



**ECC**  
**ENVIRONMENTAL**  
COMPLIANCE CONSULTANCY



ECC-84-346-REP-11-D

## ENVIRONMENTAL MANAGEMENT PLAN

EXPLORATION ACTIVITIES ON EPL 5445 FOR BASE, RARE AND PRECIOUS METALS IN  
THE ERONGO AND KUNENE REGIONS, NAMIBIA

PREPARED FOR

AFRITIN MINING NAMIBIA (PTY) LTD



MAY 2021

## TITLE AND APPROVAL PAGE

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**TABLE OF CONTENTS**

**1 INTRODUCTION** ..... 6

1.1 BACKGROUND TO THE PROPOSED PROJECT ..... 6

1.2 ENVIRONMENTAL REGULATORY REQUIREMENTS..... 7

1.3 PURPOSE AND SCOPE OF THIS REPORT..... 7

1.4 MANAGEMENT OF THIS EMP ..... 8

1.5 LIMITATIONS, UNCERTAINTIES AND ASSUMPTIONS OF THIS EMP ..... 8

1.6 ENVIRONMENTAL CONSULTANCY ..... 8

**2 PROJECT MANAGEMENT PERSONNEL**..... 10

2.1 ORGANISATIONAL STRUCTURE, ROLES AND RESPONSIBILITIES..... 10

2.2 CONTRACTORS..... 11

2.3 EMPLOYMENT..... 11

**3 COMMUNICATION AND TRAINING** ..... 13

3.1 COMMUNICATIONS..... 13

3.2 ENVIRONMENTAL EMERGENCY AND RESPONSE..... 13

3.3 COMPLAINTS HANDLING AND RECORDING ..... 13

3.4 TRAINING AND AWARENESS..... 14

3.4.1 SITE INDUCTION ..... 14

**4 REPORTING, COMPLIANCE AND ENFORCEMENT** ..... 15

4.1 ENVIRONMENTAL INSPECTIONS AND COMPLIANCE MONITORING ..... 15

4.1.1 DAILY COMPLIANCE MONITORING ..... 15

4.1.2 MONTHLY COMPLIANCE MONITORING..... 15

4.1.3 REPORTING ..... 15

4.2 ENVIRONMENTAL PERMITS ..... 15

4.3 CHANCE FINDS PROCEDURES ..... 15

4.3.1 PROCEDURES..... 16

4.4 NON-COMPLIANCE..... 17

4.4.1 NON-COMPLIANCE EVENT ..... 17

4.5 INCIDENT REPORTING ..... 17

4.5.1 DISCIPLINARY ACTION ..... 17

<b>5 ENVIRONMENTAL AND SOCIAL MANAGEMENT .....</b>	<b>19</b>
5.1 ENVIRONMENTAL PERFORMANCE MEASUREMENT .....	19
5.2 OBJECTIVES AND TARGETS .....	19
5.3 REGISTER OF ENVIRONMENTAL RISKS AND ISSUES .....	19
5.4 IMPACTS IDENTIFIED FOR FURTHER ACTIONS .....	19
5.4.1 IMPACTS ON THE COMMUNITY .....	19
5.4.2 IMPACTS ON FAUNA AND FLORA .....	20
5.4.3 IMPACTS ON HERITAGE .....	20
<b>6 IMPLEMENTATION OF THE EMP .....</b>	<b>36</b>
APPENDIX A: APPLICATION FOR A WASTEWATER DISCHARGE LICENCE .....	37
7 APPENDIX B - REPORTING OF MAJOR PETROLEUM PRODUCT SPILL FORM PP/11 .....	44
8 APPENDIX C - COMPLAINTS REGISTER TEMPLATE .....	46
9 APPENDIX D - MONTHLY INTERNAL COMPLIANCE CERTIFICATE .....	47

**LIST OF TABLES**

TABLE 1 - ROLES AND RESPONSIBILITIES .....	10
TABLE 2 - EMERGENCY CONTACT DETAILS .....	13
TABLE 3 - ENVIRONMENTAL RISKS AND ISSUES, AND MITIGATION AND MONITORING MEASURES .....	21

**LIST OF FIGURES**

FIGURE 1 - LOCATION OF THE AFRITIN EPL 5445. ....	6
FIGURE 2 - EPL 5445 OVERLAPPING TWO COMMUNAL CONSERVANCIES .....	7

## DEFINITIONS AND ABBREVIATIONS

ECC	Environmental Compliance Consultancy
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPL	Exclusive Prospecting Licence
I&AP	Interested and Affected Parties
MEFT	Ministry of Environment, Forestry, and Tourism
MME	Ministry of Mines and Energy
MSDS	Safety Data Sheets
SOP	Standard Operating Procedure
GPS	Geographical Positioning System
AEM	Airborne Electromagnetic



# 1 INTRODUCTION

## 1.1 BACKGROUND TO THE PROPOSED PROJECT

Environmental Compliance Consultancy (ECC) has been engaged by the proponent Afritin Mining Namibia (Pty) Ltd to undertake an Environmental and Social Impact Assessment (ESIA) and an Environmental Management Plan (EMP) in terms of the Environmental Management Act, No. 7 of 2007 and its regulations. An application for an environmental clearance certificate was submitted to the relevant competent authorities, the Ministry of Mines and Energy (MME) and the Ministry of Environment, Forestry and Tourism (MEFT).

The proponent intends to pursue exploration opportunities in Namibia to contribute to mining prospects. Namibia is rich in natural resources and the minerals sector is a key contributor to the nations GDP in Namibia. Exploration could lead to mining activities, which would contribute to the national and local economy.

The proponent is currently operating a conventional opencast tin mine with three mining licence areas (ML 134, ML 129, and ML 133) located near the Uis settlement in the Erongo Region, Namibia. AfriTin is seeking to further explore for base, rare, precious metals and minerals and propose to undertake exploration activities on EPL 5445 in the Erongo Region. EPL 5445 extends slightly into the Kunene Region, approximately 90km from Uis along the C35 main road and D2342 district road (Figure 1).

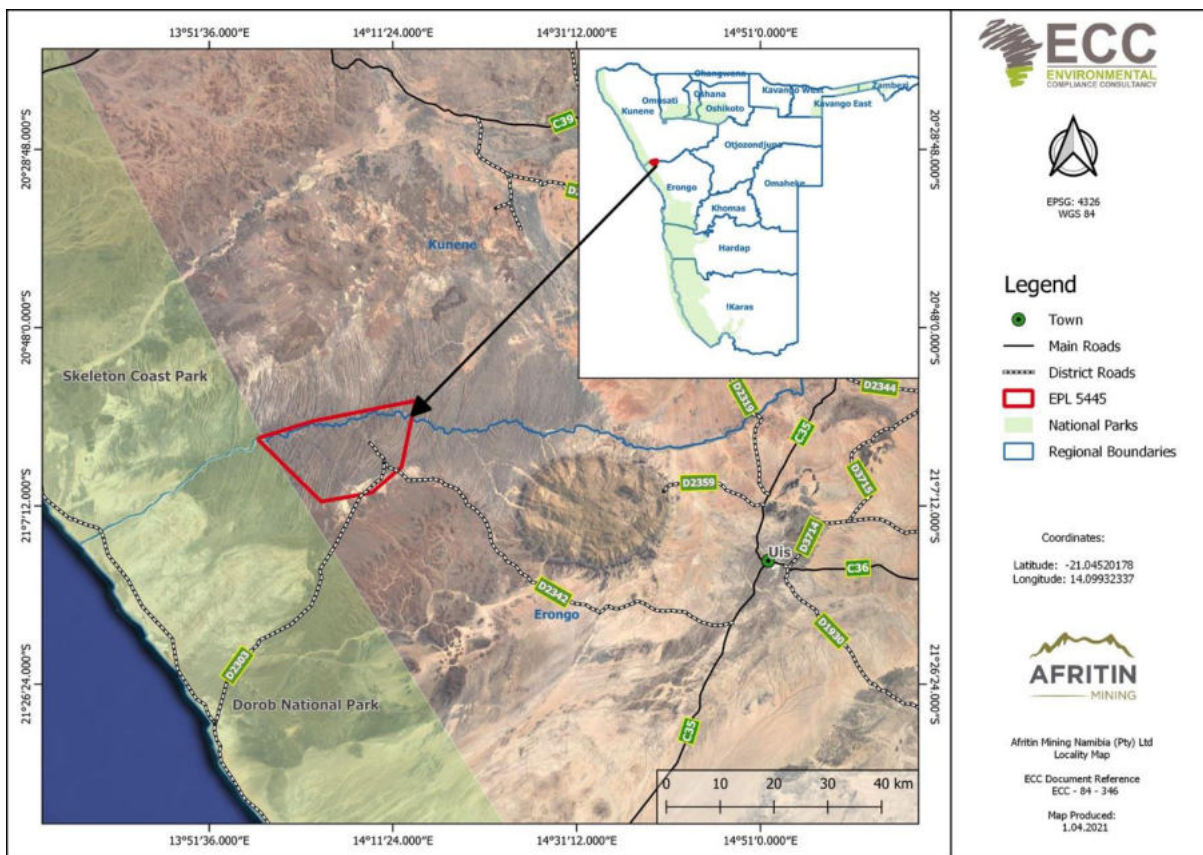


FIGURE 1 - LOCATION OF THE AFRITIN EPL 5445.

