



**ENVIRONMENTAL MANAGEMENT PLAN FOR  
THE PROPOSED EXPLORATION ACTIVITIES  
ON EPL 8771 NEAR OTAVI OTJOZONDJUPA  
REGION**

**MEFT PROJECT NO.: 230204000954**

**OTAVI CEMENT GROUP (PTY) LTD**

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## 1.1 BACKGROUND

Eco-Wise Environmental Consulting cc has been appointed by Otavi Cement Group (Pty) Ltd as an independent environmental consultancy to undertake the scoping Environmental Impact Assessment (EIA), develop an Environmental Management Plan and apply for an Environmental Clearance Certificate for the proposed exploration activities on EPL 8771 which is located approximately 20 km north-east of Otavi Town, in the Otjozondjupa 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 and EIA regulations of 2012. Exploration is listed as an activity, which cannot be undertaken without an environmental clearance certificate. The project, therefore, falls under mining and quarrying activities.

## 1.2 PROJECT ACTIVITIES

The following activities will be done under exploration:

- Sampling and mapping
- Utilizing available historical data
- Use of aerial images

## 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
- 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 and its regulation of 2012 were the main legislation, which were used as a guiding tool during the development of the EMP. Table 1, indicate the relevant legislation related to the project.

**Table 1:** shows relevant legislation and policies related to the project

<b>Aspect</b>	<b>Legislation</b>	<b>Relevant Provisions</b>	<b>Relevance to the Project</b>
The Constitution	Namibian Constitution First Amendment Act 34 of 1998	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” Article 95 (l) deals with the “maintenance of ecosystems, essential ecological processes and biological diversity” and sustainable use of the country’s natural resources.	Proponent should ensure sustainable practices throughout the exploration phase.
Environmental	Environmental Management Act 7 of 2007	States that, projects with significant environmental impacts are subject to an environmental assessment process (Section 27). Requires for adequate public participation during the environmental assessment process for interested and affected parties to voice their opinions on a project (Section 2).	The Environmental Management Act should guide the management of this project. Adverts should be published in two local newspapers twice and notices placed on site The public and relevant authorities should be consulted during the process of public participation as per the requirement of the act
	EIA Regulations (2012)	Lists all activities, which cannot be undertaken without an EIA.	This project is listed under mining and quarrying activities. Activity 3.3 states that resource extraction, manipulation, conservation and related activities require an environmental clearance certificate.

	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.
	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.
	Environmental Assessment Policy of Namibia (1995)	The Policy seeks to ensure that the environmental consequences of development projects and policies are considered, understood and incorporated into the planning process, and that the term "environment" is broadly interpreted to include biophysical, social, economic, cultural, historical and political components.	The EIA considers this term "environment".
	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	The intended activity involves exploration

		rock material specified in Part 2 of schedule 1)	
Soil	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	Prevent possibilities of soil contamination from fuels, oils and greases of vehicles working at the site
Water	Water Act 54 of 1956	Prohibits the pollution of underground and surface water bodies.	Contamination from fuels and oils from vehicles should be avoided so as to prevent pollution of water resources.
Health and Safety	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 personnel working during the exploration phase.
	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	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.	In an event that, the proponent comes across any archaeological or historical sites of significance, they should report immediately to the Monuments Council

		The Council may serve notice that prohibits any activities as prescribed within a specified distance of an identified heritage/archaeology site.	
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## 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 (Otavi Cement Group 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 Forestry 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.

**Health Safety and Environmental Site Officer (HSEO)** - responsible of all environmental issues 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 site, compilation of all reports to be submitted to MEFT: 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 (in an event that they are contracted in future)** - 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.



**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

<b>Impacts</b>	<b>Description</b>	<b>Mitigation Measures</b>	<b>Project Phase</b>	<b>Responsibility</b>
Landscape	During the exploration phase, it will be unlikely that the original landscape will be disturbed given the exploration methods which will be used. No trenching and drilling will be conducted as mainly historical available data and aerial images will mainly be used. Possible sources which might affect the scenery of the site is litter generated by exploration personnel and any spillages from fuel or oils of exploration vehicles.	<ul style="list-style-type: none"> <li>If the need arises in future to use the methods of drilling and trenching, an addendum should be done to the EMP report.</li> </ul>	Exploration Phase	Otavi Cement Group Pty Ltd, Contractors, Project Manager and appointed ECO

## 2. Impact on fauna

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Fauna	<p>The following exploration activities might disturb animals; walking and movement of exploration vehicles. Noise generated from these activities might scare away animals.</p> <p>Poaching activities will also impact on animals thus if employees practise it.</p>	<ul style="list-style-type: none"> <li>• Poaching of wildlife shall not be allowed.</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 vehicles to prevent noise.</li> <li>• Speed limits should be observed when driving around the site</li> </ul>	Exploration Phase	Otavi Cement Group Pty Ltd, Contractors, Project Manager

## 3. Dust

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Dust	Dust might accumulate during movement of vehicles.	<ul style="list-style-type: none"> <li>When driving around the study area, the drivers should minimize their speed to avoid emitting more dust</li> </ul>	Exploration Phase	Otavi Cement Group Pty Ltd, Contractors, Project Manager

## 4. Impact of waste

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Impact of waste	Waste might be generated in the form of; empty food containers, food leftovers, plastics, papers, bottles, contaminated soils from oil / fuel leakages.	<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>Servicing of vehicles and keeping fuel on site shall not be allowed</li> <li>Use drip trays to capture oil drips and spills from vehicles</li> </ul>	Exploration Phase	Otavi Cement Group Pty Ltd, Project Manager, Contractors and ECO

