UPDATED ENVIRONMENTAL MANAGEMENT PLAN FOR THE RENEWAL OF AN ENVIRONMENTAL CLEARANCE CERTIFICATE FOR EPL 6781 IN OMAHEKE REGION

APPLICATION NO: 0010399

Prepared By

ECO-WISE ENVIRONMENTAL CONSULTING CC

P.O Box 40168 Ausspannplatz

Windhoek, Namibia

Cell: +264 813 826460

Email: ecowise@protonmail.com

Prepared For

HEADSPRING INVESTMENTS (PTY) LTD

Private Bag 12012, Ausspannplatz, Windhoek, Namibia

DOCUMENT AUTHENTICATION

This updated Environmental Management Plan (EMP) report has been prepared by Eco-Wise Environmental Consulting cc in accordance with the Environmental Management Act No 7 of 2007 (EMA) and its regulations of 2012 which requires environmental assessment on every mining related project. We the undersigned, certify that the particulars in this report are correct and righteous to the best of our knowledge.

CONSULTANT:

ECO-WISE ENVIRONMENTAL CONSULTING CC

P.O Box 40168 Windhoek

Cell: +264 813 826460

Email: ecowise@protonmail.com

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ENVIRONMENTAL AUTHORIZATION INFORMATION

Please note that the environmental clearance certificate should be issued out to the client. All comments and enquiries during the evaluation of this document must be addressed to the Environmental Consultant. Please forward the clearance certificate to the consultant.

ACKNOWLEDGMENT

The old EMP for Exclusive Prospecting License 6781 was developed by Risk-Based Solutions (RBS) CC. Eco-Wise Environmental Consulting cc hereby acknowledge the work done by Risk-Based Solutions (RBS) CC.

EXECUTIVE SUMMARY

Headspring Investments (Pty) Ltd being the Proponent holds mineral rights for Exclusive Prospecting Licence (EPL) 6781 which is located in the Gobabis District, Omaheke Region Eastern Namibia. The Proponent is therefore proposing to renew the Environmental Clearance Certificate (ECC) for this EPL. An Environmental Impact Assessment was previously conducted and an ECC was issued in 2019 hence the clearance is due for renewal. EPL 6781 covers a total area of 97024.7004 Ha and the Proponent is exploring for nuclear fuels. The EPL was granted by Ministry of Mines and Energy in 2018 and it will expire in 2023.

No much work was done in EPL 6781. Exploration drilling was only done for well 9-05 and 9-06 with depths of 305.5meters and 263.69 meters respectively. To note, currently no operations are being conducted on EPL 6781.

Eco-Wise Environmental Consulting cc was therefore appointed by Headspring Investments (Pty) Ltd to conduct the application process for the renewal of the ECC for EPL 6781. The consultant conducted the site visit from 14-16 June 2022. The period the consultant visited the site, the operations had already been stopped hence the assessment which could be made was on how the operations had affected the environment. Assessment on how the project affected the employees could not be assessed as the workers were not available hence this assessment depended on the response of the exploration personnel who were currently on site and also supporting documents provided by the Proponent.

Basing on the field assessment, the exploration activities which were conducted caused insignificant impacts. After drilling, the Proponent would backfill and seal the holes before moving to the next site. Furthermore, access roads were created when necessary. For a detailed description on measures which have been implemented by the Proponent, **see Appendix B Performance Assessment Checklist.**

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ACRONYM

ACRONYM	MEANING
EMP	Environmental Management Plan
EPL	Exclusive Prospecting License
ECO	Environmental Control Officer
ECC	Environmental Clearance Certificate
HSEO	Health Safety and Environmental Officer
LTD	Limited Company
MEFT	Ministry of Environment Forestry and Tourism
MME	Ministry of Mines and Energy
PTY	Proprietary

1. BACKGROUND

1.1. INTRODUCTION

Headspring Investments (Pty) Ltd being the Proponent holds mineral rights under EPL No. 6781. Headspring Investments (Pty) Ltd is therefore proposing to renew the Environmental Clearance Certificate (ECC) for EPL 6781 which is located in the Gobabis District, Omaheke Region Eastern Namibia. EPL 6781 covers a total area of 97024.7004 Ha and the Proponent is exploring for nuclear fuels. Ministry of Mines and Energy granted the EPL on 12/02/2018 and will expire on 11/02/2023. Ministry of Environment Forestry and Tourism also granted the Proponent an ECC in 2019, see attached old ECC in **Appendix A**.

Eco-Wise Environmental Consulting cc was therefore appointed by Headspring Investments (Pty) Ltd to conduct the application for the renewal of the ECC for EPL 6781. Eco-Wise Environmental Consulting cc conducted a site visit on 14-16 June 2022. The consultant was mainly guided by the Environmental Management Act (No. 7 of 2007), Environmental Impact Assessment Regulations (2012) and the previous EMP for EPL 6781.

This Environmental Management Plan (EMP) has been developed to manage possible impacts associated with the exploration phase. The EMP has been developed in terms of the Environmental Management Act No 7 of 2007, EMA regulations of 2012 and other relevant legislations binding to Namibia. According to the Environmental Management Act of 2007 and its regulations of 2012, mineral exploration is an activity which cannot be undertaken without an ECC. The project therefore falls under annexure 3; mining and quarrying activities.

This EMP is a legally binding document as given under the provisions of the Environmental Management Act of 2007. The Proponent and its contractors must therefore adhere to the framework of this document.

