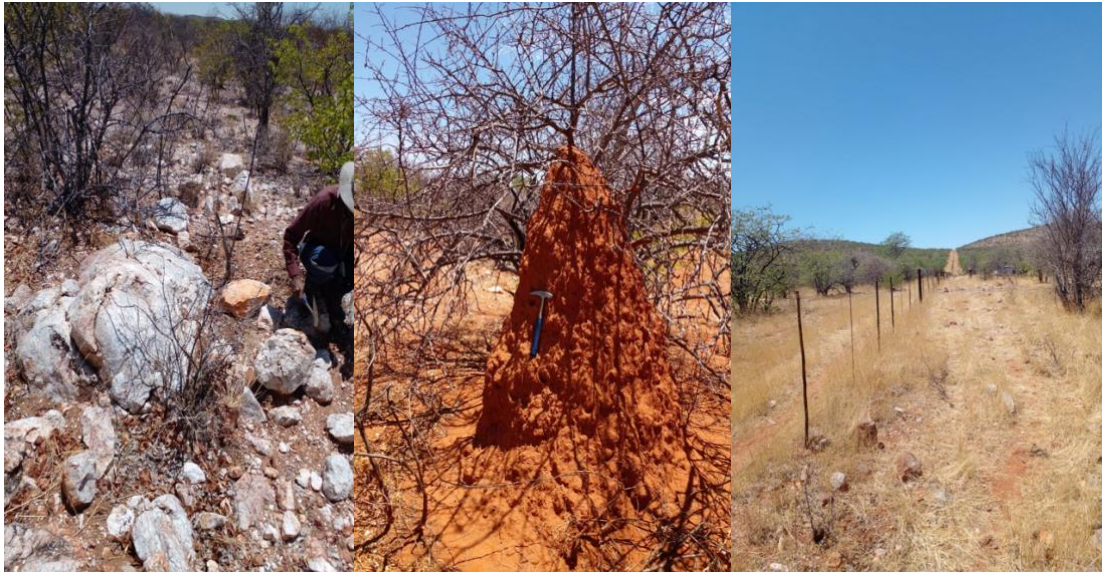


ENVIRONMENTAL MANAGEMENT PLAN (EMP)

Exploration of Base and Rare Metals, Dimension Stones and Precious Metals
on EPL 7125 in Outjo Magisterial District, Kunene Region



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This report has been prepared by GTC with all reasonable skill, care, and diligence taking into account the manpower and resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid. The interpretations and conclusions reached in this technical report are based on current scientific understanding and the best evidence available to the authors at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high these probabilities might be, they make no claim for absolute certainty.

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DOCUMENT CONTROL

Statement of Purpose

This document aims to produce an environmental management plan for Exploration of Base and Rare Metals, Dimensions Stone and Precious Metals on the Exclusive Prospecting License 7125. This report gives the plans in place to the competent authorities for considerations and to Calculus Commodities (Pty) Ltd, represented by Mr. Elias Sipunga, on the environmental management plans to be implemented during and after the exploration activities. This report is in the context of the provisions of EIAs, EMPs and exploration best practices offered by Green Team Consultants.

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TABLE OF CONTENT

1. INTRODUCTION	4
1.2. PROJECT OVERVIEW	4
1.3. PURPOSE AND SCOPE OF THIS PROJECT	5
2. ENVIRONMENTAL REGULATORY REQUIREMENTS	5
2.2. REQUIRED PERMITS AND LICENSES	5
3. MANAGEMENT AND IMPLEMENTATION	6
4. LIMITATIONS AND UNCERTAINTIES	6
5. ENVIRONMENTAL CONSULTANCY	6
5.2. STRUCTURE OF THIS EMP	8
6. MANAGEMENT OF THE PROJECT PERSONNEL	9
6.2. ORGANIZATIONAL STRUCTURE ROLES AND RESPONSIBILITIES.....	9
7. COMPLIANCE MONITORING AND AUDIT	12

LIST OF FIGURES

Figure 1 Location of EPL 7125 as outlined by the white dotted polygon and farms that contained inside the proposed project`s boundary near Kamanjab Town, Kunene Region, Namibia	4
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LIST OF TABLES