The surface area of the EPL is approximately 35090 Ha. This EPL borders and slightly overlaps both the Dorob National Park and the Skeleton Coast Park and falls over two communal conservancies, Doro Inawas and Tiseb, of which the largest area of the EPL falls within the latter (Figure 2). The Save the Rhino Trust camp also falls within the borders of the EPL and has been identified as a sensitive receptor due to critically endangered Black Rhinos (*Diceros bicornis*) roaming within this area and various other protected species.

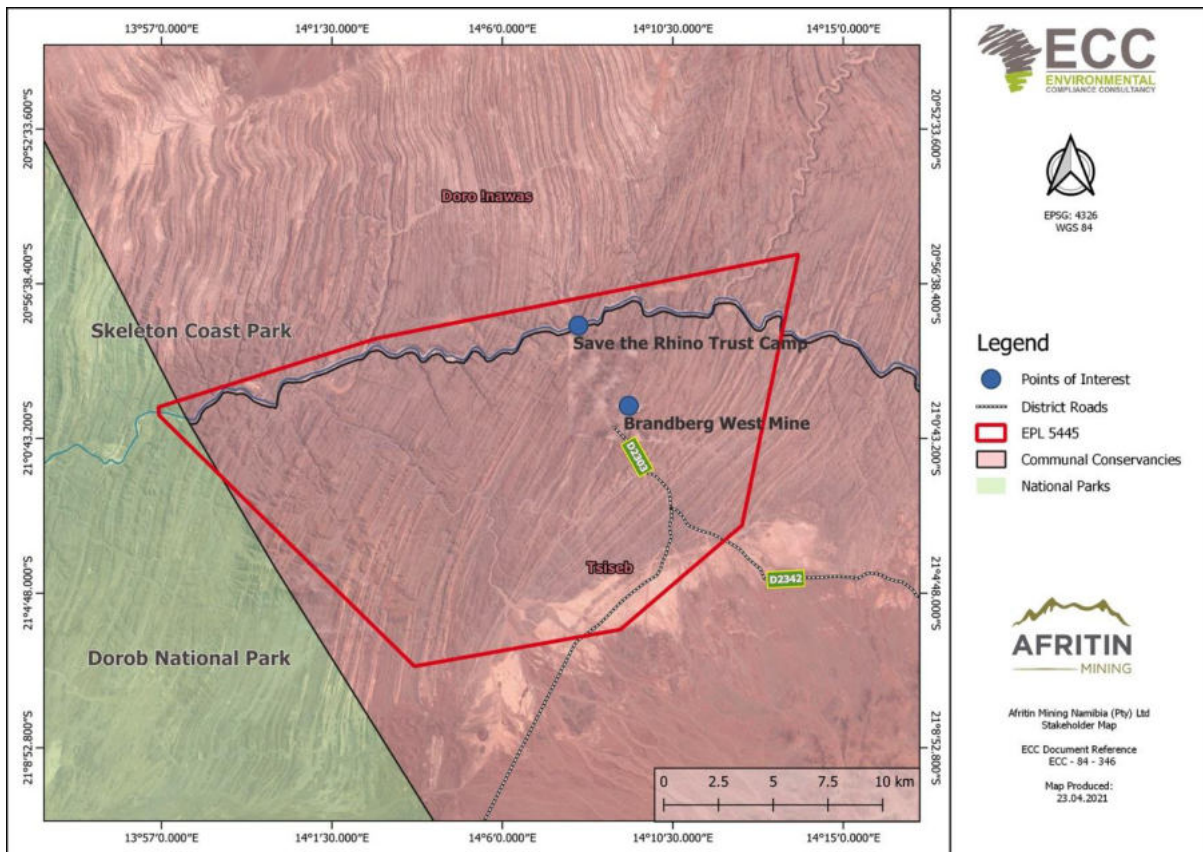


FIGURE 2 - EPL 5445 OVERLAPPING TWO COMMUNAL CONSERVANCIES

## 1.2 ENVIRONMENTAL REGULATORY REQUIREMENTS

The proposed project is considered as a listed activity as stipulated in the Environmental Management Act, No. 7 of 2007 and the Environmental Impact Assessment Regulation, No. 30 of 2012. As a listed activity an application for an environmental clearance certificate is required. An environmental scoping report and EMP are required as part of the environmental clearance certificate application, as well as to support the decision-making process. This report presents the EMP and has been undertaken in accordance with the requirements of the Environmental Management Act, No. 7 of 2007 and its regulations.

## 1.3 PURPOSE AND SCOPE OF THIS REPORT

This EMP provides a logical framework, proposed mitigation measures and management strategies for the exploration activities associated with the proposed project. In this way ensuring that the potential environmental and social impacts are mitigated and minimised as far as

practically possible and that statutory and other legal obligations are adhered to and fulfilled. Outlined in the EMP are the protocols, procedures and roles and responsibilities to ensure the management arrangements are effectively and appropriately implemented.

This EMP forms an appendix to the environmental scoping report and was based on the findings of the assessment; therefore, the environmental scoping report should be referred to for further information on the proposed project, assessment methodology, applicable legislation, and assessment findings.

This EMP is a live document and shall be reviewed at predetermined intervals, and updated when the scope of works alters, or when further data or information can be added. All personnel working on the project will be legally required to comply with the standards set out in this EMP.

The scope of this EMP includes all activities carried out during the exploration stage in search of base and rare metals, precious metals on EPL 5445.

#### 1.4 MANAGEMENT OF THIS EMP

The proponent will hold the environmental clearance certificate for the proposed project and shall be responsible for the implementation and management of this EMP. The implementation and management of this EMP and thus the monitoring of compliance shall be undertaken through daily duties and activities as well as by monthly inspections.

This EMP shall be circulated to all contractors and made available on ECC's website.

#### 1.5 LIMITATIONS, UNCERTAINTIES AND ASSUMPTIONS OF THIS EMP

This EMP does not include measures for compliance with statutory occupational health and safety requirements. This will be provided in the safety management plan to be developed by the proponent.

Where there is any conflict between the provisions of this EMP and any contractor's obligations under their respective contracts, including statutory requirements (such as licences, project approval conditions, permits, standards, guidelines and relevant laws), the contract and statutory requirements are to take precedence.

The information contained in this EMP has been based on the project description as provided in the environmental assessment report. Where the design or exploration methods alter, this EMP may require updating and potential further assessment undertaken.

#### 1.6 ENVIRONMENTAL CONSULTANCY

Environmental Compliance Consultancy, a Namibian consultancy with registration number CC/2013/11401, has prepared this document on behalf of the proponent. ECC operates exclusively in the environmental, social, health and safety fields for clients across Southern Africa in the public and private sector. ECC is independent of the proponent and has no vested or financial interest in the proposed project except for fair remuneration of professional services rendered.



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## 2 PROJECT MANAGEMENT PERSONNEL

### 2.1 ORGANISATIONAL STRUCTURE, ROLES AND RESPONSIBILITIES

The proponent shall be responsible for:

- Ensuring all members of the project team, including contractors comply with the procedures set out in this EMP;
- Ensuring that all personnel are provided with sufficient training, supervision, and instruction to fulfil this requirement; and
- Ensuring that any persons allocated specific environmental management responsibilities are notified of their appointment and confirm, in writing, that their responsibilities are clearly understood.

Contractors shall be responsible for ensuring and demonstrating that all personnel employed by them are compliant with this EMP, and meet the responsibilities listed above. The key personnel and environmental responsibilities of each role through the project life are presented in Table 1.

