Heritage Act of 2004 makes provision for the developer to identify and assess any archaeological and historical sites of significance. The existence of any such sites should be reported to the Monuments Council as soon as possible. The Council may serve notice that prohibits any activities as prescribed within a specified distance of an identified heritage/archaeology site.</li> </ul>	<ul style="list-style-type: none"> <li>- In an event that the Proponent comes across any archaeological or historical sites of significance, they should report immediately to the Heritage Council</li> </ul>
--	--------------	--	--

## **4. ENVIRONMENTAL MANAGEMENT PLAN IMPLEMENTATION FRAMEWORK**

### **4.1 ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN ADMINISTRATION AND TRAINING**

This Environmental Management Plan (EMP) shall clearly state the roles and responsibilities of all stakeholders to ensure that the EMP is fully implemented. The Proponent shall appoint an overall responsible person (Environmental Control Officer) to ensure the successful implementation of the EMP. The Environmental Control Officer needs to have qualifications and knowledge in environmental management implementation.

### **4.2 ROLES AND RESPONSIBILITIES**

**Proponent (Kaoko Mining Namibia Pty Ltd):** has the overall responsibility for all financial and work force provisions, which will facilitate the implementation of this EMP. The Proponent is responsible for the appointment of other personnel responsible for the implementation of this EMP.

**Competent and Monitoring authority (The Department of Environmental Affairs: Ministry of Environment and Tourism):** Responsible for the review and approval of the EIA and EMP documents.

**Project Manager** - Required in carrying out the overall responsibility for the implementation of the EMP to ensure that all required resources and mechanisms for environmental management are in place. Report all environmental issues to HSEO officer.

**Health Safety and Environmental Site Officer (HSEO)** - responsible of all environmental issues (waste management) and safety of employees. The HSEO should record and report all incidents on site.

**Environmental Control Officer (ECO)** - required to take independent responsibility of the implementation of this EMP. ECO is contracted to conduct periodic auditing of the sites, compilation of all reports to be submitted to MET: DEA for renewal of the environmental clearance certificate.

**Employees** - Required to follow requirements as directed by the project manager. Report any potential environmental issues to the project manager.

**Contractors** - all contractors (including subcontractors) and service providers are ultimately responsible for:

- Complying with the Environmental Management Plan specifications where applicable;
- Provide Environmental; Method Statements to the Project Manager with regards to how certain activities on-site will be conducted.
- Adhering to any environmental instructions issued by the Project Manager



- Arrange that all the contractor's employees receive training. Trainings have to be appropriate for the level of the tasks and functions undertaken.

The Environmental Method Statement referred to above will cover applicable details with regard to:

- Equipment to be used;
- Getting the equipment to and from site;
- How the equipment will be moved while on-site;
- How and where material will be stored;
- The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur;
- Identified potential impacts of the activity and mitigation measures thereof;
  - Compliance/non-compliance with the Environmental Specifications; and
  - Any other information deemed necessary by the Project Manager.

#### **5. ENVIRONMENTAL MANAGEMENT PLAN**

The following tables form the core of this EMP for the exploration phase. The below information shown in the tables, should be used as a checklist on site.

## 5.1 MANAGEMENT OF NEGATIVE IMPACTS ASSOCIATED WITH EXPLORATION PHASE:

### 1. Impact on landscape

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<b>Landscape</b>	Exploration activities ie drilling and limited trenching will leave scars on the landscape. Disturbance on the land can consequently affect animals in the area in terms of their habitancy and also the general aesthetic value of the land.	<ul style="list-style-type: none"><li>• Limited trenching should be done to understand the surface geology but when need arise to understand the subsurface geology, drilling should be used.</li><li>• Removed rocks and soil should be replaced back and levelling of the area done so as to try to restore the area to its natural state.</li><li>• Massive clearing of vegetation shall not be allowed.</li></ul>	Exploration Phase	Kaoko Mining Namibia Pty Ltd, Contractors, Project Manager and appointed Environmental Control Officer