Table 1 Required permits and license	6
Table 2 Environmental Scoping Report Sections	8
Table 3 Roles and Responsibilities	10
Table 4 Aspects of potential environmental impacts and management/mitigation measures	13

ABBREVIATIONS AND DEFINITIONS

Acronym	
CC	Closed Corporation
CTD	Current, Temperature, Depth
DO	Dissolved Oxygen
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EIS	Environmental Information Service
EMP	Environmental Management Plan
EPL	Exclusive Prospecting License
ESIA	Environmental and Social Impact Assessment
FDI	Foreign Direct Investments
GHG	Greenhouse Gas
HPP	Harambee Prosperity Plan
IAP	Interested and Affected Party
IBA	Important Bird Area
IFC	International Finance Corporation
IUCN	International Union for the Conservation of Nature
MME	Ministry of Mines and Energy
MEFT	Ministry of Environment, Forestry and Tourism
MODVA	Ministry of Defense and Veteran Affairs
MOL	Ministry of Labour
N/A	Not applicable
NDP	National Development Plan
(PTY) Ltd	Proprietary Limited
RC	Reverse Circulation
SADC	Southern African Development Community
SADC	Southern African Development Community
SASSCAL	Southern African Science Service Centre for Climate Change and Adaptive Land Management

1. INTRODUCTION

1.2. Project Overview

Green Team Consultants have been appointed by Calculus Commodities (Pty) Ltd (the Proponent) to undertake an Environmental Impact Assessment (EIA) and an Environmental Management Plan (EMP) in terms of the Environmental Management Act No.7 of 2007.

Calculus Commodities (Pty) Ltd is a private research and development firm dedicated to researching and investing in commodity markets and has identified the opportunity to explore activities of base and rare metals, dimension stones and precious metals on Exclusive Prospective Licence (EPL) 7125. The EPL 7125 is situated approximately 5 km north of Kamanjab town (Figure 1), crosscutting the C35 and D2763 roads in Kunene Region in the Outjo magisterial district.