**TABLE 1 - ROLES AND RESPONSIBILITIES**

ROLE	RESPONSIBILITIES & DUTIES
<p><b>Proponent</b></p>	<ul style="list-style-type: none"> <li>- Overall responsibility for the implementation and management of this EMP;</li> <li>- Ensure the environmental policy is communicated to all personnel throughout the proposed project and ensure that employees, contractors and visitors understand and adhere to the EMP;</li> <li>- Responsible for providing the required resources (including financial and technical) to complete the required tasks;</li> <li>- Appoint supervisors such as an exploration (project) manager and a site manager; and</li> <li>- Ensure that all employees, contractors and visitors are inducted on safety measures.</li> </ul>
<p><b>Exploration Manager</b></p>	<ul style="list-style-type: none"> <li>- Responsible for ensuring compliance with this EMP including overseeing all day-to-day activities throughout the duration of the project, including routine and non-routine maintenance works, as well as the decommissioning of the project;</li> <li>- Ensure adequate resources are made available for the implementation of this EMP;</li> <li>- Responsible for the management, utilisation and possible future revisions of this EMP;</li> <li>- Ensure all personnel are aware of the commitments made in this EMP and any other relevant regulatory requirements applicable to the project;</li> <li>- Ensure all employees and contractors participate in a site induction process prior to commencing with work on the project;</li> <li>- Maintain the community issues and concern register, and keep records of complaints received;</li> <li>- Ensure that best environmental practice is undertaken throughout the duration of the project; and</li> </ul>

	<ul style="list-style-type: none"> <li>– Report any non-compliance or accidents to the regulatory authority.</li> </ul>
<b>Site Manager (or nominated supervisor)</b>	<ul style="list-style-type: none"> <li>– Ensure that all employees, contractors and visitors to the site are conversant with the requirements of this EMP, relevant to their roles on site and adhere to this EMP at all times;</li> <li>– Provide environmental awareness or management training and site inductions for all employees, contractors and visitors;</li> <li>– Monitor daily operations and ensure adherence by personnel to the EMP;</li> <li>– Receive, respond to and record complaints; and</li> <li>– Report any non-compliance or accidents to the exploration manager.</li> </ul>
<b>Employees (and contractors and visitors where applicable)</b>	<ul style="list-style-type: none"> <li>– Responsible for being compliant with this EMP throughout the project;</li> <li>– Adhere to this EMP at all times;</li> <li>– Ensure attendance of site inductions;</li> <li>– Ensure appropriate briefings for certain activities have been provided and are fully understood; and</li> <li>– Report any operations and conditions that deviate from the EMP or any non-compliant issues or accidents to the site manager and exploration manager.</li> </ul>

## 2.2 CONTRACTORS

Any contractors hired during the exploration activities or for any accessory works for the project, or contractors appointed for maintenance activities, shall be compliant with this EMP, and shall be responsible for the following:

- Undertaking activities in accordance with this EMP as well as relevant policies, procedures, management plans, statutory requirements, and contract requirements;
- Implementing appropriate environmental management measures;
- Reporting of environmental issues, including actual or potential environmental incidents and hazards, to the exploration manager;
- Ensuring appropriate corrective or remedial action is taken to address all environmental hazards and incidents reported; and
- Adhere to the safety management plan developed by the proponent.

## 2.3 EMPLOYMENT

The proponent (and all contractors) shall comply with the requirements of the national regulations for Labour, health and safety and any amendments to these regulations. The following shall be complied with:

- In liaison with local government, community, stakeholders and relevant authorities the proponent shall ensure that local people have access to information about job opportunities and are considered first for exploration or maintenance contract employment positions;

- The number of job opportunities shall be made known together with the associated skills and qualifications;
- The maximum length of time the job is likely to last for shall be clearly indicated;
- Foreign workers with no proof of permanent legal residence shall not be hired; and
- Every effort shall be made to recruit from the pool of unemployed workers living in the local area for labour positions.

### 3 COMMUNICATION AND TRAINING

In order to ensure that potential risks and impacts are minimised, it is vital that personnel are appropriately informed and trained on operational procedures that include the above mitigation measures. It is also important that regular communications are maintained with all the stakeholders and that they are made aware of potential impacts and how to minimise or avoid them. This section sets out the framework for communication and training in relation to the EMP.

#### 3.1 COMMUNICATIONS

During exploration, the exploration manager or the site manager shall communicate all environmental issues to the project team through the following means (as and when required):

- Site induction;
- Audits and site inspections;
- Toolbox talks, including instruction on incident response procedures; and
- Briefings on key project-specific environmental issues.

This EMP shall be distributed to the exploration team including any contractors and personnel working on the exploration site to ensure that the environmental requirements are adequately communicated. Key activities and environmentally sensitive operations shall be briefed to workers and contractors in advance.

During the exploration activities, communication between the management team shall include discussing any complaints received and actions to resolve them, any inspections, audits or non-conformance with this EMP, and any objectives or target achievements.

#### 3.2 ENVIRONMENTAL EMERGENCY AND RESPONSE

Table 2 contains a list of numbers to be contacted in case of an emergency. All personnel will be made aware of these numbers.

**TABLE 2 - EMERGENCY CONTACT DETAILS**

TOWN	AMBULANCE	POLICE	FIRE BRIGADE
Uis	+264(67)504011	+264(67)10111	-
Khorixas	+ 264(67)331064	+264 (62) 1-0111	+264 (67) 33-1057

#### 3.3 COMPLAINTS HANDLING AND RECORDING

Any complaints received verbally by any personnel on the project site shall be recorded by the site manager or the receiver, including the name and contact details of the complainant, the date and time of the complaint, and the nature of the complaint. The information shall be given to the exploration manager who is responsible for the overall management of complaints and will provide a written response to the complainant. The site manager shall inform the exploration manager of issues, concerns or complaints in a timely manner. It is the duty of both the site



manager and exploration manager to maintain a complaint register that details the name of the complainant, the date and time of the complaint and action taken to resolve the issues.

The workforce shall be informed about the complaints register, its location and the person responsible, in order to refer residents or the general public who wish to lodge a complaint. The complainant shall be informed in writing of the results of the investigation and action to be taken to rectify or address the matter(s). Where no action is taken, the reasons why are to be recorded in the register.

The complaints register shall be kept for the duration of the project and will be available for government or public review upon request.

### 3.4 TRAINING AND AWARENESS

All personnel working on the project shall be competent to perform tasks that have the potential to cause an environmental impact. Competence is defined in terms of appropriate education, training, and experience.

#### 3.4.1 SITE INDUCTION

All personnel involved in the project shall be inducted to the site with a specific environment and social awareness training component. The environment and social awareness training shall ensure that personnel are familiar with the principles of this EMP, the environment and social aspects and impacts associated with their activities, the procedures in place to control these impacts and the consequences of departure from these procedures.

The exploration manager shall ensure an up-to-date register of completed training is maintained.

The site induction should include, but not be limited to the following:

- A general site-specific induction that outlines:
  - o What is meant by “environment” and “social”;
  - o Why the environment needs to be protected and conserved;
  - o How exploration activities can impact on the environment; and
  - o What can be done to mitigate against such impacts.
- The inductee’s role and responsibilities with respect to implementing the EMP;
- The site’s environmental rules;
- Details of how to deal with, and who to contact if environmental problems occur;
- Basic vegetation clearing principles and species ID sheets;
- Noise control measures for drilling in proximity to residents;
- Focal themes such as compliance, reporting of accidents and incidents, good housekeeping and standard procedures for waste management;
- The potential consequences of non-compliance with this EMP and relevant statutory requirements; and
- The role of people responsible for the project.

## 4 REPORTING, COMPLIANCE AND ENFORCEMENT

### 4.1 ENVIRONMENTAL INSPECTIONS AND COMPLIANCE MONITORING

#### 4.1.1 DAILY COMPLIANCE MONITORING

A copy of this EMP shall be on-site throughout the project and shall be available upon request. It is the responsibility of the exploration manager to ensure this EMP is complied with through their daily roles. Daily, weekly and monthly inspections will be undertaken. Any environmental problems or risks identified shall be reported to the exploration manager and actioned as soon as is reasonably practicable.

#### 4.1.2 MONTHLY COMPLIANCE MONITORING

Monthly inspections shall be undertaken by the exploration manager to check that the standards and procedures as set out in this EMP are being complied with and pollution control measures are in place and working correctly. Any non-conformance shall be recorded, including the following details: a brief description of non-conformance, the reason for the non-conformance, the responsible party, the result (consequence), and the corrective action to be taken and any necessary follow up measures required.

#### 4.1.3 REPORTING

There shall be a requirement to ensure that any incident or non-compliance, including any environmental issue, failure of equipment or an accident, is reported to the exploration manager in a timely manner.

### 4.2 ENVIRONMENTAL PERMITS

Whilst the Water Resources Management Act, No. 11 of 2013 is not enforced, it is best practice to adhere to its stipulations while ensuring compliance with the Water Act, No. 54 of 1956, which is still maintained.

Should water not be sourced directly from a private borehole or from a local Municipal source, a licence to abstract water is required in terms of the Water Act, No. 54 of 1956 and shall operate in accordance with any conditions of the licence.

In the event that vegetation is to be cleared all requirements under the Forest Act, No. 12 of 2001 as amended by the Forest Amendment Act, No. 13 of 2005 and its regulations of 2015 will be complied with.

### 4.3 CHANCE FINDS PROCEDURES

A heritage site survey was conducted by Dr John Kinahan, An archaeological assessment was carried out on the proposed project site-specific areas by an experienced and qualified Archaeologist - Dr John Kinahan. The archaeological study, issued on 10 May 2021, reviewed that an average significance of heritage values was found. This survey is based on surface indications alone, and it is, therefore, possible that additional sites or items of heritage significance will be

found in the course of development work. The procedure set out here cover the reporting and management of such finds.

