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# Environmental Management Plan

MR. GERHARD BOETIE NDALA

PROPOSED EXPLORATION ACTIVITIES ON EPL 8520, LOCATED APPROXIMATELY 30  
KM SOUTHEAST OF UIS SETTLEMENT, ERONGO REGION, NAMIBIA

JANUARY 2023



### **CONSULTANT'S EXPERTISE**

I.N.K Enviro Consultants cc is the independent firm of consultants that has been appointed by Mr. Gerhard Boetie Ndala to undertake the environmental impact assessment process.

Immanuel N. Katali, the EIA Lead Practitioner holds a B.Arts (Honors) in Geography, Environmental Studies and Sociology and has over seven years of relevant experience in conducting/managing Environmental Impact Assessments (EIAs), Socio-Economic Impact Assessments (SIA) and compiling Environmental Management Plans (EMPs) in Namibia. Immanuel is certified as an environmental practitioner under the Environmental Assessment Professionals Association of Namibia (EAPAN).

### **DECLARATION OF INDEPENDENCE AND DISCLAIMER**

The consultant herewith declare that this report represents an independent, objective assessment of the environmental impacts associated with the proposed exploration activities on EPL 8520.

I.N.K has prepared this report based on an agreed scope of work and acts in all professional matters as an independent environmental consultant to Mr. Gerhard Boetie Ndala and exercises all reasonable skill and care in the provision of its professional services in a manner consistent with the level of care and expertise exercised by members of the environmental profession.

The information, statements and commentary contained in this Report have been prepared by I.N.K from information provided by Mr. Ndala and from discussions held with stakeholders. I.N.K does not express an opinion as to the accuracy or completeness of the information provided, the assumptions made by the party that provided the information or any conclusions reached. I.N.K has based this report on information received or obtained, on the basis that such information is accurate and, where it is represented to I.N.K as such, complete.

I.N.K is not responsible and will not be liable to any other person or organisation for or in relation to any matter dealt within this report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in this report (including without limitation matters arising from any negligent act or omission of I.N.K or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in this report). This report must not be altered or added to without the prior written consent of I.N.K.

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# 1 INTRODUCTION

## 1.1 Introduction to the Proposed Project

Mr. Gerhard Boetie Ndala has successfully obtained Exclusive Prospecting Licence (EPL) 8520, located approximately 30 km south-east of Uis Settlement, within the Karibib, Omaruru Districts, Erongo Region. EPL 8520 is approximately 15297 Hectares (ha) in size.

Mr. Ndala is planning exploration activities on the EPL. Preliminary activities such as geophysics, mapping, scouting exercises, soil sampling, as well as future drilling activities are planned for the area.

Prior to the implementation of the project, environmental clearance is required from the Ministry of Environment, Forestry and Tourism (MEFT): Department Environmental Affairs (DEA) on the basis of an approved EIA process, in terms of the Environmental Management Act, 2007 (No. 7 of 2007).

I.N.K Enviro Consultants cc, an independent firm of environmental consultants based in Namibia, has been appointed by Mr. Gerhard Boetie Ndala to undertake and manage the EIA process.

## 1.2 Details of the Persons who compiled this report

I.N.K Enviro Consultants cc is the independent firm of consultants that has been appointed by Mr. Gerhard Boetie Ndala cc to undertake the environmental impact assessment and related processes.

Immanuel N. Katali, the EIA project manager and lead practitioner holds a B.Arts (Honours) Degree in Geography, Environmental Studies and Sociology and has over six years of relevant experience in conducting/managing EIAs, compiling EMPs and Socio-Economic Studies. Immanuel is certified as an environmental practitioner under the Environmental Assessment Professionals Association of Namibia (EAPAN).