1.2. PROJECT LOCATION

EPL 6781 is located in Gobabis District, Omaheke Region Eastern Namibia. The license area covers both privately owned commercial farmland and communal land. In addition, EPL 6781 is located in an area which is not environmental sensitive or withdrawn area (Ministry of Mines and Energy, 2022). **See figure 1**, Location Map and table 1 for coordinates of the EPL.

Table 1: shows coordinates for EPL 6781

EPL	Area (Hectares)	Coordinates				
		Middle	**Corner 1**	**Corner 2**	**Corner 3**	**Corner 4**
6781	97024.7004	23° 4' 33"S 19° 5' 20" E	23° 0' 45"S 18° 47' 45" E	23°0'40"S 19°25'19"E	23° 9'24"S 18°48' 00"E	23° 8' 33"S 19°25'39"E

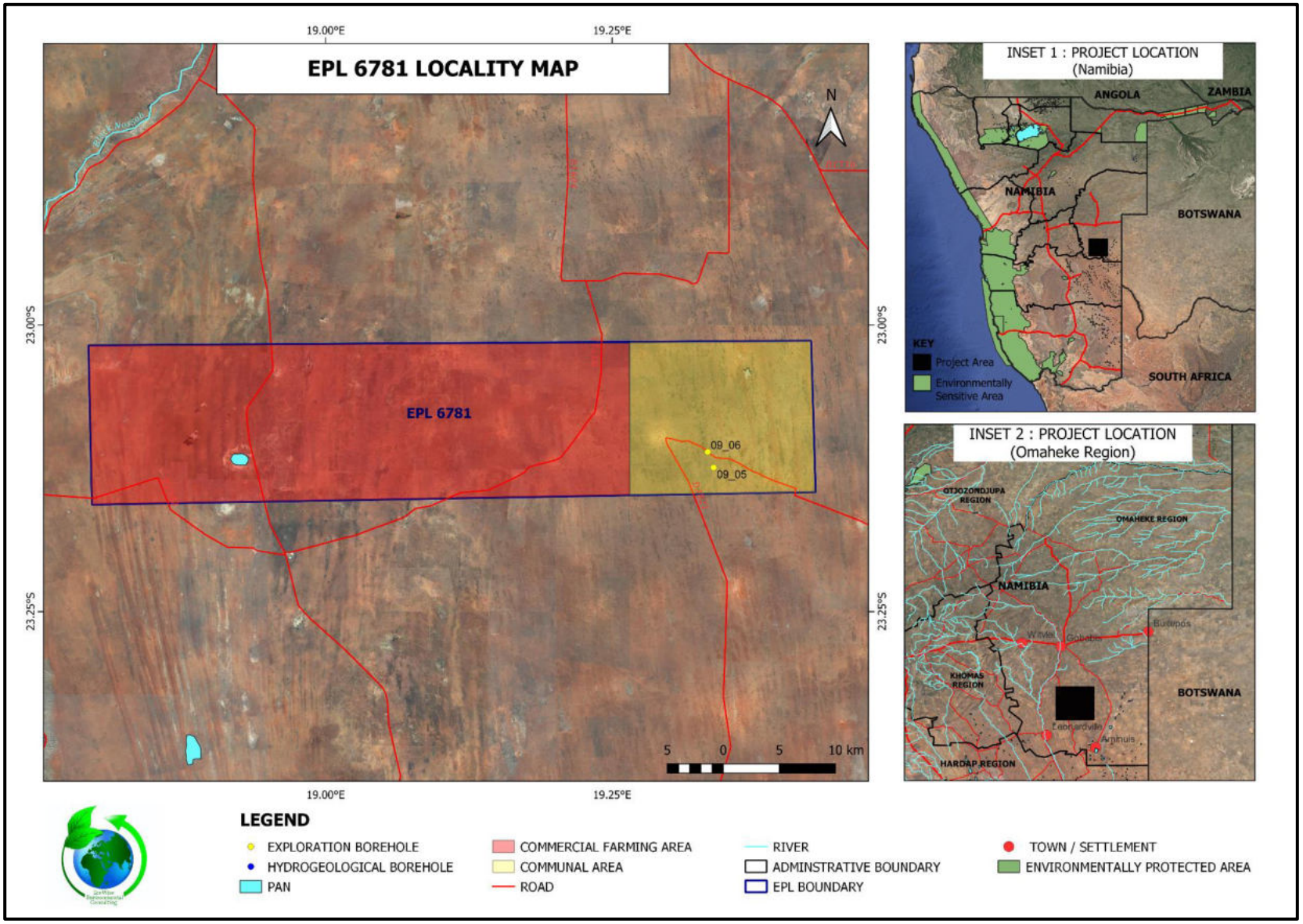

Figure 1: Location Map

1.3 OPERATIONAL ACTIVITIES

The activity which was carried on during the three years of the ECC was exploration drilling only. The drilling was conducted in 2021 and well 9-05 of the depth of 305.5meters and well 9-06 of the depth of 263.69 meters were only drilled.

Table 2: shows exploration wells drilled in 2021

Exploration wells Year: 2021 Profile 9	
Well	**Drilled, meters**
9-05	305.5
9-06	263.69

2. EMP AIMS AND OBJECTIVES

The EMP aims to take a pro-active route by addressing potential problems before they occur. The objectives of the EMP are therefore;

- To outline mitigation measures in order to manage environmental and socio-economic impacts associated with the exploration phase
- Provide a framework for implementing the management actions recommended in the EIA for exploration activities.
- To ensure that the project will comply with relevant environmental legislations of Namibia and other requirements throughout its activities.

3. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

The Proponent will be required to abide to legislations relating to the project. All mineral rights, related to mineral exploration activities in Namibia, are regulated by the Ministry of Mines and Energy whereas the environmental regulations are regulated by the Ministry of Environment Forestry and Tourism. Table 3, indicate the relevant legislations related to the project.

Table 3: shows relevant legislation and policies related to the project

Aspect	Legislation	Relevant Provisions	Application to the Project
Constitution	Namibian Constitution First Amendment Act 34 of 1998	– The constitution promotes the sustainable utilisation of natural resources – According to article 91(c) it provides for duty to guard against ''the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia'' – Article 95 (l) deals with the ''maintenance of ecosystems, essential ecological processes and biological diversity'' and sustainable use of the country's natural resources. – It also promotes general human rights whereby it eliminates discrimination of any kind.	– During exploration phase, sustainable practices should be performed. – The Proponent should ensure that the principles of the constitution are enshrined in the documentation of the project
Environment	Environmental Management Act 7 of 2007 EIA Regulations (2012)	– States that, projects with significant environmental impacts are subject to an environmental assessment process (Section 27). – EIA regulations list all activities, which cannot be undertaken without an ECC. (Activity 3.3 states that resource extraction, manipulation, conservation and related activities require environmental assessment).	– The project falls within the category of listed activities which cannot be undertaken without an Environmental Clearance.
	Minerals (Prospecting and Mining) Act, 1992 (Act 33 1 of 1992)	– Section 2: All rights to minerals vests in the State – Section 48 (3): In order to enable the Minister to consider any application referred to in section 47 the Minister may (b) require the person concerned by notice in writing to (i) carry out or cause to be carried out such environmental impact studies as may be specified in the notice – Section 54 (2): After exploration all accessory works	- The Proponent is in possession of this Exclusive Prospecting License that allows them to conduct prospecting activities and sample taking according to the provisions set in the Act.

		need to be removed from site and waste cleared except where there is an agreement with the land owners – Section 67 (1): The holder of an EPL is allowed to prospect for the minerals stated on the license – Section 130 (1): The prospector is responsible for remediation of any pollution caused by them on their own costs.	
	Nature Conservation Ordinance No. 4 of 1975	- Prohibits disturbance or destruction of protected birds without a permit. - Requires a permit for picking (the definition of "picking" includes damage or destroy) protected plants without a permit	- Indigenous and protected plants should be protected within the areas of works.
Soil	Soil Conservation Act 6 of 1969	- This act covers the prevention and combating of soil erosion; the conservation, improvement and manner of use of the soil and vegetation; and the protection of water sources	- Soil disturbances will be experienced during drilling and also in cases when there are oil/fuel spillages hence the need for the Proponent to observe this act.
Water	Water Act 54 of 1956 Water Resources Management Act 24 of 2004	– Prohibits the pollution of underground and surface water bodies.	– Obligation not to pollute water sources
Health and Safety	Labour Act (No 11 of 2007)	– This act emphasizes and regulates basic terms and conditions of employment, it guarantees prospective health, safety and welfare of employees and protects employees from unfair labour practices.	– The proponent will be obliged to create a safe working environment for the employees.

	Public Health and Environmental Act, 2015	– The act mainly emphasis on proper management of the environment, to prevent negative health impacts. – The act promotes proper waste management.	– Proper waste management should be promoted to prevent nuisance, which can consequently affect public health. – Recycling, reuse and reduce must be practised at all times.
	Hazardous Substance Ordinance, No. 14 of 1974	– The ordinance provides for the control of substances which may cause injury or ill-health or death of human beings because of their toxic, corrosive, irritant, strongly sensitizing or flammable nature.	– The waste generated on site and at the campsite should be suitably categorized / classified and disposed of properly and in accordance with the measures outlined in the Ordinance and Bill.
	Heritage Act, 2004 (Act No. 27 of 2004)	– The Heritage Act of 2004 makes provision for the developer to identify and assess any archaeological and historical sites of significance. The existence of any such sites should be reported to the Monuments Council as soon as possible. The Council may serve notice that prohibits any activities as prescribed within a specified distance of an identified heritage/archaeology site.	– In an event that the Proponent comes across any archaeological or historical sites of significance, they should report immediately to the Monuments Council

4. ENVIRONMENTAL MANAGEMENT PLAN IMPLEMENTATION FRAMEWORK

4.1 ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN ADMINISTRATION AND TRAINING

This Environmental Management Plan (EMP) shall clearly state the roles and responsibilities of all stakeholders to ensure that the EMP is fully implemented. The Proponent shall appoint an overall responsible person (Environmental Control Officer) to ensure the successful implementation of the EMP. The Environmental Control Officer needs to have qualifications and knowledge in environmental management implementation.

4.2 ROLES AND RESPONSIBILITIES

4.2.1 COMPETENT AUTHORITY

The competent authority will be, the Department of Environmental Affairs: Ministry of Environment Forestry and Tourism. They will be responsible for the review and approval of the updated EMP.