## 2. Impact on fauna

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<b>Fauna</b>	<p>Exploration activities such as walking, trenching and drilling might disturb animals. Noise generated from these activities might scare away animals. In addition, wild animals might also be at risk if exploration personnel practice poaching activities for meat.</p> <p>Pits created during trenching might pose a hazard to animals therefore the Proponent should stick to limited trenching and use drilling for examination of subsurface geology.</p>	<ul style="list-style-type: none"> <li>• Maintain shallow trenches for surface geology exploration and drilling for subsurface geology examination</li> <li>• Poaching of wildlife shall not be allowed.</li> <li>• A drilling interval should be established, used and adhered to</li> <li>• Working hours should be limited to minimum of 8 hours per day</li> <li>• Noise should be addressed and mitigated at an early stage.</li> <li>• Proper and timely maintenance of machineries and vehicles to prevent noise.</li> </ul>	Exploration Phase	Kaoko Mining Namibia Pty Ltd, Contractors, Project Manager and appointed Environmental Control Officer

### 3. Dust

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<b>Dust</b>	Dust might accumulate during trenching, movement of vehicles and machines. People at risk are likely to be employees working on the area and accumulation of dust might lead to respiratory problems.	<ul style="list-style-type: none"> <li>• Soil watering when soil works are being executed and where dust is emitted</li> <li>• People at site should be provided with respirators</li> <li>• Regular monitoring and review to ensure safe operation.</li> </ul>	Exploration Phase	Kaoko Mining Namibia Pty Ltd, Contractors, Project Manager and appointed Environmental Control Officer

### 4. Impact of waste

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<b>Impact of waste</b>	Waste will be generated from trenching in the form of unearthed rocks and soils. In addition, exploration personnel might also generate waste in the form of empty food containers, food leftovers, plastics, papers, bottles etc.	<ul style="list-style-type: none"> <li>• Contaminated wastes in the form of soil, litter and other material must be disposed off at an appropriate disposal site.</li> <li>• Strictly, no burning of waste on the site or at the disposal site is allowed as it possess environmental and public health impacts</li> <li>• After completion of exploration activities such as trenching, removed soil layers and rocks must be replaced and levelling must be done so that the original condition is restored.</li> </ul>	Exploration Phase	Kaoko Mining Namibia Pty Ltd, Project Manager, Contractors and ECO

## 5. Noise

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Noise	<p>Noise will be generated through:</p> <ul style="list-style-type: none"> <li>-Exploration drilling activities</li> <li>-Frequent movement of exploration vehicles</li> </ul> <p>Noise generated might affect animals and result in some animals changing their habitant. If noise is generated, it might cause annoyance to passers-by.</p>	<ul style="list-style-type: none"> <li>• A drilling interval will be established, used and adhered to</li> <li>• Working hours should be limited to minimum of 8 hours per day</li> <li>• Noise should be addressed and mitigated at an early stage.</li> <li>• Proper and timely maintenance of machineries and vehicles</li> <li>• Employees to be equipped with ear protection equipment.</li> </ul>	Exploration Phase	Kaoko Mining Namibia Pty Ltd, Contractors, Site Manager & appointed ECO

## 6. Vegetation Loss

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<b>Vegetation Loss</b>	<p>Massive clearing of vegetation shall not be done. However, vegetation might be lost through the following activities, creation of cut lines for accessibility of vehicles, limited trenching and drilling. The area of study is located within the Omatendeka Conservancy hence the Proponent should conduct the exploration activities in a sustainable manner.</p>	<ul style="list-style-type: none"> <li>• Massive clearing shall not be allowed</li> <li>• Maintain the stated boundaries, no activities shall be carried outside the demarcated boundaries</li> <li>• All the major trees will be preserved and the activities will fit into the environment without affecting the trees.</li> <li>• Upon completion of drilling activities, it is encouraged to plant more trees around the sites to restore the sites</li> <li>• When necessary a permit must be obtained from the Directorate of Forestry before removing a major tree species.</li> <li>• Stick to using already existing tracks and only create cutlines when there is need</li> <li>• Exploration personnel shall not be allowed to cut trees for firewood</li> </ul>	Exploration Phase	Kaoko Mining Namibia Pty Ltd, ECO