## 2 REQUIRED PERMITS, AUTHORIZATIONS AND CERTIFICATION

Issue	Act/Section	Type of requirement/Ministry
Mining licence	Section 91(f)	Approval of EIA and EMP/MME and MEFT
Written permission of the Mining Commissioner (MC) to erect any accessory works	Section 90 (2) (a)	Written permission from MC/MME
Permission to sell, discharge, etc. Minerals mined	Section 102 (1)	Permission from MC/MME
Permit to store and handle explosives on site	Explosives Act No. 26 of 1956	Permit
Stipulates the purification of waste water and discharge	Section 21 (1) (2) (3) (4) (5) & 22	Permit for industrial waste water and effluent disposal (including sewage). Directorate of Water Affairs in MAWF
Picking and transport of protected plants	Nature Conservation Ordinance, No. 4 of 1975 Section 73	Plant removal permit/Approval of landowner/Directorate of Parks and Wildlife in MET or the NBRI
Picking, removal of protected plants	Section 73	Permit/DPW in MET
Sale, donation, export and removal of protected plants	Section 74	Plant export permit /MET
Registration, selling, operating, installing of infrastructure related to Group I and III hazardous substances	Hazardous Substance Ordinance, No. 14 of 1974 Section 5 (1)(a)(b)(c)	Licences required for the sale, use and storage of “hazardous substances”, which are specified in certain groups. MET and MHSS
Disturbing or destroying of national heritage sites (archaeological/paleontological sites)	National Heritage Act, 2004 Section 48 – 52 and 55	Notify the National Heritage Council
Consumer installation certificate	Petroleum Product Regulations, 2000 Section 18 (5)	Certificate/license MME, Department of Energy
Actions to be taken after a spill has	Section 49(1)(4)	Notification/MME, Department

occurred (major petroleum spill means 200 l per spill)		of Energy
30-days notification prior to commencement of construction	Labour Act, 1992, Regulations for Labour Act 1992, Section 20	Notification/Ministry of Labour (MoL)
30-days notification prior to commencement of mining operation	Section 21	Notification/MoL
Transport/operating licence to transport goods on public roads	Roads Traffic and Transport Act, 1999 Section 60	Licence/Ministry of Works, Transport and Communication
Approval to work on Sundays, public holidays and continuous operation	Section 33	Approval/Ministry of Labour
Company must inform Chief Inspector (Ministry of Health and Social Services) before commencing building or construction work on the mine	Regulations concerning the Health and Safety of Employees at Work, 1997 (Government Notice 156 of 1997)	Ministry of Health and Social Services and Notification to MME
VAT registration	Value Added Tax Act, 2000	Certification
Tax registration	Income Tax Act, 1981	Certification
Social Security	Social Security Act, 1994 Section 20	Registration
Valid Affirmative Action compliance certificate	Affirmative Action Act, 1998, Section 42	Certification
Environmental clearance for EIA and EMP (amendment)	MEFT	ECC amendment
Water discharge	Ministry of Agriculture, Water and Forestry (MAWF)	Water discharge
Licence for explosives magazine	MME/Police	Licence for explosives magazine
Explosive burning permit	MME	Explosive burning permit
Picking, removal of protected plants	DPW in MET	Picking, removal of protected plants

## 1. PARTIES RESPONSIBLE FOR THE IMPLEMENTATION OF THE EMP

This section describes the roles and responsibilities for implementing the different parts of the environmental management plan (EMP).

### 2.1 Site Manager/ Supervisor

The Site Manager has overall responsibility for environmental management and safety during the exploration process and shall oversee the implementation of the EMP.

The Site Manager's responsibilities relating to compliance with this EMP:

- Regular inspections and auditing of compliance to this EMP and any other relevant legal requirements.
- Regular correspondence on environmental issues and incidents.
- Conduct environmental awareness training during induction training and on an ad hoc basis thereafter to all workers.
- Ensure compliance to this EMP
- Ensure that staff is controlled through the implementation of appropriate security measures.
- Carefully manage the handling of hydrocarbons and other hazardous materials.
- Monitor for excessive dust, noise and biodiversity losses and implement control measures if necessary.
- Report incidences
- Implement a waste management strategy.
- Monitoring and maintenance of equipment and machinery.
- Ensure the provision of adequate sanitation facilities.
- Implement an environmental awareness plan.
- Implementation of first-aid procedures.
- Control of traffic safety and access route conditions.

### 2.2 ENVIRONMENTAL REPRESENTATIVE

The Site Manager might nominate an Environmental Representative to assist with overseeing each of the sites and implementing of the relevant EMP commitments.