4.2.2 PROPONENT

The Proponent (Headspring Investments (Pty) Ltd), has the overall responsibility for all financial and work force provisions, which will facilitate the implementation of this EMP. The Proponent is responsible for the appointment of other personnel responsible for the implementation of this EMP.

4.2.3 EXPLORATION MANAGER (EM)

The Exploration Manager is required to carry out the overall responsibility for the implementation of the EMP and to ensure that all required resources and mechanisms for environmental management are in place. The responsibilities of the Exploration Manager will be:

- Ensure that the Proponent's responsibilities are executed in compliance with the relevant legislation;
- Ensure that all the necessary environmental authorizations and permits have been obtained;
- Assist the exploration contractor/s in finding environmentally responsible solutions to challenges that may arise;
- Should the EM be of the opinion that a serious threat to, or impact on the environment may be caused by the exploration activities, he/she may stop work; the proponent must be informed of the reasons for the stoppage as soon as possible;

- The EM has the authority to issue fines for transgressions of basic conduct rules and/or contravention of the EMP;
- Should the Contractor fail to show adequate consideration for the environmental aspects related to the EMP, the EM can have person(s) and/or equipment removed from the site or work suspended until the matter is remedied.

4.2.4 HEALTH SAFETY AND ENVIRONMENTAL OFFICER (HSEO)

The HSEO is overally responsible of all environmental issues and safety of employees. The Proponent is to appoint a Health, Safety and Environment Officer (HSEO) with the following responsibilities with respect to the EMP implementation:

- Responsible of all environmental issues and safety of employees;
- Assist the EM in ensuring that the necessary environmental authorizations and permits have been obtained;
- Assist the EM and Contractor/s in finding environmentally responsible solutions to challenges that may arise;
- Carry out regular site inspections of all exploration areas with regards to compliance with the EMP; report any non-compliance(s) to the EM as soon as possible;
- Organize for an independent internal audit on the implementation of and compliance to the EMP to be carried out half way through each field-based exploration activity; audit reports to be submitted to the EM;
- Continuously review the EMP and recommend additions and/or changes to the EMP document;
- Monitor the Contractor's environmental awareness training for all new personnel coming on site; Keep records of all activities related to environmental control and monitoring; the latter to include a photographic record of the exploration activities, rehabilitation process and a register of all major incidents;
- Attend regular site meetings;
- The HSEO should record and report all incidents on site.

4.2.5 ENVIRONMENTAL CONTROL OFFICER (ECO)

- Required to take independent responsibility of the implementation of this EMP. ECO is contracted to conduct periodic auditing of the sites, compilation of bi-annual and annual reports to be submitted to MEFT: DEA for renewal of the environmental clearance certificate.

4.2.6 CONTRACTORS AND SUBCONTRACTORS

All contractors, subcontractors and service providers are ultimately responsible for:

- Complying with the relevant legislation and EMP provisions;

- Provide Environmental; Method Statements to the Exploration Manager with regards to how certain activities on-site will be conducted;
- Adhering to environmental instructions issued by the EM;
- Arrange that all the contractor's employees receive training. Trainings have to be appropriate for the level of the tasks and functions undertaken.

The Environmental Method Statement referred to above will cover applicable details with regard to:

- Equipment to be used;
- Getting the equipment to and from site;
- How the equipment will be moved while on-site;
- How and where material will be stored;
- The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur;
- Identified potential impacts of the activity and mitigation measures thereof;
- Compliance/non-compliance with the Environmental Specifications; and
- Any other information deemed necessary by the EM.

4.2.7 EMPLOYEES

- Required to follow instructions as directed by the EM. Report any potential environmental issues to the EM, HSEO or supervisor at site.

5. ENVIRONMENTAL MANAGEMENT PLAN

The following tables form the core of this EMP for the exploration phase. The Proponent should continue to implement the proposed mitigation measures during the exploration phase. If the need arises, the Proponent can add additional measures to the EMP as the aim is to protect the environment. The below information shown in the tables, should be used as a checklist on site.

5.1 MANAGEMENT OF NEGATIVE IMPACTS ASSOCIATED WITH EXPLORATION PHASE:

1. Impact on landscape

Impact	Description	Mitigation Measures	Project Phase	Responsibility
Landscape	The scenery view of the site might be affected by clearing vegetation to pave way for the following activities: - Establishment of exploration camps - Exploration drilling - Hydrogeological drilling - Clearing for access roads	▪ Removed rocks and soil should be replaced back and levelling of the area done so as to try to restore the area to its natural state ▪ Do not cut down vegetation unnecessary around the site ▪ Maximise on using existing roads and minimise on creating new access roads, no off-road that could result in land scarring is allowed ▪ Minimise the presence of secondary structures: remove inoperative support structures ▪ Remove all infrastructure and reclaim, or rehabilitate the project site after exploration activities are completed.	Exploration Phase	▪ Proponent ▪ Exploration Manager ▪ HSEO ▪ Contractor & Subcontractors ▪ Appointed Environmental Control Officer

