ECC
ENVIRONMENTAL
COMPLIANCE CONSULTANCY

ECC-36-272-REP-6-A

ENVIRONMENTAL MANAGEMENT PLAN

EXPLORATION ACTIVITIES ON EPL 7744 FOR BASE AND RARE METALS, INDUSTRIAL MINERALS, AND PRECIOUS METALS IN THE OTJOZONDJUPA REGION, NAMIBIA

PREPARED FOR OTAVI EXPLORATION (PTY) LTD

B2GOLD

MARCH 2020

PO BOX 91193 Windhoek Namibia
Environmental Compliance Consultancy CC
CC/2013/11404

TITLE AND APPROVAL PAGE

Project Name:	Exploration activities on EPL 7744 for Base and Rare Metals, Industrial Minerals, and Precious Metals in the Otjozondjupa Region
Project Number:	ECC-36-272-6-A
Client Name:	Otavi Exploration (Pty) Ltd
Ministry Reference:	NA
Status of Report:	Final
Date of issue:	March 2020
Review Period:	N/A

Environmental Compliance Consultancy Contact Details:
We welcome any enquiries regarding this document and its content. Please contact:

Stephan Bezuidenhout
Environmental Consultant & Practitioner
Tel: +264 81 699 7608
Email: stephan@eccenvironmental.com
www.eccenvironmental.com

Jessica Mooney
Environmental Consultant & Practitioner
Tel: +264 81 699 7608
Email: jessica@eccenvironmental.com
www.eccenvironmental.com

Confidentiality
Environmental Compliance Consultancy Notice: This document is confidential. If you are not the intended recipient, you must not disclose or use the information contained in it. If you have received this document in error, please notify us immediately by return email and delete the document and any attachments. Any personal views or opinions expressed by the writer may not necessarily reflect the views or opinions of Environmental Compliance Consultancy.

Please note at ECC we care about lessening our footprint on the environment, therefore all documents are printed double-sided.

TABLE OF CONTENTS

1 INTRODUCTION 6
1.1 PROJECT BACKGROUND 6
1.2 ENVIRONMENTAL REGULATORY REQUIREMENTS 7
1.3 PURPOSE AND SCOPE OF THIS REPORT 7
1.4 MANAGEMENT OF THIS EMP 7
1.5 LIMITATIONS, UNCERTAINTIES AND ASSUMPTIONS OF THIS EMP 7
1.6 ENVIRONMENTAL CONSULTANCY 8
2 PROJECT MANAGEMENT PERSONNEL 9
2.1 ORGANISATIONAL STRUCTURE, ROLES, AND RESPONSIBILITIES 9
2.2 CONTRACTORS 10
2.3 EMPLOYMENT 10
3 COMMUNICATIONS AND TRAINING 11
3.1 COMMUNICATIONS 11
3.2 ENVIRONMENTAL EMERGENCY AND RESPONSE 11
3.3 COMPLAINTS HANDLING AND RECORDING 11
3.4 TRAINING AND AWARENESS 12
3.5 SITE INDUCTION 12
4 REPORTING, COMPLIANCE, AND ENFORCEMENT 13
4.1 ENVIRONMENTAL INSPECTIONS AND COMPLIANCE MONITORING 13
4.1.1. DAILY COMPLIANCE MONITORING 13
4.1.2. MONTHLY COMPLIANCE MONITORING 13
4.2 REPORTING 13
4.3 ENVIRONMENTAL PERMITS 13
4.4 NON-COMPLIANCE 13
4.5 INCIDENT REPORTING 14
4.6 DISCIPLINARY ACTION 14
5 ENVIRONMENTAL AND SOCIAL MANAGEMENT 15
5.1 ENVIRONMENTAL PERFORMANCE MANAGEMENT 15
5.2 OBJECTIVES AND TARGETS 15
5.3 REGISTER OF ENVIRONMENTAL RISKS AND ISSUES 15
6 IMPLEMENTATION OF THE EMP 22

LIST OF TABLES

TABLE 1 - KEY ROLES AND RESPONSIBILITIES 9

TABLE 2 - EMERGENCY CONTACT DETAILS 11

TABLE 3 - ENVIRONMENTAL RISKS AND ISSUES, AND MITIGATION AND MONITORING MEASURES 16

LIST OF FIGURES

FIGURE 1 – LOCATION OF EPL 7744 6

DEFINITIONS AND ABBREVIATIONS

ECC	Environmental Compliance Consultancy
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPL	Exclusive Prospecting Licence
I&APs	Interested and affected parties