## 2. TRAINING AND AWARENESS

The purpose of the job specific environmental awareness training is to ensure that employees/all staff are equipped to implement the actions committed to in the EMP. The staff involved in operations will receive training regarding the requirements of this EMP.

Two main forms of training will be provided on site:

- Site induction

- Environmental management training – general and targeted

The training will generally be prepared by the Site Manager / Supervisor (or the Environmental Representative).

The following will be done to ensure all employees, contractors, suppliers and visitors receive the appropriate training/awareness:

### **2.3 Environmental Site Induction**

All new members of staff receive a corporate Environmental Induction along with the obligatory Health & Safety induction. The induction gives a general overview of the environmental challenges faced by the project, how we are managing them, and general tips for reducing our impact in the workplace.

The main reason for environmental induction is to encourage new staff to be environmentally aware right from the beginning of their employment. This will ensure that environmental initiatives are successful by eliminating bad habits from the start.

Before working on all sites, all personnel and sub-contractors will undertake a site induction incorporating environmental requirements. The induction will address a range of environmental awareness issues specific to the construction process of the project.

As a minimum, training shall include:

- Explanation on the importance of complying with the EMP and environmental implications should the EMP not be effectively implemented.
- Explanation of the rules.
- Discussion of the potential environmental impacts of activities, recognition of environmental risks and how to control these risks.
- The benefits of improved personal performance, understanding of what to do in case of an environmental event or exposure.
- Employees' roles and responsibilities, including emergency preparedness.
- Explanation of the mitigation measures that must be implemented when carrying out operational activities.
- Explanation of the requirements of the EMP and its specification.
- Explanation of the management structure of individuals responsible for matters pertaining to the EMP.

### **2.4 Environmental Awareness Training**

Targeted environmental management training will be provided to individuals or groups of workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high risk of environmental impact. This environmental training will aim to achieve a level of awareness and competence appropriate to their assigned activities. This training will take place at the beginning of construction activity and a refresher towards the end of the construction project.



### 3 ENVIRONMENTAL ACTION PLANS

The following overall environmental objectives have been set for the Mr. Ndala Project:

- To comply with national legislation and standards for the protection of the environment;
- To limit potential impacts on biodiversity through the minimisation of the footprint and the conservation of residual habitat as far as possible;
- To investigate and exploit measures to reduce water resources;
- To keep the owner of the nearby surrounding farms informed of exploration activities and through the implementation of forums for communication and constructive dialogue;
- To limit contaminated effluent discharge into the environment through the containment, recycling or removal of contaminated water;
- To conserve soil resources by stripping, stockpiling and managing topsoil;
- To protect soils and groundwater resources through the implementation of measures for spill prevention and clean-up;
- To ensure the legal and appropriate management and disposal of general and hazardous waste, through the implementation of a strategy for the minimisation, recycling, management, temporary storage and removal of waste;
- To minimise the potential for dust emissions;
- To minimise the potential for noise disturbance in surrounding areas;
- To undertake rehabilitation wherever possible during the life of the mine;
- To incorporate final closure objectives in construction and mine planning;
- To develop, implement and manage monitoring systems to ensure good environmental performance in respect of the following: ground, air quality (i.e. dust), noise and biodiversity;
- To reduce potential impacts on the safety of the surrounding properties through strong site access controls and discouragement of informal settlements;
- To support and encourage environmental awareness and responsibility amongst all employees and service providers;
- To provide appropriate environmental education and training for all employees and service providers;
- To prevent pollution and clean up if incidents occur;
- To incorporate the relevant requirements stipulated in this EMP into the exploration programme, design and waste residue disposal;
- To ensure the all the employees and contractors adhere to the relevant management commitments; and
- Ensure compliance to the EMP.

#### 3.1 Action plans to achieve objectives and goals

Action plans to achieve relevant objectives/goals are listed in tabular format together with timeframes for each action. The action plans include the timeframes and frequency for implementing the mitigation measures as well as identifying the responsible party.