## 7. Impact on soil

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<b>Soil</b>	Soil will be disturbed during drilling and limited trenching. Soil might also be partly affected by oil or fuel leakages from machines and vehicular movement.	<ul style="list-style-type: none"> <li>• After completion of exploration activities such as trenching, removed soil layers must be replaced and levelling must be done so that the original condition is restored.</li> <li>• Proper care should be taken so that there is no spill that would cause soil contamination</li> <li>• If any hazardous waste is produced it should be properly handled and sent for disposal to appropriate disposal areas</li> <li>• Fuels shall not be kept/stored at the site</li> </ul>	Exploration Phase	Kaoko Mining Namibia Pty Ltd, Contractors, Project Manager and appointed Environmental Control Officer

## 8. Impact on surface and groundwater

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<p><b>Surface and groundwater contamination</b></p>	<p>There will be no storage of oils and fuel on site, however there is risk of spillage of hydrocarbons from vehicles and drilling machine which may result in environmental contamination. The nearest river which might flow during good rains is Hoarusib River (ephemeral), which is approximately 35km hence posing less risk on surface water bodies. Groundwater sources might be the ones at risk if any spillages occur.</p>	<ul style="list-style-type: none"> <li>• Implement a maintenance programme to ensure all vehicles, machinery and equipment remain in proper working condition</li> <li>• Vehicle maintenance should be conducted in designated areas only, preferably off-site.</li> <li>• Waste oils and fuels from drip trays on stationery vehicles and machinery will be disposed of as hazardous waste at a licensed facility by a specialist hazardous waste handler.</li> </ul>	<p>Exploration Phase</p>	<p>Kaoko Mining Namibia Pty Ltd, Contractors, appointed HSEO</p>



## 5.2 MANAGEMENT OF SOCIO-ECONOMIC IMPACTS ASSOCIATED WITH EXPLORATION

### 1. Occupational Health and Safety

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
OHS	Noise, dust and occupational stress are hazards, which are likely to be encountered during exploration phase.	<ul style="list-style-type: none"> <li>• Conduct Hazard identification and risk assessments</li> <li>• Comply with all Health and Safety standards specified in the Labour Act.</li> <li>• Provide all staff on site with protective equipment (helmets, gloves, respirators, work suits, earplugs, goggles and safety shoes where applicable).</li> <li>• Use of dust suppression measures</li> <li>• Reduce noise exposure by isolating noisy equipment and rotate tasks</li> <li>• Provision of First Aid at the site</li> <li>• Provisions of immediate accident/incident reporting and investigation.</li> <li>• Safety Posters and slogans should be exhibited at conspicuous places.</li> </ul>	Exploration Phase	Kaoko Mining Namibia Pty Ltd, Contractors

## 2. Heritage impact

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<b>Heritage impact</b>	At the site, there are no known heritage areas or artefacts deemed to be impacted by the exploration activities. However, unknown archaeological remains might be within the EPL hence given that the Proponent come across anything of significance they should immediately report to NHCN.	<ul style="list-style-type: none"> <li>• The Proponent should consult the headman of the area before conducting any work.</li> <li>• All works are to be immediately ceased should an archaeological or heritage resource be discovered.</li> <li>• The National Heritage Council of Namibia (NHCN) should advise with regards to the removal, packaging and transfer of the potential resource.</li> </ul>	Exploration Phase	Kaoko Mining Namibia Pty Ltd, Contractors