1 INTRODUCTION

1.1 PROJECT BACKGROUND

Environmental Compliance Consultancy (ECC) has been engaged by Otavi Exploration (Pty) Ltd to compile an Environmental Management Plant (EMP) in accordance with the Environmental Management Act, No. 7 of 2007. The purpose of this EMP is to support the proposed exploration activities on Exclusive Prospecting Licence (EPL) 7744, which is located 20 km northwest of Otjiwarongo in the Otjozondjupa Region of Namibia (Figure 1).

Otavi Exploration (Pty) Ltd, (registration number 2017/0457) is a subsidiary of B2Gold Mining Investments Ltd, which is a subsidiary of B2Gold Corp., a public company with listings on the New York, Toronto and Namibia Stock Exchanges. Otavi Exploration (Pty) Ltd holds the mineral exploration licence of EPL 7744. B2Gold Namibia was founded in 2012 and is also the operator of the Otjikoto Gold Mine near Otjiwarongo, which is one of the largest mines in Namibia with approximately 800 permanent employees.

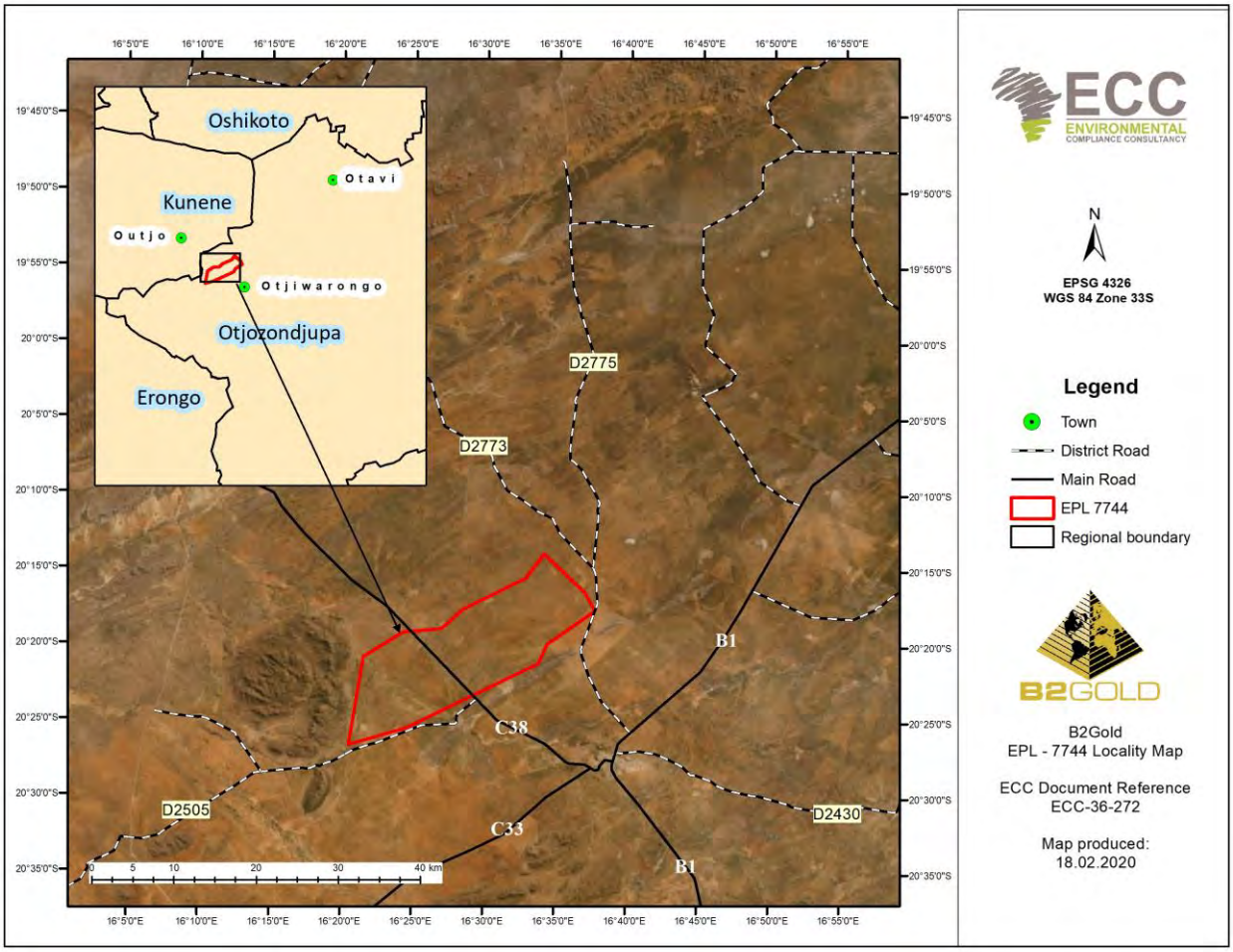

FIGURE 1 – LOCATION OF EPL 7744

1.2 Environmental Regulatory Requirements

In terms of the Environmental Impact Assessment (EIA) Regulations and the Environmental Management Act, No. 7 of 2007, the proposed development qualifies as a listed activity. Therefore, an application for an environmental clearance certificate is to be submitted. An environmental scoping report and EMP are required to be submitted as part of the application process, as well as to support the decision-making process. This report presents the EMP and has been undertaken in terms of the requirements of the act and its regulations.

1.3 Purpose And Scope Of This Report

The purpose of this EMP is to provide a management framework for the proposed exploration activities in EPL 7744 so that the potential environmental impacts are avoided, minimised and mitigated as far as reasonably practicable, and that statutory requirements and other legal obligations are fulfilled.

This EMP also presents protocols, procedures, roles and responsibilities to ensure the management arrangements are appropriately and effectively implemented. This EMP forms an appendix to the environmental scoping report and has been 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 / or updated when the scope of works alters, or when further data / 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, Rare and Industrial Minerals, and Precious Metals on EPL 7744.

1.4 Management of this EMP

The proponent, Otavi Exploration (Pty) Ltd will hold the environmental clearance certificate for the proposed project and will be responsible for the implementation and management of this EMP. Prior to the exploration activities commencing, this EMP shall be reviewed, amended as required and approved ready for implementation. The implementation and management of this EMP and thus the monitoring of compliance shall be undertaken through daily duties and activities and 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 health and 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 scoping report. Where the design or construction methods alter, this EMP may require updating and potential further assessment to be undertaken.