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

**Compliance:** The “chance finds” procedure is intended to ensure compliance with relevant provisions of the National Heritage Act (27 of 2004), especially Section 55 (4): *“a person who discovers any archaeological .... object .....must as soon as practicable report the discovery to the Council”*.

The procedure of reporting set out below must be observed so that heritage remains reported to the NHC are correctly identified in the field.

ROLE	RESPONSIBILITIES & DUTIES
<b>Operators and contractors</b>	To exercise due caution if archaeological remains are found
<b>Site manager</b>	To secure site and advise management timeously
<b>Proponent and Exploration managers</b>	To determine safe working boundary and request inspection
<b>Archaeologist</b>	To inspect, identify, advise management, and recover remains

#### 4.3.1 PROCEDURES

Action by a person identifying archaeological or heritage material:

- If operating machinery or equipment stop work
- Identify the site with flag tape
- Determine GPS position if possible
- Report findings to foreman

Action by site manager:

- Report findings, site location and actions are taken by proponent and exploration managers
- Cease any works in the immediate vicinity

Action by proponent and exploration managers:

- Visit the site and determine whether work can proceed without damage to findings
- Determine and mark exclusion boundary
- Site location and details to be added to project GIS for field confirmation by archaeologist

Action by archaeologist:

- Inspect site and confirm the addition to project GIS
- Advise NHC and request written permission to remove findings from the work area
- Recovery, packaging and labelling of findings for transfer to National Museum

In the event of discovering human remains, procedures are to be carried out as per the above. Moreover, a field inspection by the archaeologist is to be actioned to confirm that remains are human, following a liaison with NHC and Police. Thereafter, the recovery of remains and removal to the National Museum or National Forensic Laboratory should be actioned as directed.

#### 4.4 NON-COMPLIANCE

##### 4.4.1 NON-COMPLIANCE EVENT

Where it has been identified that works are not compliant with this EMP, the exploration manager shall employ corrective actions so that the works return to being compliant as soon as possible. In instances where the requirements of the EMP are not upheld, a non-conformance and corrective action notice shall be produced. The notice shall be generated during the inspections and the exploration manager shall be responsible for ensuring a corrective action plan is established and implemented to address the identified shortcoming.

A non-compliance event or situation, for example, is considered if:

- There is evidence of a contravention of this EMP and associated indicators or objectives;
- The exploration manager or contractor have failed to comply with corrective or other instructions issued by the exploration manager or qualified authority; or
- The exploration manager or contractor fails to respond to complaints from the public.

Activities shall be stopped in the event of serious non-compliance until corrective action(s) has been completed.

#### 4.5 INCIDENT REPORTING

The exploration manager must ensure that an accident and incident (including minor or a near-miss) reporting system is maintained so that all applicable statutory requirements are covered. For any serious incident involving a fatality, or permanent disability, the incident scene must be left untouched until witnessed by a representative of the police. This requirement does not preclude immediate first aid being administered and the location being made safe.

The exploration manager must investigate the cause of all work accidents and significant incidents and must provide the results of the investigation and recommendations on how to prevent a recurrence of such incidents. A formal root-cause investigation process should be followed.

##### 4.5.1 DISCIPLINARY ACTION

This EMP is a legally binding document and non-compliance with it shall result in disciplinary action being taken against the perpetrator(s). Such action may take the form of (but is not limited to):

- Fines or penalties;
- Legal action;
- Monetary penalties imposed by the proponent on the contractor;

- Withdrawal of licence(s); and
- Suspension of work.

The disciplinary action shall be determined according to the nature and extent of the transgression or non-compliance, and penalties are to be weighed against the severity of the incident.



## 5 ENVIRONMENTAL AND SOCIAL MANAGEMENT

### 5.1 ENVIRONMENTAL PERFORMANCE MEASUREMENT

This chapter provides a register of environmental risks and issues, which identifies mitigation and monitoring measures, as well as the responsible roles. This register will be subject to regular review by the exploration manager and updated when necessary.

The exploration manager or the site manager (if applicable) will use this register to undertake monthly inspections (see next section) to ensure the project is compliant with this EMP.

### 5.2 OBJECTIVES AND TARGETS

Environmental objectives for the project are as follows:

- Zero pollution incidents;
- Minimal vegetation clearing and earthworks;
- Protect local flora and fauna;
- No harm or destruction of biodiversity;
- Minimise the generation of waste; and
- Minimal interruption to Save the Rhino Trust activities.

### 5.3 REGISTER OF ENVIRONMENTAL RISKS AND ISSUES

An environmental review of the proposed project was completed which identified all the commitments and agreements made within the environmental assessment report. From this, a schedule of environmental commitments and risks has been produced (Table 3), which details deliverables including measures identified for the prevention of pollution or damage to the environment during exploration.

Table 3 provides a register of environmental risks and issues, which identifies mitigation and monitoring measures, as well as the responsible person. This register will be subject to regular review by the exploration manager and updated when necessary. The exploration manager will use this register to undertake monthly inspections to ensure the project is compliant with this EMP.

### 5.4 IMPACTS IDENTIFIED FOR FURTHER ACTIONS

#### 5.4.1 IMPACTS ON THE COMMUNITY

The EPL overlaps two communal conservancies, Tsiseb and Doro! Nawas. A communal conservancy represents a conservation area that is managed by a local community that aims to manage the natural resources within their conservancy in a sustainable way to generate returns and other benefits.

Furthermore, any noise and dust nuisance within the EPL and surrounding areas might negatively impact the tourism potential of this area (i.e. tourists visit these areas for the aesthetic value of nature and noise and air pollution will have an impact on this); which, will directly impact the local communities that depend on the tourism and consumptive wildlife-related industry. The Brandberg (approximately 23 km from EPL 5445) is a UNESCO world heritage site and attracts many tourists during the year and is an important contributor to the economy; tourist accommodations within these areas might also be impacted by air pollution (i.e., suspended particles might cause murky skies).

Mitigation measures identified include adhering to speed limits in the proposed project area, avoiding certain activities that are likely to trigger noise and or dust during high wind periods. The proponent should ensure consistent communication the community and stakeholders. Ensure that only designated routes are used for access.

#### 5.4.2 IMPACTS ON FAUNA AND FLORA

The north-western areas of Namibia, where the EPL is situated represents an area with moderate species diversity and High overall endemism of terrestrial fauna and Flora. The EPL also lies close to and might overlap a plant endemism hotspot, of which there are only 18 of these hotspot areas in Namibia.

These two communal conservancies represent an area with moderate species richness, containing about 71 – 80% of species that historically occurred within these areas. Thus, this means that this ecosystem is vulnerable, and any major environmental impacts might effect the biodiversity. Wildlife in this area already faces major threats such as human-wildlife conflict, poaching, climate change and other anthropogenic impacts.

Mitigation measures identified are to possibly relocate species at risk (if viable), ongoing monitoring to determine if activities are impacting wildlife/ organism, altering exploration plans to avoid activities that impact residing or nesting organisms during nesting periods. Avoiding species habitant areas, exclusion of areas where protected species are identified.

#### 5.4.3 IMPACTS ON HERITAGE

On EPL 5445 there are approximately 13 sites of heritage find, which were grouped as A, B and C. The sites comprise approximately ten stone shelters of windbreak features as well as a number of storage cairns and other features.

Mitigation measures identified include avoiding certain areas during the proposed exploration activities, ensuring buffers are placed around points of heritage value. In an event where additional heritage finds are discovered the chances find procedure set out in section 4.3 of this EMP cover the reporting and management of such finds.