2. Impact on fauna

Impact	Description	Mitigation Measures	Project Phase	Responsibility
Fauna	Noise generated from the following exploration activities might disturb animals: -Drilling activities -Movement of vehicles -Walking and talking In addition, wild animals might also be at risk if exploration personnel practice poaching or smoking at the site. Smoking might result in fires.	▪ Poaching of wildlife and indiscriminate killing of perceived dangerous species (e.g., snakes, etc.) shall not be allowed. ▪ A drilling interval should be established, used and adhered to ▪ Working hours should be limited to minimum of 8 hours per day ▪ Noise should be addressed and mitigated at an early stage. ▪ Proper and timely maintenance of machineries and vehicles to prevent noise. ▪ Avoid driving randomly rather stick to permanently placed roads/tracks. This would minimise the effect on localised potentially sensitive habitats in the area; ▪ Stick to speed limits of maximum 30km/h as this would result in fewer faunal road mortalities. ▪ Avoid disturbance of habitat areas such as big trees, boulders, rocky outcrops as these areas serve as habitat for a myriad of fauna ▪ Prevent and discourage fires as this results in loss of grazing & fauna mortalities ▪ No foodstuff should be left lying around as this will attract animals which might result in human-animal conflict.	Exploration Phase	▪ Proponent ▪ Exploration Manager ▪ HSEO ▪ Contractor & subcontractors ▪ Environmental Control Officer

3.Vegetation Loss

Impact	Description	Mitigation Measures	Project Phase	Responsibility
Vegetation Loss	Clearing of vegetation will be done to pave way for the following activities: -Exploration drilling -Hydrogeological drilling -Exploration camps -Access roads However, no massive clearing shall be done. Existing roads shall be used and new roads shall only be created when there is need. In cases that vegetation is removed this will cause habitat destruction for both ground dwelling species and tree dwelling species. The ecosystem food chain on and around the area will also be broken. The Proponent should continue to safeguard the flora of the area so as to prevent habitat destruction for both ground and tree habitants.	▪ Protected plant species shall not be removed ▪ Massive clearing shall not be allowed ▪ All the major trees will be preserved and the activities will fit into the environment without affecting the trees. ▪ Exploration personnel shall not be allowed to cut trees for firewood ▪ Environmental considerations will be adhered to at all times before clearing roads, drilling and establishing exploration camps ▪ Prevent and discourage fires as this affect the grazing land and also the flora	Exploration Phase	▪ Proponent ▪ Exploration Manager ▪ HSEO ▪ Contractor & subcontractors ▪ Environmental Control Officer

4.Impact of waste

Impact	Description	Mitigation Measures	Project Phase	Responsibility
Impact of waste	Waste generated might either be general or hazardous waste. General waste includes papers, food leftovers etc while hazardous waste includes oil leaks and spills.	▪ Burial of waste within the EPL area shall not be allowed, all generated waste must be disposed at an approved municipal waste disposal site ▪ Strictly, no burning of waste on the site shall be allowed as it possess environmental and public health impacts ▪ Minimize solid waste generated on site (reduce, reuse, or recycle) ▪ Excavation waste should be re-used or backfilled. ▪ Portable toilets and ablution facilities must be provided on site and should not be located close to Ephemeral Rivers or visible discontinuities (fractures, joints or faults); ▪ Provide waste disposal bins and never dispose of hazardous waste in the bins intended for general waste ▪ No littering shall be allowed ▪ **Hazardous Waste** ▪ Machinery should be well maintained to prevent oil leaks. ▪ Contractor should only be allowed to store oil/fuel	Exploration Phase	▪ Proponent ▪ Exploration Manager ▪ HSEO ▪ Contractor & subcontractor ▪ Environmental Control Officer

		on site provided the site store has containment to prevent oil/fuel permeating into the soil in cases of spillages. ▪ Contaminated wastes in the form of soil, litter and other material must be disposed off at an appropriate disposal site. ▪ Servicing of machinery or vehicles on site shall not be allowed ▪ Use drip trays to capture oil drips and spills from machinery or vehicles		

5. Impact on surface and groundwater

Impact	Description	Mitigation Measures	Project Phase	Responsibility
Surface and groundwater	Within the EPL, there is a pan. Nossob River is also approximately 7.4km from the nearest boundary of the EPL. Possible sources which might pollute groundwater include; oil and fuel leakages from vehicles and drilling machines thus if spillages happen in large volumes or frequently. Drilling activities might interact with the water table hence the need for hydrogeological wells to monitor for any contamination.	▪ Installation of hydrogeological wells to monitor groundwater ▪ Conduct water sampling tests to use as a benchmark. ▪ Water sampling tests to be conducted after all activities interacting with underground or surface water sources. For transparency seek, affected landowners / farmers must be given full access to the water test results ▪ Drill water source should be from either, treated water from a mains supply, clean/treated surface waters or groundwater of a satisfactory quality ▪ Use appropriate additives in broken or fractured bedrock to prevent ingress into the aquifer ▪ Ensure additives are non-hazardous, non – toxic and biodegradable. ▪ Proper storage of fuel ▪ Proper disposal of contaminated waste ▪ Use of drip trays	Exploration Phase	▪ Proponent ▪ Exploration Manager ▪ HSEO ▪ Contractor & subcontractor ▪ Environmental Control Officer

6. Air quality

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Air quality	Sources of air quality pollution will be; - Dust from vehicles and drilling machinery. - Emissions from vehicles and drill rigs. People at risk are likely to be exploration personnel working on the immediate surrounding. Accumulation of dust might lead to respiratory problems.	▪ Soil watering when soil works are being executed and where dust is emitted ▪ Control speed and operation of exploration vehicles. ▪ Prohibit idling of vehicles. ▪ Workers should be provided with dust masks if working in sensitive areas. ▪ Regular monitoring to ensure safe operation.	Exploration Phase	▪ Proponent ▪ Exploration Manager ▪ HSEO ▪ Contractor & subcontractor ▪ Environmental Control Officer