1.6 Environmental Consultancy

Environmental Compliance Consultancy (ECC), a Namibian consultancy with registration number 2013/11401, has prepared this EMP 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 sectors. ECC is independent of the proponent and has no vested or financial interest in the proposed project, except for fair remuneration for professional services rendered.

All compliance and regulatory requirements regarding this document should be forwarded by email or posted to the following address:

Environmental Compliance Consultancy

PO BOX 91193

Klein Windhoek, Namibia

Tel: +264 81 669 7608

Email: info@eccenvironmental.com

2 PROJECT MANAGEMENT PERSONNEL

This EMP provides measures, guidelines, and procedures for managing and mitigating potential environmental impacts. The EMP also indicates monitoring and reporting requirements and sets responsibilities for those carrying out management and mitigation measures. Otavi Exploration (Pty) Ltd shall provide a project team to oversee activities and responsibilities.

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 persons are provided with sufficient training, supervision, and instruction to fulfil this requirement, and
- Ensuring that any persons allocated specific environmental responsibilities are notified of their appointment and confirm 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 are presented in Table 1.

TABLE 1 - KEY ROLES AND RESPONSIBILITIES

ROLE	RESPONSIBILITY & DUTIES
Proponent	– Overall responsibility for the implementation and management of this EMP; – 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; – Responsible for providing the required resources (including financial and technical) to complete the required tasks; – Appoint an exploration (project) manager and a site manager (or nominated supervisor); – Ensure that all employees, contractors and visitors are inducted on safety measures.
Exploration (project) Manager	– Responsible for ensuring compliance with this EMP including overseeing all day to day activities during the duration of the project, including routine and non-routine maintenance works, as well as the decommissioning of the project; – Ensure adequate resources are made available for implementation of this EMP; – Responsible for the management, maintenance and revisions of this EMP; – Ensure all personnel are aware of the commitments made in this EMP and any other relevant regulatory requirements applicable to the project; – Ensure all employees and contractors participate in a site induction process prior to commencing work on the project; – Maintain the community issues and concern register, and keep records of complaints; – Ensure that best environmental practice is undertaken throughout the duration of the project; and – Report any non-compliance or accidents to the regulatory authority.