**TABLE 3 - ENVIRONMENTAL RISKS AND ISSUES, AND MITIGATION AND MONITORING MEASURES**

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
<b>Access and site preparation</b>	<ul style="list-style-type: none"> <li>- Miscommunication with the local conservancies, Doro Inawas, Tsiseb and the other sensitive receptors such as the sav the Rhino camp and Brandberg west mine.</li> <li>- Disruption of any of the local conservancy activities or that of the other sensitive receptors; and</li> <li>- Potential conflict with any of the local conservancy activities or that of the other sensitive receptors, such as the save the rhino camp (suspicious movement, poaching of protected animals or field fires)</li> </ul>	<ul style="list-style-type: none"> <li>- Ensure documented permission are in order;</li> <li>- No normal access point of local conservancies or sensitive receptors should be influenced;</li> <li>- Existing water points and feeding areas need to be left; unaffected;</li> <li>- Use existing roads for access to avoid new tracks and cut lines; and</li> <li>- Compliance with all applicable laws and agreements.</li> </ul>	Daily	Exploration manager or site manager (or nominated site supervisor)
	<ul style="list-style-type: none"> <li>- Potential grievances and complaints; and</li> <li>- Social discomfort and anxiety.</li> </ul>	<ul style="list-style-type: none"> <li>- Develop and implement an environmental and social operation manual or procedures to work on the property of local conservancies or sensitive receptors and implement monitoring programmes thereafter;</li> <li>- Maintain continuous communication with I&amp;APs to identify concerns and mitigation measures;</li> <li>- Compliance with all applicable laws and agreements;</li> <li>- Train personnel and raise awareness to sensitize them about contentious issues such as stock theft and poaching;</li> <li>- Ensure appropriate supervision of all activities daily; and</li> </ul>	Weekly, monthly	

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		<ul style="list-style-type: none"> <li>- Accidents and incidents need to be reported to the exploration manager and recorded in the incident register.</li> </ul>		
<p><b>General on-ground exploration activities</b></p>	<p>Residing and nesting organisms can be disturbed, injured or killed by the movement of vehicles and equipment.</p>	<ul style="list-style-type: none"> <li>- Restrict movements to areas of activities only;</li> <li>- Use existing tracks and routes as far as practically possible;</li> <li>- Identify rare, endangered, threatened and protected species in advance such as the white or black rhino;</li> <li>- Route new tracks around sensitive areas inhabited by protected species (i.e., Rhinos, etc.);</li> <li>- Restrict movements to daytime hours;</li> <li>- Training and raise awareness to sensitize employees and notify them on avoiding some areas where protected species reside;</li> <li>- No driving off designated access routes (into the bush) or any off-road driving; and</li> <li>- No animals or birds may be collected, caught, consumed or removed from the site.</li> <li>- Trees and cliffs should be carefully evaluated for signs of nesting birds, especially endangered or critically endangered raptors or vultures that might be nesting in large trees, cliffs or even manmade structures (such as telephone or electrical poles) within the EPL.</li> </ul>	<p>Weekly</p>	

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
	<ul style="list-style-type: none"> <li>- Birdlife disturbance and habitats disruption</li> <li>- High-value conservation species that are residing, ground-nesting and slow-moving can be disturbed as a result of an increase in ambient noise and vibration from operations and movements of vehicles; and</li> <li>- Conflict with farmers and neighbours about the rising of ambient noise levels.</li> <li>- Potential impact on nesting birds, especially ground-nesting birds.</li> <li>- Disrupt biodiversity (i.e. impacts on ecosystems and species' habitats)</li> </ul>	<ul style="list-style-type: none"> <li>- Restrict excessive noise to areas of activities only;</li> <li>- Restrict excessive noise to daytime hours (7 am to 5 pm weekdays and 7 am until 1 pm on Saturdays);</li> <li>- No activities are allowed between dusk and dawn;</li> <li>- Drill equipment shall be suitably positioned to ensure that noisy equipment is away from receptors;</li> <li>- Residents shall be provided at least two weeks' notice of drilling operations within 1 km of their property;</li> <li>- All equipment to be shut down or throttled back between periods of use; and</li> <li>- Comply with national civil aviation regulations about the use of a drone, if necessary.</li> <li>- Trees and cliffs should be carefully evaluated for signs of nesting birds, especially endangered or critically endangered raptors or vultures that might be nesting in large trees, cliffs or even manmade structures (such as telephone or electrical poles) within the EPL.</li> <li>- Exploration activities should be minimised during the breeding season.</li> <li>- Exploration equipment must be suitably positioned to ensure that noisy equipment is away from receptors; and</li> <li>- Minimise clearance areas through proper planning of the exploration activities.</li> </ul>	Daily	Site manager (or nominated site supervisor)
	<ul style="list-style-type: none"> <li>- Visual disturbances.</li> <li>- Loss of sense of place</li> </ul>	<ul style="list-style-type: none"> <li>- Position drill equipment and other heavy equipment in such a way that it is out of sight from human receptors;</li> <li>- Barriers or fences shall be used if drilling occurs in locations that may affect residents or livestock;</li> <li>- Maintain good housekeeping standards on site; and</li> <li>- Maintain continuous communication with I&amp;APs to</li> </ul>	Daily, weekly	



ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		<p>identify concerns and mitigation measures.</p>		
	<ul style="list-style-type: none"> <li>- Dust and emissions.</li> </ul>	<ul style="list-style-type: none"> <li>- All vehicles and machinery or equipment to be shut down or throttled back between periods of use;</li> <li>- Use existing access roads and tracks where possible;</li> <li>- Apply dust suppression where possible;</li> <li>- Restrict the speed of vehicles (<math>\leq 30\text{km/h}</math>); and</li> <li>- Specific activities that may generate dust and impact on residents shall be avoided during high wind events.</li> <li>- Residents need to be informed at least two weeks in advance that drilling operations are within 1km of their property;</li> <li>- Vehicles and machinery are to be regularly serviced according to the manufacturers' specifications and kept in good working order so as to minimise exhaust emissions.</li> </ul>	<p>Daily</p>	
	<ul style="list-style-type: none"> <li>- Loss of soil quality due to mixing of earth matter, trampling, compaction and pollution, and</li> <li>- Enhanced soil erosion.</li> </ul>	<ul style="list-style-type: none"> <li>- Where possible, plan access routes, drill pads and camps outside of existing drainage lines;</li> <li>- Where necessary, install diversions to curb possible erosion;</li> <li>- Restore drainage lines when disturbed;</li> <li>- Topsoil should be stockpiled separately, and re-spread during rehabilitation;</li> <li>- Limit the possibility of compaction and creation of a hard subsurface,</li> <li>- Limit the possibility of trampling;</li> <li>- During drilling, oil absorbent matting should be</li> </ul>	<p>Weekly</p>	

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		placed under and around the drill rig; – Equipment must be in a good condition to ensure that accidental oil spills do not occur and contaminate soil; – In the event of spills and leaks, polluted soils must be collected and disposed of at an approved site; and – Limit the possibility of mixing mineral waste with topsoil.		
	Groundwater contamination	– Ensure drill pads and spill kits are in place on site; – Consider alternative sites when the water table is too high; – Wastewater shall be contained; and – Where possible, water from existing water sources shall be used.	Weekly	
<b>Exploration Activities (i.e. increased human and vehicle movement)</b>	Potential damage to cultural heritage sites	– Implement a Chance Find Procedure – Raise awareness about possible heritage finds – Report all finds that could be of heritage importance – In case archaeological remains to be uncovered, cease activities and the project manager has to assess and demarcate the area – Project manager to visit the site and determine whether work can proceed without damage to findings, mark exclusions boundary and inform ECC with GPS position – If needed, further investigation have to be requested for a professional assessment and the necessary protocols of the Chance Find Procedure have to be followed, – Archaeologist will evaluate the significance of the remains and identify appropriate action, for example, record and remove; relocate or leave premises (depending on the nature and value of the	Monthly	Site manager (or nominated site supervisor)

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		<p>remains),</p> <ul style="list-style-type: none"> <li>- Inform the police if the remains are human,</li> <li>- Obtain appropriate clearance or approval from the competent authority, if required, and recover and remove the remains to the National Museum or National Forensic Laboratory as directed.</li> </ul>		
<p><b>Vegetation clearance for access routes, drill sites and temporary contractor camps</b></p>	<ul style="list-style-type: none"> <li>- Loss of plant species;</li> <li>- Loss of habitat;</li> <li>- Create landscape scars; and</li> <li>- Loss of Sense of Place.</li> <li>- Potential negative impacts to endangered and protected plant species</li> </ul>	<ul style="list-style-type: none"> <li>- Use existing roads for access to avoid new tracks and cut lines;</li> <li>- Minimise clearance areas through proper planning of the exploration activities;</li> <li>- Protected plant species should not be removed, without the relevant permission or permits.</li> <li>- Field team should not drive in the veld or create new tracks, without evaluating the plant species within that area.</li> <li>- Route new tracks around established and protected trees, and clumps of vegetation;</li> <li>- Large trees or shrubs should not be removed (could be essential for breeding birds);</li> <li>- Identify rare, endangered, threatened and protected species;</li> <li>- During toolbox talks and induction sessions, highlight to workers that the removal of significant plants should be avoided;</li> <li>- Where possible rescue and relocate plants of significance; and</li> <li>- Promote revegetation of cleared areas upon completion of exploration activities.</li> <li>- <i>Euphorbia damarana</i> should not be removed within this area, due to it being an important food source for the critically endangered Black Rhinos.</li> </ul>	<p>Daily</p>	<ul style="list-style-type: none"> <li>- Exploration Manager</li> </ul>