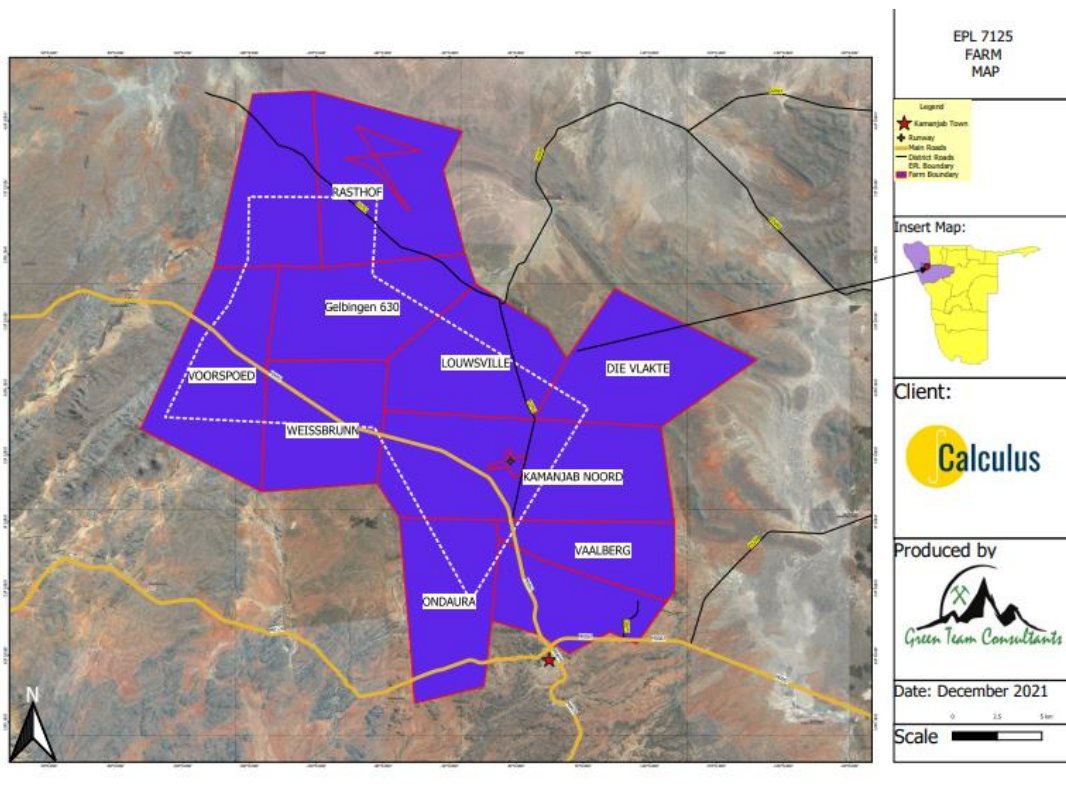


Figure 1 Location of EPL 7125 as outlined by the white dotted polygon and farms that contained inside the proposed project's boundary near Kamanjab Town, Kunene Region, Namibia

1.3. Purpose and Scope of this Project

This EMP serves as a tool that provides a log frame, management strategies and alleviation measures for the proposed project's exploration activities. This ensures that the potential social and environmental impacts are minimised as practically as possible and that legal obligations are adhered to and fulfilled. The procedures, roles and responsibilities, as well as protocols, are outlined in the EMP to ensure management strategies will be effective and appropriately implemented.

The EMP will be attached to the environmental scoping report and will be based on the results of the assessments carried out as conducted in terms of the Environmental Management Act No.7 of 2007. Therefore, the environmental scoping report should be used as a reference for more information on the proposed project.

The scope of this EMP includes all activities that will be conducted during the exploration stage in search of base and rare metals, dimension stones and precious stones on EPL 7125.

2. ENVIRONMENTAL REGULATORY REQUIREMENTS

According to the Environmental Management Act, No.7 of 2007 regulations and Environmental Impact Assessment Regulation, No. 30 of 2012, the proposed project is considered a listed activity. As such an application to obtain the Environmental Clearance Certificate is required, and the scoping report and EMP will be submitted to the competent authority for review and decision making.

2.2. Required Permits and Licenses

As part of the environmental compliance and authorization, Calculus Commodities (Pty) Ltd shall ensure that the permits and licenses should be obtained before the proposed project operation commence (Figure 1).

Table 1 Required permits and license

License/Permit	Competent Authority	Validity	Status
Exclusive Prospecting License (EPL)	Ministry of Mines and Energy	3 Years	Acquired, but expiring 5 th November 2022
Environmental Clearance Certificate (ECC)	Ministry of Environment, Forest and Tourism	3 Years	In progress

3. MANAGEMENT AND IMPLEMENTATION

Calculus Commodities (Pty) Ltd will be responsible for the management and implementation of this EMP and will hold the Environmental Clearance Certificate for the proposed project. The EMP will be subjected to review, amendment and approval for implementation as the exploration activities progress or when it is necessarily required. The implementation and management of the EMP compliance monitoring will be undertaken through daily, weekly, quarterly, monthly and annual inspections depending on the monitoring as indicated in this EMP or specialist.

4. LIMITATIONS AND UNCERTAINTIES

Occupational Health and Safety requirements will be provided in the safety management plans that will be developed by Calculus Commodities (Pty) Ltd, therefore, it is not covered under this EMP.

5. ENVIRONMENTAL CONSULTANCY

Green Team Consultants has prepared the EMP on behalf of the Calculus Commodities (Pty) Ltd. Green Team Consultants is a Namibian based consulting service provider engaged in the business of carrying out environmental assessments, geohydrological assessments, water system network modelling, marine studies and geological exploration drilling.