**Table 1: Environmental Mitigation Measures and Commitments – field mapping, Geophysical surveys and soil sampling**

Activity	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
Air survey	Noise	<ul style="list-style-type: none"> <li>- Discuss flight plans and schedule with land owners prior to air surveys.</li> <li>- Avoid residences, game and livestock enclosures where possible.</li> </ul>	Prior to air surveys	Project Manager Pilots
Ground survey, mapping and soil sampling	Socio-economic	<ul style="list-style-type: none"> <li>- Honour agreements set out in the site-access contracts</li> <li>- Consult and provide feedback regarding activities on the individual properties</li> <li>- Provide contact details to a designated Mr. Ndala person, who will serve as liaison between landowners and the exploration teams</li> <li>- Land owners to be provided with a list of all people working on site</li> <li>- All staff operating on site will be provided with identification and proof that they are working for the applicant</li> <li>- Ensure gates are closed after entry and exit.</li> </ul>	Duration of mapping and surveying	Project Manager Site supervisor
	Biodiversity	<ul style="list-style-type: none"> <li>- The footprint of the area to be disturbed for surveying/mapping and for providing access to survey sites will be minimised as far as is practically possible.</li> <li>- Mr. Ndala will implement a zero tolerance policy with regards to the killing or collecting of any biodiversity. This applies to people directly employed by Mr. Ndala as well as any contractors working on their behalf.</li> <li>- Employees and contractors will be shown the value of biodiversity and the need to conserve the species and systems that occur within the project area.</li> <li>- No open fires will be permitted on site.</li> <li>- Speed limits will be enforced so as to prevent road kills.</li> <li>- Permits will be required for the removal of protected tree species.</li> </ul>	Duration of mapping and surveying	Project Manager Site supervisor
	Air quality	<ul style="list-style-type: none"> <li>- Vehicle speeds will be limited to 40km/h on access routes to limit dust.</li> </ul>	Duration of mapping and surveying	Project Manager Site supervisor
	Heritage	<ul style="list-style-type: none"> <li>- In the event that archaeological resources are discovered, a chance find emergency procedure will be implemented which includes the following:</li> </ul>	Duration of mapping and	Project Manager Site supervisor

Activity	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
		<ul style="list-style-type: none"> <li>○ All work at the find will be stopped to prevent damage;</li> <li>○ An appropriate heritage specialist will be appointed to assess the find and related impacts; and</li> <li>○ Permitting applications will be made to the necessary authorities, if required.</li> </ul> <ul style="list-style-type: none"> <li>- In the event that any graves are discovered during the exploration activities, these will be avoided and preserved as a first priority. If damage is unavoidable, prior to damaging or destroying any identified graves, permission for the exhumation and relocation of graves must be obtained from the relevant descendants (if known) and the relevant local and provincial authorities.</li> <li>- If any archaeological material or human burials are uncovered during the course of prospecting or exploration activities, then work in the immediate area should be halted, the find would need to be reported to the heritage authorities and may require inspection by an archaeologist.</li> <li>- Buffer zones should be maintained around known significant archaeological, historical or cultural heritage sites as far as possible. Graves and areas with cultural significance are excluded from any development.</li> <li>- A “No-Go-Area” should be put in place where there is evidence of sub-surface archaeological materials, archaeological site, historical, rock paintings, cave/rock shelter or past human dwellings. It can be demarcation by fencing off or avoiding the site completely by not working closely or near the known site. The ‘No-Go Option’ might have a NEUTRAL impact significance.</li> <li>- On-site personnel (s) and contractor crews must be sensitized to exercise and recognize “chance finds heritage” in the course of their work.</li> <li>- During the prospecting and exploration works, it is important to take note and recognize any significant material being unearthed and make the correct judgment on which actions should be taken.</li> <li>- If there is a possibility of encountering or unearthing archaeological materials, then it is better to change the layout design so as to avoid the destruction that can occur.</li> </ul>	surveying	