7. Impact on soil

Impact	Description	Mitigation Measures	Project Phase	Responsibility
Soil	Soil will be disturbed during drilling and also it might be affected by oil or fuel leakages from machines and vehicles. However, comparing with trenching, drilling does not cause significate impact on the soil.	▪ After completion of exploration activities removed soil layers must be replaced and levelling must be done so that the original condition is restored. ▪ Proper care should be taken so that there is no spill that would cause soil contamination ▪ If any hazardous waste is produced it should be properly handled and sent for disposal to appropriate disposal areas	Exploration Phase	▪ Proponent ▪ Exploration Manager ▪ HSEO ▪ Contractor & subcontractor ▪ Environmental Control Officer

8. Noise

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Noise	Noise might be generated from: - Drilling activities -Frequent movement of vehicles The Proponent should continue to safeguard against noise as excessive noise can affect exploration personnel and animals. High noise levels can inhibit worker communication; reduce productivity and increase the chances of accidents. Prolonged exposure to excessive noise can result in permanent hearing loss and health problems such as sleep disturbance. However, farm owners are unlikely to be affected given that the exploration activities are conducted far from the farm houses.	▪ A drilling interval will be established, used and adhered to ▪ Working hours should be limited to minimum of 8 hours per day ▪ Noise should be addressed and mitigated at an early stage ▪ Proper and timely maintenance of machineries and vehicles ▪ Employees to be equipped with ear protection equipment ▪ Limit vehicle movements and adhere to speed limits ▪ National or international acoustic design standards must be followed.	Exploration Phase	▪ Proponent ▪ Exploration Manager ▪ HSEO ▪ Contractor & subcontractor ▪ Environmental Control Officer

5.2 MANAGEMENT OF SOCIO-ECONOMIC IMPACTS ASSOCIATED WITH EXPLORATION PHASE

1. Occupational Health and Safety

Impact	Description	Mitigation Measures	Project Phase	Responsibility
OHS	Noise, dust, occupational stress, working in hot environments, bushfires, ionising radiation and remoteness of exploration area are some of the occupational hazards associated with the exploration phase. To note, currently the exploration personnel are mainly exposed to natural radiation of the area. Measures in place include use of radiometers to measure the intensity of the natural radiation levels inorder to determine whether it is safe to work within the area.	▪ Conduct Hazard identification and risk assessments ▪ Comply with all Health and Safety standards specified in the Labour Act. ▪ Provide all staff on site with relevant and adequate protective clothing and equipment (helmets, gloves, respirators, work suits, earplugs, goggles and safety shoes where applicable). ▪ Use of dust suppression measures ▪ Reduce noise exposure by isolating noisy equipment and rotate tasks ▪ Provision of First Aid at the site ▪ Provisions of immediate accident/incident reporting and investigation. ▪ Safety Posters and slogans should be exhibited at conspicuous places. ▪ Employer should allocate time for employees to visit their families ▪ No person under the influence of alcohol or drugs is allowed to work on site ▪ Train workers on personal safety and disaster preparedness. ▪ Continuous and vigilant monitoring of the radiation levels	Exploration Phase	▪ Proponent ▪ Exploration Manager ▪ HSEO ▪ Contractor & subcontractor ▪ Environmental Control Officer

2. Damage to roads

Impact	Description	Mitigation Measures	Project Phase	Responsibility
Damage to roads	Frequent movement of vehicles and machinery have the possibility of degrading the existing roads.	▪ Do not drive randomly throughout the area ▪ Where access roads have to be established, the routes should be selected causing minimal damage to the environment – e.g. use the same tracks; cross drainage lines at right angles; avoid placing tracks within drainage lines; avoid collateral damage (i.e. select routes that do not require the unnecessary removal of trees/shrubs, especially protected species) ▪ No drilling equipment allowed on farms during the rainy season ▪ Leave vehicles on tracks and walk to point of interest, when possible ▪ Rehabilitate new tracks created.	Exploration Phase	▪ Proponent ▪ Exploration Manager ▪ HSEO ▪ Contractor & subcontractor ▪ Environmental Control Officer

3. Impacts associated with camping of exploration staff

Impact	Description	Mitigation Measures	Project Phase	Responsibility
Impacts associated with camping of exploration staff	Establishment of camps and associated camping results in effects such as clearing of vegetation and in some cases poor housekeeping and fires.	▪ Select camp sites and other temporary lay over sites with care – i.e. avoid important habitats (e.g. raptor breeding sites) ▪ No visitors allowed ▪ Ablution facilities to be provided in the form of portable toilets ▪ Good housekeeping ▪ No poaching or collecting of unique plants (e.g., various Aloe and Lithop) ▪ Smoking and drinking alcohol shall not be allowed on sit ▪ Remove and relocate slow moving vertebrate fauna to suitable habitat elsewhere on property ▪ Avoid the removal and/or damaging of protected flora and big trees ▪ Ensure that adequate firefighting equipment is available at camp sites and clear kitchen areas to avoid accidental fires ▪ Exploration personnel should aim to protect the environment	Exploration Phase	▪ Proponent ▪ Exploration Manager ▪ HSEO ▪ Contractor & subcontractor ▪ Environmental Control Officer