All comments and clarification regarding the EMP should be forwarded to:

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5.2. Structure of this EMP

Table 2 Environmental Scoping Report Sections

Section	Title	Content
1	Introduction	This section introduces the EMP and provides an overview of the proposed project, purpose and scope of the report
2	Environmental Regulatory Requirement	This is the section that describes the requirement for the environmental regulation
3	Management and implementation	This sets the roles of the team responsible for implementing this EMP
4	Limitations and Uncertainty	This section summarises the limitations and uncertainty of the proposed project
5	Environmental Consultancy	Sets the contact details of the appointed environmental consultancy
6	Management of the project personnel	This is chapter outline the roles and responsibility of project personnel, including the organisational structure
7	Compliance Monitoring and Audit	Sets out how compliance is monitored, reporting and actions to prevent reoccurrence as per the audit schedule

6. MANAGEMENT OF THE PROJECT PERSONNEL

A project team that will undertake the exploration activities and preparation will be provided by Calculus Commodities (Pty) Ltd, team will consist of contractors and personnel. The project team describes the roles and responsibilities for implementing the various environmental management plans. Calculus Commodities (Pty) Ltd shall oversee the overall accountability for environmental management on the EPL 7125 and ensure the full implementation of the EMP.

6.2. Organizational Structure Roles and Responsibilities

Calculus Commodities (Pty) Ltd will be responsible for ensuring that:

- Ensure the protect the environment and rehabilitate the site as practical as possible.
- Make sure that a copy of the EMP is readily available on-site and that all site staff are aware of its content.
- Persons appointed in writing for a specific environmental responsibility are informed beforehand to make sure duties are clearly understood.
- All personnel are well trained and supervised.
- The project team members and contractors comply with the procedures as stipulated in the EMP.
- Should delegate suitably qualified person (s) with the responsibility to ensure implementation of the EMP.

The table below represents the personnel and environmental responsibilities of each role throughout the project's existence.

Table 3 Roles and Responsibilities

Role	Responsibilities and Duties
Project manager	<ul style="list-style-type: none"> • Regular communication with the relevant IAPs and authorities concerning the preparation and implementation of the EMP. • Allow the overall responsibility for managing all the project personnel and ensuring that the environmental management requirements are met. • Inform the project team about the EMP and Environmental Clearance Certificate conditions and obligations. • Approve all decisions regarding environmental procedures and protocols that must be followed. • Attend regular site meetings and inspections where required. • Ensure that all visitors, contractors and employees are informed on safety measures. • To ensure that all employees, contractors and visitors are aware of the environmental policies and adhere to the EMP.
Site manager/supervisor	<ul style="list-style-type: none"> • Report all accidents, incidents, near-mises and non-compliance to the project manager, who will report to the regulatory authority. • Responsible for maintenance, management and revision of this EMP and applicable environmental authorisation. • Keep and maintain the complainant register. • Responsible for overseeing all daily activities across the project. • Conduct or ensure that all employees participate in site induction before they commence with the work.

Role	Responsibilities and Duties
Employees (including contractors and visitors)	<ul style="list-style-type: none">• Reporting all accidents, incidents or near-misses to the site manager.• Ensure compliant with EMP as well as relevant policies, procedures, management plans, statutory requirements and contract requirements
External specialists	<ul style="list-style-type: none">• External environmental specialists should be appointed, to assist with the implementation of certain commitments, if required.• If required, an independent auditor should be appointed to assess compliance against the EMP and other applicable legislation.

7. COMPLIANCE MONITORING AND AUDIT

It is crucial that a management tool comprising a systematic, documented, periodic and objective evaluation of how well environmental organization, management and equipment are performing intending to help to safeguard the environment is developed, monitored and compliant. Detailed monitoring procedures including the relevant monitoring commitments spelled out in this EMP and Scoping report.

A general monitoring objective target should be adopted, which includes, but is not limited to:

- Minimize disturbance within one (1 km) from the farmhouse or homestead.
- Minimal vegetation clearing/thinning and biodiversity disturbance.
- Ensure that all exploration equipment, including vehicles, are well maintained, without any mechanical fault and leakage.
- Exploration materials, including soil samples that will require analysis, should be stored and managed as per laboratory specifications and/or other specifications approved by a competent person/authority.

Aspects of the potential environmental impacts and their management or mitigation measures as well as monitoring requirements have been summarised in Table 4.