ROLE	RESPONSIBILITY & DUTIES
Site Manager (or nominated supervisor)	– 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; – Provide environmental awareness / management training and site inductions for all employees, contractors and visitors; – Monitor daily operations and ensure adherence by personnel to the EMP; – Receive, respond to and record complaints; and – Report any non-compliance or accidents to the explorations (project) manager.
Employees (and contractors and visitors where applicable)	– Responsible for being compliant with this EMP throughout the project; – Adhere to this EMP at all times; – Ensure attendance of site inductions; – Ensure appropriate briefings for certain activities have been provided and are fully understood; and – Report any operations and conditions that deviate from the EMP or any non-compliant issues or accidents to the site manager and exploration manager.

2.2 CONTRACTORS

Any contractors hired during the project (including 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;
- Implement appropriate environmental and safety management measures;
- Report environmental issues, including actual or potential environmental incidents and hazards, to the exploration manager; and
- Ensure appropriate corrective or remedial action is taken to address all environmental hazards and incidents reported.

2.3 EMPLOYMENT

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

- In liaison with the relevant authorities, the proponent shall ensure that local people have access to information about job opportunities and are considered first for 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.

3 COMMUNICATIONS AND TRAINING

In order to ensure 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 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 the entire project, the exploration manager and / or site manager (or nominated site supervisor) shall communicate site-wide 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 project team, including contractors, to ensure that the environmental requirements are communicated effectively. Key activities and environmentally sensitive operations shall also be briefed to workers and contractors.

During the entire project regular communications 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
Otjiwarongo	+264 (67) 30 3734	+264 (67) 219 048 or 10111	+264 (67) 30 4444

3.3 COMPLAINTS HANDLING AND RECORDING

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

The exploration manager shall maintain a complaint register that will detail the name and contact details of the complainant, date and time of the complaint, nature of the complaint, action is taken to resolve issues, and date of complaint handover. The exploration manager shall be responsible for nominating the correct personnel to coordinate and resolve the issue.

The workforce shall be informed about the complaints register, its location and the person responsible, in order to refer local 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 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.

3.5 Site Induction

All personnel involved in the project, contractors and visitors shall be inducted to the site with specific environmental and social awareness training, and health and safety issues. The environment and social awareness training shall ensure that everybody on site is 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 a register of completed training is maintained.

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

- A general site-specific induction that outlines:
    - What is meant by “environment” and “social”;
    - Why the environment needs to be protected and conserved;
    - How construction activities can impact on the environment; and
    - What can be done to mitigate against such impacts;
- The inductee’s role and responsibilities with respect to implementing the EMP;
- The site environmental rules;
- Details of how to deal with, and who to contact if environmental problems should occur;
- Basic vegetation clearing principles and species identification sheets;
- Focal themes such as compliance, contentious issues (e.g. stock theft, poaching), 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 responsible people 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 duration of the project and shall be available upon request. It is the responsibility of the exploration manager and site manager (or nominated site supervisor) 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 notified 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 site manager to check that the standards and procedures 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 is taken and any necessary follow up measures required.

4.2 Reporting

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

4.3 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 maintained still. A licence to abstract and use water may be required if boreholes are to be created, although this is unlikely. If required, the proponent will apply for relevant permits and shall operate in accordance with any conditions of the licence.

Some vegetation will be cleared on the EPL to allow exploration activities to commence. It is unlikely that an area greater than 15ha will be cleared, therefore a permit under the Forest Act, No. 12 of 2001 as amended by the Forest Amendment Act, No. 13 of 2005 and its regulations of 2015 is not required.

4.4 Non-compliance

Where it has been identified that activities are not compliant with this EMP, the exploration manager shall employ corrective actions so that the activities 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 / situation, for example, is considered if:

- There is evidence of the contravention of this EMP and associated indicators or objectives;
- The exploration manager and / or site manager (or nominated supervisor) have failed to comply with corrective or other instructions issued by the exploration manager or qualified authority; or
- The exploration manager and /or site manager (or nominated supervisor) fail to respond to complaints from the public

Activities shall be stopped in the event of a 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 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.