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
	<ul style="list-style-type: none"> <li>- Alien plants and weeds can accidentally be introduced.</li> </ul>	<ul style="list-style-type: none"> <li>- All project equipment arriving on site from an area outside of the project or coming from an area of known weed infestations (not present on the project site) should have an internal weed and seed inspection completed prior to such equipment being used;</li> <li>- Ensure contractors receive induction on preventing the spread of alien weed;</li> <li>- Ensure the potential introduction and spread of alien plants is prevented;</li> <li>- Ensure the correct removal of alien invasive vegetation and prevent the establishment and spread of alien invasive plants;</li> <li>- Eradicate weeds and alien species as soon as they appear; and</li> <li>- Make workers aware about alien species and weeds.</li> </ul>	<p>Monthly</p>	<ul style="list-style-type: none"> <li>- Employees, contractors</li> <li>- Site manager (or nominated site supervisor)</li> </ul>
<p><b>Protection of Biodiversity</b></p>	<ul style="list-style-type: none"> <li>- Increased potential of poaching of the rhinos at the sensitive receptor Save the Rhino Camp.</li> <li>- Disturbance of nesting birds or local biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>- Ensure that strict rules and regulations are implemented to ensure that the rhinos stay protected;</li> <li>- Minimise movement and noise close to this sensitive receptor;</li> <li>- None of the save the rhino daily activities should be disrupted;</li> <li>- Emergency contact details of the anti-poaching unit should readily available</li> <li>- Emergency contact details of the police should readily available</li> <li>- Any poaching or biodiversity crime incidents should be reported to MEFT, Police and any anti-poaching unit immediately.</li> <li>- Prosecution of individuals that threaten the</li> </ul>	<p>-Daily inspection</p>	<ul style="list-style-type: none"> <li>- Site manager (or nominated site supervisor)</li> </ul>

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		<p>protection of these animals must be maintained;</p> <ul style="list-style-type: none"> <li>- Vehicle stops, where vehicles are searched or vehicle movement recorded;</li> <li>- Ensure that there is no movement of unauthorised vehicles;</li> <li>- Company vehicles must be clearly marked;</li> <li>- No night time driving;</li> <li>- Stay strictly within designated areas and tracks;</li> <li>- Absolute no communication regarding the location of any endangered game, especially important for the critically endangered Black Rhinos.</li> <li>- No harming, damaging, or killing of any biodiversity.</li> <li>- Keep within the appropriate speed limits and on tracks within the EPL vehicles should not travel faster than 20km/h.</li> <li>- Save the Rhino Trust team should be made aware of all exploration activities, as well as the relevant dates and times that exploration teams will be on-site; as well as where exploration activities will be taking place.</li> <li>- No exploration activities should be allowed within the Ugab river as this is an essential part of the Desert Ecosystem and is a very important habitat for various endangered species.</li> </ul>		
<p><b>Fuel handling and storage, maintenance on equipment, machinery and vehicles</b></p> <p><b>Inadequate control or</b></p>	<ul style="list-style-type: none"> <li>- Soil contamination;</li> <li>- Water contamination; and</li> <li>- Enhanced accidental veld fires during high wind periods.</li> </ul>	<p><b>Storage</b></p> <ul style="list-style-type: none"> <li>- Label chemicals appropriately.</li> <li>- Chemicals with different hazard symbols should not be stored together - clear guidance on the compatibility of different chemicals can be obtained from the Materials Safety Data Sheets (MSDS) which should be readily available;</li> <li>- Store chemicals in a dedicated, enclosed and</li> </ul>	<ul style="list-style-type: none"> <li>- Daily observations</li> <li>- Weekly inspections</li> </ul>	<ul style="list-style-type: none"> <li>- Site manager (or nominated site supervisor)</li> </ul>

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
<p>accidental release of hazardous substances on site</p>		<p>secure facility with a roof and a concrete floor. Chemical tanks should be completely contained within secondary containment such as bunding;</p> <ul style="list-style-type: none"> <li>- Consider the feasibility of substituting hazardous chemicals with less hazardous alternatives;</li> <li>- Storage and handling of fuels and chemicals shall comply with relevant legislation and regulations; and</li> <li>- Fuels, lubricants, and chemicals are to be stored within appropriately sized, impermeable bunds or trays with a capacity not less than 110% of the total volume of products stored.</li> </ul> <p><b>Fire risk</b></p> <ul style="list-style-type: none"> <li>- No open fires are allowed to be lit by personnel, associated with the proponent anywhere on the EPL outside of dedicated campsites;</li> <li>- The proponent to ensure that exploration campsites have proper cooking facilities available to use. Gas stoves are the preferred option;</li> <li>- No cigarette butts are allowed to be discarded into the environment. These should be contained in appropriate domestic containment bins and disposed of at the local landfill site;</li> <li>- No unauthorised movement beyond the exploration areas and campsites is allowed;</li> <li>- Proper fire hazard identification signage to be placed in areas that store flammable material (e.g., hydrocarbons and gas bottles);</li> <li>- Control and reduce the potential risk of fire by</li> </ul>		

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		<p>segregating and safe storage of materials;</p> <ul style="list-style-type: none"> <li>- Avoid potential sources of ignition by prohibiting smoking in and around facilities; and</li> <li>- Fire extinguishers should always be at designated areas and should be inspected regularly.</li> </ul> <p><b>Spills</b> Spill kits with the following items as a minimum should be made available on site:</p> <ul style="list-style-type: none"> <li>- Absorbent materials;</li> <li>- Shovels;</li> <li>- Heavy-duty plastic bags;</li> <li>- Protective clothing (e.g., gloves and overalls);</li> <li>- Major servicing of equipment shall be undertaken offsite or in appropriately equipped workshops;</li> <li>- For small repairs and unavoidable and necessary maintenance activities all reasonable precautions to avoid oil and fuel spills must be taken (e.g., spill trays, impervious sheets);</li> <li>- Provision of adequate and frequent training on spill management, spill response and refueling must be provided to all onsite personnel;</li> <li>- No refueling is to take place within 50 meters of groundwater boreholes, surface water or streams;</li> <li>- Vehicles and machinery are to be regularly serviced to minimise oil and fuel leaks; and</li> <li>- All major petroleum product spills (spill of more than 200 liters per spill) should be reported to the Ministry of Mines and Energy (MME) on Form PP/11 titled "Reporting of major petroleum</li> </ul>		



ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		<p>product spill', attached as Appendix B.</p> <p><b>The following points therefore apply to all areas on the site:</b></p> <ul style="list-style-type: none"> <li>- Assess the situation for potential hazards;</li> <li>- Do not come into contact with the spilled substance until it has been characterised and the necessary Personal Protective Equipment (PPE) is provided; and</li> <li>- Isolate the area as required.</li> </ul> <p><b>The following measures are to be implemented in response to a spill:</b></p> <ul style="list-style-type: none"> <li>- Spills are to be stopped at the source as soon as possible (e.g., close valve or upright drum);</li> <li>- Spilt material is to be contained to the smallest area possible using a combination of absorbent material, earthen bunds or other containment methods;</li> <li>- Spilt material is to be recovered as soon as possible using appropriate equipment. In most cases, it will be necessary to excavate the underlying soils until clean soils are encountered;</li> <li>- All contaminated materials recovered subsequent to a spill, including soils, absorbent pads and sawdust, are to be disposed of at appropriately licensed facilities; and</li> <li>- A written incident report must be submitted to the general manager.</li> </ul>		

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
<b>Generation of waste</b>	<ul style="list-style-type: none"> <li>- Soil contamination;</li> <li>- Water contamination;</li> <li>- Nuisance (visual impacts and litter); and</li> <li>- Ecological risks.</li> </ul>	<ul style="list-style-type: none"> <li>- Good housekeeping standards applied on site;</li> <li>- Training and raise awareness through toolbox talks and induction;</li> <li>- Implement a Standard Operational Procedure (SOP) on waste management, for all kinds of waste possible on-site (e.g., hydrocarbons, domestic, waste water);</li> <li>- Implement a culture of correct waste collection, waste segregation and waste disposal, complementary to the waste hierarchy – avoid, re-use, recycle; and</li> <li>- Wastewater discharges will be contained – no disposal of wastewater directly into the environment is allowed.</li> </ul>	<ul style="list-style-type: none"> <li>- Daily and weekly</li> </ul>	<ul style="list-style-type: none"> <li>- Employees, contractors</li> <li>- Site manager (or nominated site supervisor)</li> </ul>
<b>Water use</b>	<ul style="list-style-type: none"> <li>- Soil contamination;</li> <li>- Ground and surface water contamination; and</li> <li>Nuisance (visual and odour).</li> </ul>	<ul style="list-style-type: none"> <li>- Minimise the operational consumption of water throughout the lifespan of the project;</li> <li>- Visual monitoring and a photographic record should be kept of any surface and or groundwater intersected;</li> <li>- Recycle wastewater, where possible.</li> <li>- Install devices to prevent spills and overfills, e.g., shutoff devices for large volume tanks (e.g., &gt; than 2000lts).</li> <li>- Install an impermeable hardstand in areas of high-risk contamination to prevent ground infiltration by pollutants;</li> <li>- Segregation of wastewater (domestic and industrial effluent); and</li> <li>- During operation, monitoring of wastewater discharges (specific to a wastewater discharge permit conditions) should be conducted on a regular basis (quarterly).</li> </ul>	<ul style="list-style-type: none"> <li>- Daily inspection of operations</li> </ul>	<ul style="list-style-type: none"> <li>- Exploration Manager</li> <li>- Employees, contractors</li> <li>- Site manager (or nominated site supervisor)</li> </ul>