Activity	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
		<ul style="list-style-type: none"> <li>- Direct damage to archaeological or heritage sites should be avoided as far as possible and, where some damage to significant sites is unavoidable, scientific/historical data should be rescued.</li> <li>- All ground works should be monitored and where any stratigraphic profiles in context with archaeological material are exposed, these should be recorded, photographed and coordinates taken.</li> <li>- The footprint impact of the proposed prospecting and exploration activities should be kept to minimal to limit the possibility of encountering chance finds within the EPL boundaries.</li> <li>- A landscape approach of the site management must consider culture and heritage features in the overall planning of exploration infrastructures within and beyond the licenses' / EPL boundaries.</li> <li>- Subject to the recommendations herein made and the implementation of the mitigation measures, adoption of the project HMP/EMP should be complied with.</li> <li>- An archaeologist, Heritage specialist or a trained Site manager should be on-site to monitor all significant earth moving activities that may be implemented as part of the proposed project activities.</li> <li>- When there is removal of topsoil and subsoil on the site for exploration purposes, the site should be monitored for subsurface archaeological materials by a qualified Archaeologist or Site manager.</li> <li>- Show overall commitment and compliance by adapting "minimalistic or zero damage approach" throughout the exploration activities.</li> <li>- In addition to these recommendations above, there should be controlled movement of the people i.e. a contractor, exploration crews, equipment's, setting up of camps and everyone else involved in the prospecting and exploration activities. This is recommended to limit the proliferation of informal pathways, gully erosion and disturbance to surface and sub-surface artifacts such as stone tools and other buried materials, etc.</li> <li>- There should be controlled movements of heavy loads such as abnormal vehicles and kinds of heavy-duty machineries within the EPL. This means</li> </ul>		

Activity	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
		<p>avoiding chances of crossing paths that may lead to the destruction of on and sub-surface archaeological materials</p> <ul style="list-style-type: none"> <li>- It is essential that cognizance be taken of the larger historical landscape of the area to avoid the destruction of previously undetected heritage sites. Should any previously undetected heritage or archaeological resources be exposed or uncovered during exploration phases of the proposed project, these should immediately be reported to the heritage specialist or heritage authority (National Heritage Council of Namibia).</li> <li>- The Proponent and Contractors should adhere to the provisions of Section 55 of the National Heritage Act in event significant heritage and culture features are discovered in the course of exploration works.</li> <li>- Whoever is going to be in charge of mitigation and monitoring measures should have the authority to stop any exploration or construction activities that is in contravention with the National Heritage Act of 2004 and National Heritage Guidelines as well as the overall project EMP.</li> </ul>		

**Table 2: ENVIRONMENTAL MITIGATION MEASURES AND COMMITMENTS – DRILL/EXCAVATION SITE ESTABLISHMENT**

Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
<ul style="list-style-type: none"> <li>- Access the drill/excavation site using a new access track where necessary</li> <li>- Set-up drilling/excavation machine with drip trays and groundsheets</li> </ul>	Air quality – dust and gaseous emissions	<ul style="list-style-type: none"> <li>- The movement of drilling related vehicles on the unpaved access track will be on a small scale</li> <li>- Vehicle speeds will be limited to 30km/h on site</li> <li>- Vehicles and the drilling rig will be maintained in good working order</li> <li>- Minimise new access route development (routes to be approved by land owners prior to development)</li> </ul>	On-going	Project Manager Site supervisor
<ul style="list-style-type: none"> <li>- Strip vegetation and</li> </ul>	Noise	<ul style="list-style-type: none"> <li>- Vehicles will travel maximum 30 km/hour near houses/settlements</li> </ul>	Ongoing	Project Manager Site supervisor

Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
<ul style="list-style-type: none"> <li>topsoil (up to 300mm where available)</li> <li>- Temporarily store topsoil adjacent to drill site</li> <li>- Set-up ablution facilities</li> <li>- Set-up fuel and lubricants storage area</li> <li>- Waste management</li> </ul>	Biodiversity	<ul style="list-style-type: none"> <li>- Refer to biodiversity management measures relating to mapping and sampling (Table 1).</li> <li>- Honour agreements set out in the site-access contracts, specifically relating to the areas utilised for game and livestock farming. Special consideration should be given to the sensitive hunting season.</li> <li>- Provide appropriate toilet facilities for the exploration workers on the site or agree with landowner to use certain facilities on the farm.</li> </ul>	Ongoing	Project Manager Site supervisor
	Land use	<ul style="list-style-type: none"> <li>- Access agreements to be prepared and approved prior to drill site establishment.</li> <li>- The footprint of the area to be disturbed will be minimised as far as is practically possible.</li> <li>- Areas used as laydown areas are to be raked and/or ploughed to encourage re-vegetation</li> <li>- Agree on relevant compensation with land-owners where land uses are impacted</li> </ul>	Ongoing	Project Manager Site supervisor
	Heritage	<ul style="list-style-type: none"> <li>- Refer to heritage management measures relating to mapping and sampling (Table 1)</li> </ul>	Ongoing	Project Manager Site supervisor
	Socio-economic	<ul style="list-style-type: none"> <li>- Refer to socio-economic management measures relating to mapping and sampling (Table 1)</li> </ul>	Ongoing	Project Manager Site supervisor