Table 4 Aspects of potential environmental impacts and management/mitigation measures

Aspect	Potential impacts	Management/mitigation measures	Monitoring requirement	Responsibility
Employment creation, foreign income	Socio-economic improvement through employment creation and capacity building Serves as an important source of fiscal revenue and source of foreign exchange, hence	<ul style="list-style-type: none"> • Goods and services should be sourced locally as practical as possible • Promote the use of small and medium enterprises • Capacity-building strategies and programmes should be in place before exploration activities to maximise the use of the local labour force • The local community should be considered first for the available employment opportunity, especially for the unskilled workers • Assist and promote local authorities to diversify their economic activities • Establish and maintain a complainant register, to document all complaints and make efforts to address the area of concern 	Monthly/Quarterly	Project manager/Site manager

	improved economic growth	<ul style="list-style-type: none"> Plant and equipment should be well-maintained and fitted with the correct and appropriate noise reduction measures 		
Health and safety	<p>Construction workers will be exposed to mineral exploration machinery</p> <p>Environment, health and safety risks</p> <p>Improper handling of materials and equipment may cause injuries</p>	<ul style="list-style-type: none"> The site should be equipped with a security control gate, once in operation. This is to limit restrict access to authorised personnel only As part of their induction, the workers should be provided with awareness training of the risks of mishandling equipment and materials on site When working on-site, employees should be properly equipped with personal protective equipment relevant to the type of work they are doing on-site No employee should be allowed to drink alcohol before and during working hours as this may lead to mishandling of equipment which may lead to injuries and other health and safety risks 	Daily/Weekly/Monthly	Project manager/Site manager/Employees/Contractor

	<p>Incorrect use or lack of appropriate personnel protective equipment (PPE)</p> <p>Fugitive sand and fine dust emission during exploration</p> <p>Disruption to the surrounding community, e.g., some increase in noise levels</p>	<ul style="list-style-type: none"> • Employees should not be allowed on-site if under the influence of alcohol 		
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	resulting from exploration activities			
Waste management	Mineral exploration usually generates wastes that lead to environmental pollution, if not properly handled Discharged exploration general waste, effluent	<ul style="list-style-type: none"> Workers should be sensitized to dispose of waste responsibly and not to litter All domestic and general operations waste produced daily should be contained until such that time it will be transported to the approved designated waste facilities If applicable, hazardous waste should be properly handled, stored and disposed of at the nearest authorized waste sites No waste should be buried or burned on-site or anywhere else throughout the project lifecycle Appropriate waste bins shall be placed at designated places 	Daily/Weekly/Monthly	Employees, Contractors, Site manager

	Soil, groundwater and surface water pollution			
Loss of Biodiversity/land-use/site access	Extensive areas of land and vegetation are cleared or thinned, if required, thus resulting in animal habitat loss/disruption Wildlife and livestock disturbance and change disturbance or	<ul style="list-style-type: none"> Stakeholder engagement should be implemented throughout the exploration program, especially with the surrounding landowners and other relevant stakeholders A written agreement to access the property for the landowner should be in place before the work commences in their area All complaints, including verbal, should be recorded into the complainant register and resolved within a reasonable time frame All the project personnel should attend the site induction before they start working, and they should have their identification card Develop a policy that limits independent movements of all workers into the veld that 	Daily/Weekly/Monthly	Employees, Contractors, Site manager, Project manager

	land-use change, illegal hunting and grievance	<p>could create suspicion of poaching. Strictly prevent poaching, harvesting and making fire, including the collection of firewood, or possession of any such natural materials</p> <ul style="list-style-type: none"> • Project vehicles should not park by the roadside, but on designated sites within the farm where they cannot interfere or pose danger to other road users • The designated site access roads provided shall be used as practical as possible • No heavy trucks or project related vehicles should be parked outside the project footprint • Control traffic movement on site, deliveries and collection of goods and waste to and from the site, e.g., movement restricted during weekdays between the hours of 08h00 and 17h00 		
Heritage sites	Potential damage to the undiscovered	<ul style="list-style-type: none"> • In case heritage sites or items of significance are found in the course of the exploration activities, a chance finds procedure should be followed 	Daily/Weekly/Monthly	Employees, Contractors, Site manager, Project manager

	heritage resource	<ul style="list-style-type: none">• Work should stop immediately, and the National Heritage Council should be informed as soon as possible		
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