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
<b>Terrestrial biodiversity destruction due to uncontrolled fire outbreaks</b>	<ul style="list-style-type: none"> <li>- Veld fires during high wind periods</li> </ul>	<ul style="list-style-type: none"> <li>- No open fires are allowed to be lit by personnel associated with the proponent anywhere on the EPL outside of dedicated campsites;</li> <li>- The proponent to ensure that exploration campsites have proper cooking facilities available to use. Gas stoves are the preferred option;</li> <li>- No cigarette butts are allowed to be discarded into the environment. These should be contained in appropriate domestic containment bins and disposed of at the local landfill site;</li> <li>- No unauthorised movement beyond the exploration areas and campsites is allowed; and</li> <li>- Proper fire hazard identification signage to be placed in areas that store flammable material (i.e. hydrocarbons and gas bottles).</li> </ul>	<ul style="list-style-type: none"> <li>- Daily inspection of operations</li> </ul>	<ul style="list-style-type: none"> <li>- Exploration Manager</li> <li>- Employees, contractors</li> <li>- Site manager (or nominated site supervisor)</li> </ul>

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
<b>Heritage</b>	<ul style="list-style-type: none"> <li>- Disruption of heritage sites.</li> </ul>	<p>In case of discovering or unearthing heritage sites, the following measures (chance-find procedure) shall be applied:</p> <ul style="list-style-type: none"> <li>- Works to cease and the area to be demarcated with appropriate tape by the site supervisor, and the site manager to be informed;</li> <li>- The site manager to visit the site and determine whether work can proceed without damage to findings, mark exclusions boundary and inform the environment and social manager with the GPS position if possible</li> <li>- If works cannot proceed without damage to findings, the site manager to inform the environmental manager who will get in touch with an archaeologist who will provide advice.</li> <li>- Exploration manager or an archaeological specialist to evaluate the significance of the remains and identify appropriate action, for example, record and remove; relocate or leave in situ (depending on the nature and value of the remains);</li> <li>- Inform the police if the remains are human, and</li> <li>- Obtain appropriate clearance or approval from the competent authority. if required, recover and remove the remains to the national museum or national forensic laboratory as directed.</li> <li>- A buffer of 50 m around groups "A" and "B" in figure two of the Archeological report should be established, where no disturbance is allowed.</li> </ul>	<ul style="list-style-type: none"> <li>- Daily inspection</li> </ul>	<ul style="list-style-type: none"> <li>- General Manager, and</li> <li>- Deputy Manager (or nominated supervisor)</li> </ul>
<b>Job creation, skills development and business</b>	<ul style="list-style-type: none"> <li>- Beneficial socio-economic impacts on a local and regional scale.</li> </ul>	<ul style="list-style-type: none"> <li>- Maximise local employment and local business opportunities;</li> <li>- Enhance the use of local labour and local skills as far as reasonably possible; and</li> </ul>	<ul style="list-style-type: none"> <li>- Monthly</li> </ul>	<ul style="list-style-type: none"> <li>- Exploration Manager</li> </ul>

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
<b>opportunities</b>		<ul style="list-style-type: none"> <li>- Ensure that goods and services are sourced from the local and regional economy as far as reasonably possible.</li> </ul>		

## 6 IMPLEMENTATION OF THE EMP

Exploration work will be carried out in compliance with the relevant requirements of the Minerals (Prospecting and Mining) Act, 1992. No significant impacts are anticipated for the activities that have been identified. Management and mitigation measures are in place for potential risks.

This EMP:

- A. Has been prepared pursuant to a contract with the proponent;
- B. Has been prepared on the basis of information provided to ECC up to May 2021;
- C. Is for the sole use of the proponent, for the sole purpose of an EMP;
- D. Must not be used (1) by any person other than the proponent or (2) for a purpose other than an EMP; and
- E. Must not be copied without the prior written permission of ECC.

ECC has prepared the EMP on the basis of information provided by the proponent, specialist reports and the environmental scoping report.

## APPENDIX A: APPLICATION FOR A WASTEWATER DISCHARGE LICENCE



### DEPARTMENT OF WATER AFFAIRS & FORESTRY

FAX: (061) 208 7160 PRIVATE BAG 13184  
TEL: (061) 208 7111 WINDHOEK  
REFERENCE NO: ..... NAMIBIA

#### **APPLICATION FOR A WASTEWATER DISCHARGE LICENCE, IN TERMS OF PART XIV OF THE WATER RESOURCES MANAGEMENT ACT, 2004**

(Act No. 24 of 2004 - as published in the Government Gazette of the Republic of Namibia, No. 3357, of 23 December 2004, Government Notice No. 284)

#### **A. GENERAL INSTRUCTIONS**

- Applications must be submitted in duplicate to:  
The Permanent Secretary  
Attn.: Law Administration  
Ministry of Agriculture, Water and Forestry  
Private Bag 13184  
WINDHOEK
- Application Fee (to accompany this document): N\$ \_\_\_\_\_
- The various sections have to be completed as follows:  
**Section B & C** - All applicants  
**Section D** - Complete only the part relevant to technology employed in your works.  
**Section E** - All applicants (compulsory!)
- Only the relevant Sections that have been filled in need to be submitted with this application.
- A separate application needs to be filled in for each different plant/works.

**NAME OF TREATMENT PLANT/WORKS:** \_\_\_\_\_

**PLACE:** \_\_\_\_\_ **GPS Coordinates:** \_\_\_\_\_  
(e.g. town, settlement)



**B. GENERAL INFORMATION**

1. Name of applicant: \_\_\_\_\_

2. Address - Contact Person: \_\_\_\_\_

- Postal: \_\_\_\_\_

- Physical: \_\_\_\_\_

- Tel No.: \_\_\_\_\_

- Fax No.: \_\_\_\_\_

- E-mail: \_\_\_\_\_

3. Region in which plant is situated: \_\_\_\_\_

4. Constituency in which plant falls: \_\_\_\_\_

5. Type of establishment:  
(e.g. school, town, industry) \_\_\_\_\_

6. Source of water supply:  
(e.g. borehole, river, sea) \_\_\_\_\_

7. Total water consumption: m<sup>3</sup>/day ADWF\* \_\_\_\_\_

(\*ADWF = Average Dry Weather Flow) m<sup>3</sup>/day ADWF\* \_\_\_\_\_

• Consumption based on the average usage over a 12-month period. m<sup>3</sup>/day ADWF\* \_\_\_\_\_

• List different sources separately m<sup>3</sup>/day ADWF\* \_\_\_\_\_

8. Application:

• Prepared by: Name : \_\_\_\_\_ Position: \_\_\_\_\_

(e.g. Consultant) Signature: \_\_\_\_\_ Date: \_\_\_\_\_

• Responsible Executive: Name : \_\_\_\_\_ Position: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## C. TECHNICAL DETAILS - GENERAL

Answers to the following information must be contained in this application either from the questionnaire or as an attachment thereto (see also details in Appendix A):

**NAME OF TREATMENT PLANT/WORKS:** \_\_\_\_\_

1. Type of effluent (please also refer to Section D for classifications): \_\_\_\_\_

2. Site of works:

2.1 Submit a site plan indicating the exact location (or intended location) of the works. This plan should indicate (as a minimum):

- 2.1.1 General location of the works with regards to settlements, main roads, boreholes, rivers etc.
- 2.1.2 Layout plan of property showing all existing and proposed water pipes and effluent and drainage lines in distinctive colours.
- 2.1.3 Topographical plan/area photograph/contour plans showing the property and effluent treatment plant in relation to residential areas, rivers, pans, dams, lakes and boreholes.
- 2.1.4 Contour plans indicating the exact location of the effluent treatment works and point of discharge of final effluent in relation to watercourses that drain the area.
- 2.1.5 Give the following information:
  - 2.1.5.1 Distance to nearest inhabitants: \_\_\_\_\_m
  - 2.1.5.2 Distance to nearest water abstraction point (e.g. river, borehole): \_\_\_\_\_m
  - 2.1.5.3 Distance to nearest watercourse (e.g. dry river) and specify: \_\_\_\_\_m
  - 2.1.5.4 Wind direction (main/normal) \_\_\_\_\_

2.2 Submit overall details of works:

- 2.2.1 Type of effluent treatment system and a brief description of its method of operation. (If domestic effluents are dealt with by the local authority please enclose a letter from the authority confirming this agreement).
- 2.2.2 Flow diagram/mass balances to show the present average quantities of incoming water, recycled water, final outflow, seepage and evaporation losses (all in m<sup>3</sup>/day).
- 2.2.3 Layout orientation drawing indicating all major treatment units and fence around works.
- 2.2.4 Complete flow diagram and key design parameters to include:
  - 2.2.4.1 Dimensions and design capacities of each unit process;
  - 2.2.4.2 Process Flow Diagram(s) and major instrumentation employed, e.g. water meters;
  - 2.2.4.3 Loadings on the system (e.g. hydraulic, COD, BOD, nitrogen, phosphate);
- 2.2.5 Indicate allowances that have been made for future expansion and increased loads (if any).
- 2.2.6 Methods of sludge disposal or recirculation.
- 2.2.7 Disinfection of the final effluent (indicate dosing type, method, retention period and optimum disinfectant level in final effluent).