**Table 3: ENVIRONMENTAL MITIGATION MEASURES AND COMMITMENTS – Drilling/Excavation**

Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
<ul style="list-style-type: none"> <li>- Drill borehole</li> <li>- Contain all drilling water in the sump and allow to settle</li> <li>- Log the drill core and</li> </ul>	Contamination of soil/Hydrocarbon spillages	<ul style="list-style-type: none"> <li>- In all areas where there is storage of hazardous substances (i.e. hydrocarbons), there will be containment of spillages on impermeable floors and bunded trays that can contain 110% of the volume of the hazardous substances.</li> <li>- All refuelling and any maintenance of vehicles will take place on impermeable surfaces.</li> <li>- Pollution will be prevented through basic infrastructure design and through</li> </ul>	On-going for all drilling activities	Project Manager Site supervisor

Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
place on core trays - Maintain ablution facilities		maintenance of equipment. - Spill kits will be readily available on site. Employees and/or contractors will be shown to use the spill kits to enable containment and remediation of pollution incidents. - Environmental awareness training of contractor - Mr. Ndala will establish environmental awareness in employees and contractors - A PVC lined sump will be used for collection of oils and silt contained in the drilling water - Any spills will be contained and cleaned up immediately - Non-toxic and biodegradable drilling lubricant will be used		
	Groundwater contamination	- Refer to management measures relating to contamination of soils. - Licenses in terms of the Water Resource Management Act (Act No. 11 of 2013) will be obtained for all drilled holes (not just boreholes). - Provide appropriate toilet facilities for the exploration workers on the site or agree with landowner to use certain facilities on the farm.	On-going for all drilling activities	Project Manager Site supervisor
	Air quality deterioration	- Vehicle speeds will be limited to 40km/h on access routes to limit dust. - The movement of drilling related vehicles on unpaved access track will be on a small scale. - Water sprays can be used around the lay-down area when a drill-site is located near farms.	On-going for all drilling activities	Project Manager Site supervisor
	Noise generation	- Drilling will only be conducted during the day when drill sites are located close to farms. - Drilling plans and schedules will be discussed and agreed upon with land owners prior to initiation. - Vehicles will travel maximum 30 km/hour near houses/settlements.	On-going for all drilling activities	Project Manager Site supervisor
	Land use	- Refer to land use management measures relating to drill site establishment (Table	On-going for all drilling activities	Project Manager Site supervisor
Water abstraction	Groundwater quantity	- Water use licenses in terms of the Water Resource Management Act (Act No. 11 of 2013) will be obtained for all boreholes. - Water levels will be measured prior to abstraction, during abstraction (daily)	On-going for all drilling activities	Project Manager Site supervisor

Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
		<p>and after completion. Levels will be reported to land owners.</p> <ul style="list-style-type: none"> <li>- Should water be reached during drilling the landowners will be informed. Should the landowners wish it; the holes will be cased and left for use by the farmers (liability relating to the boreholes will then be transferred to the landowners).</li> </ul>		