4.6 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 / penalties
- Legal action
- Monetary penalties imposed by the proponent on the contractor
- Withdrawal of license/s, and
- Suspension of work.

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

5 ENVIRONMENTAL AND SOCIAL MANAGEMENT

5.1 Environmental Performance Management

The summary of a register of environmental risks and issues identifies mitigation and monitoring measures, as well as roles responsible. This register will be subject to regular review by the exploration manager and updated when necessary. The exploration manager and site manager (or nominated site supervisor) will use this register to undertake monthly inspections 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
- Protect local flora and fauna
- Minimise the generation of waste
- Minimal interruption to farm activities

5.3 Register Of Environmental Risks And Issues

An environmental review of the proposed project has been completed to identify all the commitments and agreements made within the environmental scoping report. From this a list of environmental commitments and risks has been produced, which details deliverables including measures identified for the prevention of pollution or damage to the environment during the project.

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.

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

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
Access and site preparation	– Limiting access to the farms, – Disruption of farm operations (leaving gates open, loss of farming area, interference at waterpoints) – Potential conflict with farm owners and neighbours (suspicious movement, poaching, stock theft, field fires, etc.)	– Ensure documented permission to enter farms, – Farmers should have access to all farm areas at all times, – Existing water points and feeding area need to be left, unaffected, – Use existing roads for access to avoid new tracks and cut lines, – Compliance with all applicable laws and agreements	Daily	Exploration manager and / or site manager (or nominated site supervisor
	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 exploration manager has to assess and demarcate the area – exploration 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 remains), – Inform the police if the remains are human, – 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.	Monthly	

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
General exploration activities	– Potential grievances and complaints, – Social discomfort and anxiety	– Develop and implement an operations manual or procedures to work on private farms and implement monitoring programmes thereafter, – Maintain continuous communication with I&APs to identify concerns and mitigation measures, – Compliance with all applicable laws and agreements – Training and raise awareness to sensitize employees about contentious issues such as stock theft and poaching – Ensure appropriate supervision of all activities – Accidents and incidents need to be reported to exploration manager and recorded in incident register	Weekly, monthly	
	Residing, nesting and slow moving organisms can be disturbed, injured or killed by movement of vehicles and equipment	– Restrict movements to areas of activities only – Use existing tracks and routes only – Identify rare, endangered, threatened and protected species in advance – Route new tracks around protected species and sensitive areas – Restrict movements to daytime hours – Training and raise awareness to sensitize employees and notify them on avoiding some areas – No driving off designated access routes (into the bush) / off-road driving – No animals or birds may be collected, caught, consumed or removed from site	Weekly	Site manager (or nominated site supervisor
	– Residing, nesting and slow moving organisms can be disturbed as a result of ambient noise from operations and movements of vehicles and equipment – Conflict with farmers and neighbours about ambient noise	– Restrict excessive noise to areas of activities only, – Restrict excessive noise to daytime hours (7 am to 5 pm weekdays and 7 am until 1 pm on Saturday), – No activities between dusk and dawn, – Drill equipment shall be suitably positioned to ensure that noisy equipment is away from receptors, – Residents shall be provided at least two weeks' notice of drilling operations within 1 km of their property, – All equipment to be shut down or throttled back between periods of use,	Daily	

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		– Respect civic aviation regulations about the use of a drone		
	– Visual disturbances – Loss of Sense of Place	– Position drill equipment in such a way that it is out of sight from human receptors, – Barriers or fences shall be used if drilling occurs in, locations that may affect residents or livestock, – Residents need to be informed at least two weeks in advance that drilling operations are within 1km of their property, – Maintain good housekeeping, – Apply dust suppression where possible, – Maintain continuous communication with I&APs to identify concerns and mitigation measures	Daily, weekly	
	– Dust and emissions	– All vehicles and machinery / equipment to be shut down or throttled back between periods of use, – Use existing access roads and tracks where possible, – Apply dust suppression where possible, – Restrict speed of vehicles (<30km/h), – Specific activities that may generate dust and impact on residents shall be avoided during high wind events.	Daily	
	– Loss of soil quality due to mixing of earth matter, trampling, compaction and pollution, – Enhanced soil erosion	– Where possible, plan access routes, drill pads and camps outside of existing drainage lines – Where necessary, install diversions to curb possible erosion – Restore drainage lines when disturbed – Topsoil should be stockpiled separately, and re-spread during rehabilitation – Limit the possibility of compaction and creating of a hard subsurface – Limit the possibility of trampling – During drilling oil absorbent matting should be placed under and around the rig – Equipment must be in a good condition to ensure that accidental oil spills do not occur and contaminate soil	Weekly	