4. Heritage impact

Impact	Description	Mitigation Measures	Project Phase	Responsibility
Heritage impact	At the site, there are no known heritage areas or artefacts deemed to be impacted by the exploration activities.	▪ All works are to be immediately ceased should an archaeological or heritage resource be discovered. ▪ The National Heritage Council of Namibia (NHCN) should advise with regards to the removal, packaging and transfer of the potential resource.	Exploration Phase	▪ Proponent ▪ Exploration Manager ▪ HSEO

5. Risk and spread of HIV/AIDS

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
HIV/AIDS	Even though a few people are employed at this stage (exploration), the disease might still spread hence the need for continuous sensitisation.	▪ Employer should allocate time for employees to visit their families. ▪ Free distribution of condoms	Exploration Phase	▪ Proponent ▪ Exploration Manager ▪ HSEO ▪ Contractor & subcontractor

6. Population Influx

Impacts	Description	Mitigation Measures	Project Phase	Responsibility
Population Influx	Headspring Investments (Pty) Ltd has its exploration personnel and it also contracts local companies for drilling and other activities associated with exploration. This has an effect of increasing the number of people in the area.	▪ Local employment should be a priority so as to reduce the number of outsiders ▪ Contractors should submit a code of conduct and disciplinary actions should be in accordance with Namibian legislation ▪ An access agreement to be signed prior to exploration ▪ No gates to be left open or fences damaged ▪ An identification document with all exploration staff to be supplied to farm owners prior to exploration ▪ All staff to carry identification badges	Exploration Phase	▪ Proponent ▪ Exploration Manager ▪ HSEO ▪ Contractor & subcontractor

5.3 POSITIVE IMPACTS ASSOCIATED WITH THE PROJECT

1. Employment creation

Impact	Description	Enhancement Required	Project Phase	Responsibility
Employment creation	Currently the Proponent employed the exploration personnel which include; the exploration manager, mine manger, geologist etc. The Proponent also contracted local companies to carry out drilling activities. In addition, locals are also benefiting as they are being employed on non- skilled jobs.	▪ Employ locals in all casual labour and ensure gender equality. ▪ Equity, transparency, to be put into account when hiring and recruiting	Exploration Phase	▪ Proponent

2. Social responsibility

Impact	Description	Enhancement Required	Project Phase	Responsibility
Social responsibility	Headspring Investments (Pty) Ltd participates in community development programmes.	▪ Continue promoting community development programmes	Exploration Phase	▪ Proponent

3. Generation of Revenue

Impact	Description	Enhancement Required	Project Phase	Responsibility
Generation of Revenue	Headspring Investments (Pty) Ltd pays tax hence generating revenue.	The Proponent, Contractors and subcontractors to pay taxes as stipulated by the law of Namibia.	Exploration Phase	▪ Proponent ▪ Contractor & subcontractor

5.4 MANAGEMENT OF IMPACTS AT POST-EXPLORATION PHASE

Impact	Description	Mitigation Measures	Project Phase	Responsibility
Post-exploration stage	The stage of exploration is expected to have minimum damage to the environment as compared to mining. However, the major issue which need to be looked after the phase of exploration is how the project has impacted the environment. To note, current measure already in place include backfilling and sealing the exploration wells thus after exploration of the site. The exploration team will only move to the next site after rehabilitating the area they have been working on. A general consensus is made between the landowner and Proponent if the land has been rehabilitated well.	▪ All holes or pits shall be backfilled or contoured to a stable angle of repose. ▪ Remove all exploration temporary structures on site and ensure the area is left clean ▪ Water sampling results for the exploration phase should be available and an analysis should be done to check if groundwater was impacted ▪ Rehabilitate any area disturbed by the exploration activities	Post-exploration Phase	▪ Proponent

6. ENVIRONMENTAL MONITORING

A monitoring programme will be in place to ensure conformance with the EMP. The Environmental Control Officer will ensure compliance with the EMP, and carry out monitoring/auditing activities. The Environmental Control Officer must have the appropriate experience and qualifications to undertake the necessary tasks. The Environmental Control Officer will report to the Proponent should any non-compliance be evident or corrective action necessary. The suggested monitoring details are outlined in table 7 below.

Table 4: monitoring of identified impacts

IMPACTS	RECEPTORS	TYPE OF MONITORING	PERIOD/TIME
Alternation of existing landscape	Environment	▪ Inspections	▪ During and after drilling
Dust	Employees	▪ Regular site inspections	▪ Daily
Impact on fauna	Environment	▪ Inspections	▪ Period of drilling
Surface & groundwater Pollution	Environment	▪ Hydrogeological tests	▪ During and after activities that interact with underground and surface water bodies
Noise	Employees & Fauna	▪ Noise monitoring	▪ Daily
Vegetation loss	Environment	▪ Inspection of protected plant species and big trees and incorporate them into the development	▪ Period of establishing exploration camps ▪ Period of drilling ▪ Period of creating access roads.
Heritage	Land	▪ Inspection	▪ Period of exploration
O.H. S	Employees	▪ Site inspection ▪ Conducting Hazard and Risk Assessments	▪ Daily
Impact on soil	Environment.	▪ Site inspections	▪ Period of exploration
Generation of waste (solid)	Land	▪ Site inspection on housekeeping ▪ Regular collection of waste	▪ Daily ▪ Weekly
HIV/AIDS	Employees	▪ Free testing	▪ Annually

7. CONCLUSION

In conclusion, given that the Proponent implement the proposed mitigation measures, the consultant recommends the issuance of the Environmental Clearance Certificate. The Environmental Management Plan should be used as an on-site reference document during the exploration phase and monitoring should take place in order to determine compliance with the EMP. Parties responsible for transgression of the EMP should be held responsible for any rehabilitation that may need to be undertaken.