## 5. Vegetation Loss

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Vegetation Loss	No massive clearing shall be done. Vegetation might only be partially affected when the need to create cutlines arises.	<ul style="list-style-type: none"> <li>Protected plant species shall not be removed</li> <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>Exploration personnel shall not be allowed to cut trees for firewood</li> </ul>	Exploration Phase	Otavi Cement Group Pty Ltd, ECO

## 6. Noise

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Noise	<p>Noise will be generated through:</p> <ul style="list-style-type: none"> <li>-Frequent movement of exploration vehicles</li> </ul> <p>Noise generated might affect animals and result in some animals changing their habitant.</p>	<ul style="list-style-type: none"> <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 vehicles</li> </ul>	Exploration Phase	Otavi Cement Group Pty Ltd

## 7. Impact on soil

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Soil	Soil might be partly affected by oil or fuel leakages from vehicular movement.	<ul style="list-style-type: none"> <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> </ul>	Exploration Phase	Otavi Cement Group Pty Ltd, Contractors, Project Manager and appointed Environmental Control Officer

## 8. Impact on surface and groundwater

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Surface and groundwater contamination	The possibility of contamination is very low unless it happens in large volumes or frequently. However, the proponent should guard against oil and fuel leakages from exploration vehicles.	<ul style="list-style-type: none"> <li>• Implement a maintenance programme to ensure all vehicles remain in proper working condition</li> <li>• Vehicle maintenance should be conducted in designated areas only, preferably off-site.</li> <li>• Use of drip trays</li> </ul>	Exploration Phase	Otavi Cement Group Pty Ltd, Contractors

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

### 1. Occupational Health and Safety

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
OHS	Occupational stress and injuries in the field might be encountered during the 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 applicable protective equipment (work suits, safety shoes etc)</li> <li>• Provision of First Aid at the site</li> <li>• Provisions of immediate accident/incident reporting and investigation.</li> </ul>	Exploration Phase	Otavi Cement Group Pty Ltd, Contractors

### 2. Heritage impact

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Heritage impact	At the site, there are no known heritage areas or artefacts deemed to be impacted by the exploration activities.	<ul style="list-style-type: none"> <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	Otavi Cement Group Pty Ltd,

### 5.3 POSITIVE IMPACTS ASSOCIATED WITH THE PROJECT

#### 1. Local empowerment

Impacts	Description	Enhancement Required	Project Phase	Responsibility
Local empowerment	Otavi Cement Group (Pty) Ltd is a Namibian company hence supporting the project means promoting local empowerment.	<ul style="list-style-type: none"> <li>Continue to promote locals</li> </ul>	Exploration Phase	Otavi Cement Group Pty Ltd

#### 2. Employment creation

Impacts	Description	Enhancement Required	Project Phase	Responsibility
Employment creation	Even though few people will be employed during the exploration phase, but if 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>Equity, transparency, to be put into account when hiring and recruiting</li> </ul>	Exploration Phase	Otavi Cement Group Pty Ltd



## 3. Generation of Revenue

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

## 5.4 MANAGEMENT OF IMPACTS AT POST-EXPLORATION PHASE

## 1. Impact on Landscape

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Post-exploration stage (Landscape) Applicable in the event that other exploration methods are included (drilling, trenching)	The stage of exploration is expected to have minimal damage to the environment as compared to mining. However, the major issue which needs to be looked at after the phase of exploration is how the project has impacted the landscape. If the proponent maintains the proposed exploration methods, no damage is foreseen to the environment hence rehabilitation will not be necessary. However, in the event that the proponent makes an addendum and includes exploration methods such as drilling and trenching, rehabilitation will be required hence the need to apply the suggested mitigation measures.	<ul style="list-style-type: none"> <li>All pits should be backfilled or contoured to a stable angle of repose.</li> <li>Stockpile disturbed bedrock on-site in a safe and stable manner.</li> <li>Exploration boreholes should be sealed</li> </ul>	Post-exploration Phase	Otavi Cement Group Pty Ltd

### 3. 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 activities. 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
Landscape	Environment	<ul style="list-style-type: none"> <li>• Inspection</li> </ul>	Throughout the exploration phase
Dust	Environment	<ul style="list-style-type: none"> <li>• Inspection</li> </ul>	During the movement of exploration vehicles
Impact on fauna	Environment	<ul style="list-style-type: none"> <li>• Inspection</li> </ul>	Throughout the exploration phase
Vegetation loss	Environment	<ul style="list-style-type: none"> <li>• Inspection of protected plant species and incorporate them into the development</li> </ul>	Period of creating cutlines.
Heritage	Land	<ul style="list-style-type: none"> <li>• Inspection</li> </ul>	Period of exploration
O.H. S	Employees	<ul style="list-style-type: none"> <li>• Conducting Hazard and Risk Assessments</li> </ul>	Daily
Generation of waste (solid)	Environment	<ul style="list-style-type: none"> <li>• Site inspection on housekeeping</li> <li>• Regular collection of waste</li> </ul>	Daily Weekly

### 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 exploration phase and monitoring should take place in order to determine compliance with the EMP for the proposed site. Parties responsible for the transgression of the EMP should be held responsible for any rehabilitation that may need to be undertaken.