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		– In the event of spills and leaks, polluted soils must be collected and disposed of at an approved site, – Limit the possibility to mix mineral waste with topsoil		
	Water contamination	– Ensure drill pads and spill kits are in place, – Consider alternative sites when the water table is too high, – Drill system should be dug to direct any accidental spills into sumps, – Waste water shall be contained, – Where possible, water from existing water sources shall be used	Weekly	
Vegetation clearance for access routes, drill pads and temporary contractor camps	– Loss of plant species – Loss of habitat – Create landscape scars – Loss of Sense of Place	– Use existing roads for access to avoid new tracks and cut lines – Minimise clearance areas through proper planning of the exploration activities – Route new tracks around established and protected trees, and clumps of vegetation – Identify rare, endangered, threatened and protected species. – During toolbox talks and induction, highlight to workers so that the removal of significant plants are avoided – Where possible rescue and relocate plants of significance – Promote revegetation of cleared areas upon completion of exploration activities	Daily	– Employees, contractors – Site manager (or nominated site supervisor
	– Alien plants and weeds can accidentally be introduced	– 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 equipment being used – Ensure the potential introduction and spread of alien plants is prevented, and – Ensure the correct removal of alien invasive vegetation and prevent the establishment and spread of alien invasive plants.	Monthly	Site manager (or nominated site supervisor

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		– Eradicate weeds and alien species as soon as they appear – Make workers aware about alien species and weeds		
Fuel handling and storage, maintenance on equipment, machinery and vehicles	– Soil contamination – Water contamination	– Good housekeeping – Training through toolbox talks and induction – All stationary vehicles and machinery must have drip trays to collect leakages of lubricants and oil – Spill kits and absorption material available during fuel delivery, storage or use – Accidental spills and leaks to be cleaned soonest – Spills to be reported to the exploration manager – Fuel spills of greater than 200L to be reported to the authorities – Plant and equipment to be well maintained and serviced regularly (maintenance and service schedules in place), – In the field, use of hydrocarbons under 200L can be used for mobile refuelling or servicing – Bulk fuel will be stored in adequate containment areas (on a non-porous floor, in a bunded area, capable to contain 110% of the volume stored) – Preventative measures will be in place when service and maintenance activities are done (drip trays, non-porous surfaces, funnels, non-damaged containers) – Refuelling and de-fuelling in designated areas (with adequate preventative measures in place) only	Daily	– Employees, contractors – Site manager (or nominated site supervisor
Generation of waste	– Soil contamination – Water contamination – Nuisance (visual impacts, litter) – Ecological risks	– Good housekeeping – Training and awareness through toolbox talks and induction – Implement a Standard Operational Procedure on waste management, from cradle to grave for all kinds of waste possible on-site (e.g. hydrocarbons, domestic, waste water)	– Daily and weekly	– Employees, contractors – Site manager (or nominated site supervisor

ACTIVITY	POTENTIAL IMPACTS	MANAGEMENT / MITIGATION MEASURES	MONITORING REQUIREMENTS	RESPONSIBILITY
		– Implement a culture of correct waste collection, waste segregation and waste disposal, complimentary to the waste hierarchy – avoid, re-use, recycle – Avoid hazardous waste on site – Wastewater discharges will be contained – no disposal of waste water		
Job creation, skills development and business opportunities	Beneficial socio-economic impacts on a local and regional scale	– Maximise local employment and local business opportunities – Enhance the use of local labour and local skills as far as reasonably possible – Ensure that goods and services are sourced from the local and regional economy as far as reasonably possible.	– Monthly	Exploration manager

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 and management and mitigation measures are in place for potential risks.

This EMP:

- Has been prepared pursuant to a contract with the proponent
- Has been prepared on the basis of information provided to ECC up to February 2020
- Is for the sole use of the proponent, for the sole purpose of an EMP
- Must not be used (1) by any person other than the proponent or (2) for a purpose other than an EMP, and
- 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 and the environmental scoping report