3. Monitoring boreholes for monitoring groundwater pollution over time must be available within 500 m of the point of final effluent discharge.

4. Please note: Additional information is required for new treatment plants (e.g. an environmental impact assessment) - details can be obtained from the Department of Water Affairs and Forestry.

5. All relevant information must be included with this application. **It is a criminal offence to deliberately withhold vital information relevant to this application.** Where applicants are found to be in contravention with this requirement, they may/will be prosecuted.

## D. TECHNICAL DETAILS - SPECIFIC

Applicants should only complete sections relevant to their specific effluent (please tick relevant box):

- |                          |  |
|--------------------------|--|
| <input type="checkbox"/> | D-1: Domestic Effluent - Includes wastewater collected in towns (excluding industrial effluent!), villages, schools, lodges, administration buildings. |
| <input type="checkbox"/> | D-2: Industrial Effluent - Includes wastewater generated by any industry, factory, etc.  |
| <input type="checkbox"/> | D-3: Mining Effluent - Includes wastewater accumulated or collected due to mining operations (e.g. Acid mine wastewater)                               |
| <input type="checkbox"/> | D-4: Combination/mix of various effluents (list major effluent streams on page 11)   |

### Final Effluent Reuse

The pressure on Namibia's existing fresh-water supplies can, to a great extent, be eased by the sensible reuse of effluents for a variety of purposes including dust control, agriculture and industrial processes. Therefore, reuse of effluent after suitable treatment is encouraged.

The allowable reuse of an effluent is dependent upon its quality as well as many local circumstances and hence each application in this category needs careful and individual scrutiny, which should be undertaken by a specialist in this field and must be supported by an environmental impact assessment study.

A separate licence for effluent reuse is required and more details in this regards can be obtained from the Department of Water Affairs and Forestry.

**D-2. INDUSTRIAL EFFLUENTS**

Plant Name: .....

2.1	Describe industry and major activities resulting in effluent generation		
2.2	Capacity / Flowrates :		
	Design - Average daily flow		m <sup>3</sup> /d
	- Peak hourly flow		m <sup>3</sup> /h
	Actual (if in operation) - Average daily flow		m <sup>3</sup> /d
	- Peak hourly flow		m <sup>3</sup> /h
	If ponds are employed, state total surface area		m <sup>2</sup>
2.3	List only major contaminants (also attach full analysis of typical effluent sample)		
2.4	Type of treatment employed (give short overview of process):		
2.5	List major treatment chemicals* employed in the unit process(es):		
2.6	Final effluent quality after treatment (put envisaged final quality for a new plant):		
2.7	Sludge generation:		
	- Volume generated		m <sup>3</sup> /d
	- Mass		kg/d (dry solid)
	- Method of disposal		
	- Place of disposal		
	- Major constituents		
	- If sludge ponds, state frequency of cleaning		
2.8	Do you employ cleaner production principles (CPP)?		Yes/No
	If "yes", elaborate:		
2.9	Is the following documentation included (give reason if not)?		
	▪ Water (and waste) management plan:		Yes/No
	▪ Decommissioning plan:		Yes/No

\* For the chemicals employed, proper mass balances should be included that show chemical usage, movement and discharge within the factory/process(es). All safety aspects related to handling, storage and disposal of chemicals on site must be followed at all times.

**D-4. COMBINATION OF VARIOUS EFFLUENTS**

Plant Name: .....

4.1	Describe major activities resulting in effluent generation (e.g. type of industry):				
4.2	Capacity / Flowrates of different streams (major only)	1	2	3	
	Type (e.g. domestic, industrial, mining, others)				
	Design - Average daily flow				m <sup>3</sup> /d
	- Peak hourly flow				m <sup>3</sup> /h
	Actual (if in operation) - Average daily flow				m <sup>3</sup> /d
	- Peak hourly flow				m <sup>3</sup> /h
4.3	List only major contaminants (also attach full analysis of typical effluent sample)				
4.4	Type of treatment employed (give short overview of process)				
4.5	List major treatment chemicals employed in the unit process(es):				
4.6	Final effluent quality after treatment (put envisaged final quality for a new plant)				
4.7	Sludge generation:				
	- Volume generated				m <sup>3</sup> /d
	- Mass				kg/d (dry solid)
	- Method of disposal				
	- Place of disposal				
	- Major constituents				
	- If sludge ponds, state frequency of cleaning				



**E. FINAL EFFLUENT DISPOSAL**

1.4.1	Where is the final effluent discharged to? (E.g. French drain, pumped out by Local Authority, dry river course, perennial river, etc.)	
1.4.2	IF soakaway, state: - Type of soil - Suitability/porosity of soil - Size of soakaway area - Include topography and plan of soakaway area	
1.4.3	Is there any post-treatment applied? (e.g. disinfection, filtration)	
1.4.4	Is the final effluent re-used? (Yes/No)	
	If "Yes", complete:	
	- Do you have a reuse licence?	
	- Amount of water that will be re-used:	m <sup>3</sup> /d
	- For what application:	
	- Type of irrigation used (if applicable):	
	- What crops are grown:	
1.4.5	- Area of land that will be irrigated:	ha
	Name (if any) downstream users (downstream of discharge point).	
1.4.6	Past records of complaints or objections by people living close to works:	

Reuse:

A reuse licence is required – details can be obtained from the Department of Water Affairs and Forestry.

Irrigation:

The crops allowed to be irrigated are dependent upon effluent quality (details will be supplied on request by the Department of Water Affairs and Forestry).

## 7 APPENDIX B - REPORTING OF MAJOR PETROLEUM PRODUCT SPILL FORM PP/11

64 Government Gazette 23 June 2000 No. 2357

FORM PP/11

MINISTRY OF MINES AND ENERGY

PETROLEUM PRODUCTS AND ENERGY ACT, 1990  
PETROLEUM PRODUCTS REGULATIONS (2000)

REPORTING OF MAJOR PETROLEUM PRODUCT SPILL

(Regulation 49(1))

(Please note that where form is completed by hand it must be completed in capital letters)

1. Name of licence/certificate-holder/person .....

(\*Delete whichever is not applicable)

2. Postal address .....

3. Physical address .....

4. Telephone Number (including code) .....

5. Facsimile Number (including code) .....

6. Licence/certificate\* number and date of issue, if applicable .....

(\*Delete whichever is not applicable)

7. Date of petroleum product spill .....

8. Location of petroleum product spill .....

9. Reasons for petroleum product spill .....



**10. Type of petroleum product involved in petroleum product spill .....**

.....  
.....  
.....

**11. Quantity of the petroleum product spill .....**

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.....

**12. Indicate whether the petroleum product has or will have any negative effect on the environment and the safety and health of person or the property of persons .....**

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**13. Provide full details of all remedial actions taken to minimise risks associated with petroleum product spills and all cleaning-up operations taken in connection therewith .....**

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**DECLARATION**

I, .....,  
hereby declare that the information submitted by me in this application is true and correct.

.....  
*Signature*

.....  
*Place*

.....  
*Date*

## 8 APPENDIX C - COMPLAINTS REGISTER TEMPLATE

NAME	CONTACT DETAILS	DATE AND LOCATION OF COMPLAINT	NATURE OF COMPLAINT	ACTION TAKEN TO RESOLVE	NOMINATED PERSON TO RESOLVE ISSUE <i>(Signature)</i>	DATE OF RESOLUTION/ CLOSED OUT COMPLAINT

## 9 APPENDIX D - MONTHLY INTERNAL COMPLIANCE CERTIFICATE

FOR THE PERIOD ..... TO .....

MANAGEMENT REPRESENTATIVE:	SIGN:
SHE COORDINATOR:	SIGN:

Date of Submission: \_\_\_\_\_

Key activities on site during the month: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### NON-CONFORMANCE:

Area of activity: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Reason: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Responsible party: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Results: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Correction action taken:

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Intended follow-up:

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**GOOD PERFORMANCE:**

Description of activity or action in which the area/person went beyond compliance towards responsible care for the environment:

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**ADDITIONAL COMMENTS:**

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