## 3. Population Influx

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<b>Population Influx</b>	At the stage of exploration, few people will be employed hence the impact will be of low environmental significance.	<ul style="list-style-type: none"> <li>• Local employment should be a priority so as to reduce the number of outsiders entering Opuwo area</li> </ul>	Exploration Phase	Kaoko Mining Namibia Pty Ltd

#### 4. Risk and spread of HIV/AIDS

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
HIV/AIDS	Even though a few people will be employed at this stage, the disease might still spread.	<ul style="list-style-type: none"> <li>• Employer should allocate time for employees to visit their families.</li> <li>• Free distribution of condoms</li> </ul>	Exploration Phase	Kaoko Mining Namibia Pty Ltd,

#### 5. Cumulative impacts

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Cumulative impacts	Change of existing landscape caused by limited trenching and drilling might impact on archaeological heritage and also result in loss of habitancy for some animals which can further affect the food web. The greatest potential impact of the proposed development on the archaeological heritage of the surrounding landscape will be during the removal of topsoil during limited trenching and drilling on identified areas of interest with possible mineral deposits. The proposed works will have a negative archaeological impact on undisturbed areas of ground where topsoil will be removed.	<ul style="list-style-type: none"> <li>• Limited trenching should be done to understand the surface geology but when need arise to understand the subsurface geology, drilling should be used.</li> <li>• The Proponent will need to monitor, by seeking consultation from an archaeological consultant during topsoil removal over relatively large areas so as to ensure the full recognition and recording of any buried finds or features.</li> <li>• Removed rocks and soil should be replaced back and levelling of the area done so as to try to restore the area to its natural state.</li> </ul>	Exploration Phase	Kaoko Mining Namibia Pty Ltd

## 5.4 POSITIVE IMPACTS ASSOCIATED WITH THE PROJECT

### 1. Local empowerment

Impacts	Description	Enhancement Required	Project Phase	Responsibility
<b>Local empowerment</b>	The shareholders of Kaoko Mining Namibia (Pty) Ltd are all Namibian citizens who managed to group their licenses together in a bid to explore for the possible discovery of a medium to large minable copper deposit.	<ul style="list-style-type: none"> <li>Continue to promote locals</li> </ul>	Exploration Phase	Kaoko Mining Namibia Pty Ltd

### 2. Employment creation

Impacts	Description	Enhancement Required	Project Phase	Responsibility
<b>Employment creation</b>	Even though few people will be employed during the exploration phase, but if medium to minable deposits are found and mining activities start, many people will be employed. This project therefore is definitely going to be beneficial in future.	<ul style="list-style-type: none"> <li>Employ locals in all casual labour and ensure gender equality.</li> <li>Equity, transparency, to be put into account when hiring and recruiting</li> </ul>	Exploration Phase	Kaoko Mining Namibia Pty Ltd

### 3. Land utilisation for the benefit of people

Impacts	Description	Enhancement Required	Project Phase	Responsibility
<b>Land utilisation for the benefit of people</b>	Local individuals were granted EPLs around Kunene Region, hence some of them joined together and formed Kaoko Mining Namibia (PTY) LTD. Therefore, the formation of the company helped most of the shareholders, given that most of the shareholders did not have funds to start exploration activities. Given that exploration activities are done and minable deposits are obtained, this can result in utilisation of the land hence benefiting the people.	<ul style="list-style-type: none"> <li>The whole community must benefit in future</li> </ul>	Exploration	Kaoko Mining Namibia Pty Ltd

### 4. Generation of Revenue

Impacts	Description	Enhancement Required	Project Phase	Responsibility
<b>Generation of Revenue</b>	Kaoko Mining Namibia (Pty) Ltd, contractors and subcontractors will pay tax hence generating revenue.	<ul style="list-style-type: none"> <li>The Proponent, contractors and subcontract to pay taxes as stipulated by the law of Namibia.</li> </ul>	Exploration Phase	Kaoko Mining Namibia Pty Ltd, appointed contractors