**Table 4: ENVIRONMENTAL MITIGATION MEASURES AND COMMITMENTS – RELEVANT TO ALL EXPLORATION ACTIVITIES**

Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
- All exploration activities	Social – provision of toilet facilities	<ul style="list-style-type: none"> <li>- Provide appropriate toilet facilities for the exploration workers on the site or agree with landowner to use certain facilities on the farm.</li> </ul>	On-going for all exploration activities	Project Manager Site supervisor
	Waste Management	<ul style="list-style-type: none"> <li>- Waste generated will be handled in accordance with the contract signed with the landowner.</li> <li>- Suitable receptacles for waste disposal will be provided at appropriate locations on site. These receptacles will be clearly marked for different waste types.</li> <li>- Employees and contractors will be shown the importance of correct waste disposal as well as waste minimisation and recycling.</li> <li>- Waste will be removed from site and disposed of at a suitable licensed waste disposal facility.</li> <li>- Hazardous waste (including hydrocarbon contaminated material/soil) will be disposed of at a licenced hazardous waste disposal facility.</li> </ul>		Project Manager Site supervisor

**Table 5: ENVIRONMENTAL MITIGATION MEASURES AND COMMITMENTS – Closure and Rehabilitation**

Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
<p>General closure activities:</p> <ul style="list-style-type: none"> <li>- Close drill holes (unless otherwise agreed with</li> </ul>	Groundwater and surface water contamination	<ul style="list-style-type: none"> <li>- In all areas where there is storage of hazardous substances (i.e. hydrocarbons), there will be containment of spillages on impermeable floors and banded trays that can contain 110% of the volume of the hazardous substances.</li> </ul>	Once- Closure of drill site	Project Manager Site supervisor



Activities	Potential Impact	Management and Mitigation Measures	Action Plan	
			Frequency	Responsible Parties
<ul style="list-style-type: none"> <li>farmers)</li> <li>- Remove water from the sump and drip trays</li> <li>- Remove oils and silt from drip trays and store until disposal to permitted hazardous landfill site</li> <li>- Backfill the sump once it has dried out (dome to allow for subsidence) and plug borehole (unless an agreement is in place with landowner for alternative uses)</li> <li>- Move drill core trays, ablation facilities, water bowser, stores and drill rig from the site</li> <li>- Dispose of any general waste to a permitted landfill site</li> <li>- Remove temporary fencing</li> <li>- Rip and plough compacted areas</li> <li>- Replace topsoil over disturbed area</li> <li>- Rehabilitate access track by ripping</li> <li>- GPS marker to identify drill site</li> </ul>		<ul style="list-style-type: none"> <li>- All refuelling and any maintenance of vehicles will take place on impermeable surfaces.</li> <li>- Pollution will be prevented through basic infrastructure design and through maintenance of equipment.</li> <li>- Spill kits will be readily available on site. Employees and/or contractors will be shown how to use the spill kits to enable containment and remediation of pollution incidents.</li> <li>- Any spills will be contained and cleaned up immediately</li> </ul>		
	Noise pollution	<ul style="list-style-type: none"> <li>- Vehicles will travel maximum 30 km/hour near houses/settlements.</li> </ul>	On-going	Project Manager Site supervisor
	Contamination of soils	<ul style="list-style-type: none"> <li>- Refer to management measures relating to contamination of water</li> </ul>	On-going and closure	Project Manager Site supervisor
	Air quality deterioration	<ul style="list-style-type: none"> <li>- Vehicle speeds will be limited to 60km/h on access routes to limit dust.</li> <li>- The movement of drilling related vehicles on unpaved access track will be on a small scale.</li> </ul>	On-going	Project Manager Site supervisor
	Soil erosion	<ul style="list-style-type: none"> <li>- Impacted footprints are to be raked and/or ploughed to encourage re-vegetation</li> <li>- Access routes will be ripped unless the land owners wish for them to remain.</li> <li>- A monitoring program will be implemented to establish re-vegetation progress</li> <li>- Agree on relevant compensation with land-owners where land used for hunting purposes is impacted</li> </ul>	Starts at closure, continues for a pre-determined time (as stated in agreements)	Project Manager Site supervisor
	Waste management	<ul style="list-style-type: none"> <li>- Decommission ablation facilities</li> <li>- Ensure that all waste generated during activities is removed from the site and disposed of appropriately</li> </ul>	Once off	Project Manager Site supervisor
	Land use	<ul style="list-style-type: none"> <li>- Land owners will be invited to carry out site inspections following rehabilitation in order to ensure that it has been carried out suitably.</li> </ul>	Post-closure	Project Manager Site supervisor