## 5.5 MANAGEMENT OF IMPACTS AT POST-EXPLORATION PHASE

### Impact on landscape

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
<p><b>Post-exploration stage</b> <b>(Landscape)</b></p>	<p>The stage of exploration is expected to have minimum damage to the environment as compared to mining. However, the major issue which need to be looked after the phase of exploration is how the project has impacted the landscape. Exploration activities like limited trenching will leave pits although they are expected to be shallow. Pits created during limited trenching need to be rehabilitated.</p>	<ul style="list-style-type: none"> <li>• All pits shall be backfilled or contoured to a stable angle of repose.</li> <li>• Stockpile disturbed bedrock on site in a safe and stable manner.</li> </ul>	<p>Post-exploration Phase</p>	<p>Kaoko Mining Namibia Pty Ltd</p>

## 6. ENVIRONMENTAL MONITORING

A monitoring programme will be in place to ensure conformance with the EMP. The Environmental Control Officer will ensure compliance with the EMP, and carry out monitoring/auditing activities. The Environmental Control Officer must have the appropriate experience and qualifications to undertake the necessary tasks. The Environmental Control Officer will report to the Proponent should any non-compliance be evident or corrective action necessary. The suggested monitoring details are outlined in table 2 below.

**Table 2:** Monitoring of identified impacts

IMPACT	RECEPTORS	TYPE OF MONITORING	PERIOD/TIME
Alternation of existing landscape	Environment	<ul style="list-style-type: none"> <li>• Inspection</li> </ul>	Period of limited trenching and drilling
Dust	Employees	<ul style="list-style-type: none"> <li>• Regular site inspections</li> </ul>	Daily
Impact on fauna	Environment	<ul style="list-style-type: none"> <li>• Inspection</li> </ul>	Period of trenching and drilling
Surface & groundwater Pollution	Environment	<ul style="list-style-type: none"> <li>• Tests on the nearby surface water body and boreholes</li> </ul>	Once in a year
Noise	Employees Surrounding areas	<ul style="list-style-type: none"> <li>• Noise monitoring</li> </ul>	Daily
Vegetation loss	Environment	<ul style="list-style-type: none"> <li>• Inspection of protected plant species and incorporate them into the development</li> </ul>	<ul style="list-style-type: none"> <li>• Period of limited trenching, drilling and creating cutlines.</li> </ul>
Heritage	Land	<ul style="list-style-type: none"> <li>• Inspection</li> </ul>	<ul style="list-style-type: none"> <li>• Period of exploration</li> </ul>
O.H. S	Employees	<ul style="list-style-type: none"> <li>• Site inspection</li> <li>• Conducting Hazard and Risk Assessments</li> <li>• Health and safety incident monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• Daily</li> </ul>
Impact on soil	Environment.	<ul style="list-style-type: none"> <li>• Monitoring moisture content &amp; texture of soil</li> </ul>	<ul style="list-style-type: none"> <li>• Quarterly</li> </ul>
Generation of waste (solid)	Land	<ul style="list-style-type: none"> <li>• Site inspection on housekeeping</li> <li>• Regular collection of waste</li> </ul>	<ul style="list-style-type: none"> <li>• Daily</li> <li>• Weekly</li> </ul>
HIV/AIDS	Employees	<ul style="list-style-type: none"> <li>• Free testing</li> </ul>	<ul style="list-style-type: none"> <li>• Annually</li> </ul>

## 7. CONCLUSIONS

---

It is the applicant's responsibility to ensure that this EMP is made binding on the contractor by including the EMP in the contract documentation. The contractors should thoroughly familiarise themselves with the requirements of the EMP.

The above Environmental Management Plan, if properly implemented, will help to minimise adverse impacts on the environment. Where impacts occur, immediate action must be taken to reduce the escalation of effects associated with these impacts.

The Environmental Management Plan should be used as an on-site reference document during the proposed development and auditing should take place in order to determine compliance with the EMP for the proposed sites. Parties responsible for transgression of the EMP should be held responsible for any rehabilitation that may need to be undertaken.