7.1 RECOMMENDATIONS

The following recommendations have been brought forward:

- Environmental monitoring by an independent environmental consultancy must be carried out during the exploration phase to monitor environmental compliance. Bi-annual and annual reports should be written and submitted to MEFT. These monitoring reports should accompany the application for renewal of the environmental clearance certificate after 3 years

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Appendix A:

(Old ECC & EMP)

REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT AND TOURISM

Tel: (00 26461) 284 2111
Fax: (00 26461) 232 057

E-mail: simon.hangula@met.gov.na

Enquiries: Mr. Simon Hangula

Cnr Robert Mugabe &
Dr Kenneth Kaunda Street
Private Bag 13306
Windhoek
Namibia

26 April 2019

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

The Manager
Headspring Investments (Pty) Ltd
P O Box 318
Windhoek

Dear Sir/Madam

SUBJECT: ENVIRONMENTAL CLEARANCE CERTIFICATE FOR THE PROPOSED MINERALS EXPLORATION ACTIVITIES WITHIN EXCLUSIVE PROSPECTING LICENSES (EPL) NO. 6781, IN GOBABIS DISTRICT OMAHEKE REGION

The Environmental Scoping report and Environmental Management Plan submitted are sufficient as these have made an adequate provision of the environmental management for the proposed activities. From this perspective, regular environmental monitoring and evaluations on environmental performance should be conducted. Targets for improvements should be established and monitored throughout this process.

This Ministry reserves the right to attach further legislative and regulatory conditions during the operational phase of the project.

On the basis of the above, this letter serves as an environmental clearance certificate for the project to commence. However, this clearance letter does not in any way hold the Ministry of Environment and Tourism accountable for misleading information, nor any adverse effects that may arise from this project's activities. Instead, full accountability rests with Headspring Investments (Pty) Ltd and their consultants.

This environmental clearance is valid for a period of (three) 3 years, from the date of issue unless withdrawn by this office.

MINISTRY OF ENVIRONMENT AND TOURISM
P/Bag 13306
Windhoek, Namibia
2019 -05- 14
Office of the Environmental Commissioner

Yours sincerely,

Fredrick Mupoti Sikabongo
DEPUTY ENVIRONMENTAL COMMISSIONER

"Stop the poaching of our rhinos"

All official correspondence must be addressed to the Permanent Secretary

6. THE EMP

6.1 Summary of the EMP Objectives

The Environmental Management Plan (EMP) provides a detailed plan of action required in the implementation of the mitigation measures for minimising and maximising the identified negative and positive impacts respectively. The EMP gives commitments including financial and human resources provisions for effective management of the likely environmental liabilities during and after the exploration. Regular assessments and evaluation of the environmental liabilities during the exploration will need to be undertaken and will ensure adequate provision of the necessary resources towards good environmental management at various stages of the project development.

6.2 Implementation of the EMP

6.2.1 Roles and Responsibilities

Management of the environmental elements that may be affected by the different activities of the proposed / ongoing exploration is an important element of the proposed / ongoing exploration activities. The EMP also identifies the activity groups / environmental elements, the aspects / targets, the indicators, the schedule for implementation and who should be responsible for the management to prevent major impacts that the different exploration activities may have on the receiving environment (physical and biological environments).

6.2.2 Proponent's Representative (PR) / Project Manager (PM)

The proponent is to appoint a **Proponent's Representative (PR)** / **Project Manager (PM)** with the following responsibilities with respect to the EMP implementation:

- Act as the site project manager and implementing agent;
- Ensure that the proponent's responsibilities are executed in compliance with the relevant legislation;
- Ensure that all the necessary environmental authorizations and permits have been obtained;
- Assist the exploration contractor/s in finding environmentally responsible solutions to challenges that may arise;
- Should the PR be of the opinion that a serious threat to, or impact on the environment may be caused by the exploration activities, he/she may stop work; the proponent must be informed of the reasons for the stoppage as soon as possible;
- The PR has the authority to issue fines for transgressions of basic conduct rules and/or contravention of the EMP;
- Should the Contractor or his/her employees fail to show adequate consideration for the environmental aspects related to the EMP, the PR can have person(s) and/or equipment removed from the site or work suspended until the matter is remedied;

- ❖ Maintain open and direct lines of communication between the landowners and proponent, as well as any other identified Interested and Affected Parties (I&APs) with regards to environmental matters; and

- ❖ Attend regular site meetings and inspections as may be required for the proposed / ongoing exploration programme.

6.2.3 Project Health, Safety and Environment (Project HSE)

The proponent is to appoint a Project Health, Safety and Environment (Project HSE) with the following responsibilities with respect to the EMP implementation:

- ❖ Assist the PR in ensuring that the necessary environmental authorizations and permits have been obtained;

- ❖ Assist the PR and Contractor in finding environmentally responsible solutions to challenges that may arise;

- ❖ Conduct environmental monitoring as per EMP requirements;

- ❖ Carry out regular site inspections (on average once per week) of all exploration areas with regards to compliance with the EMP; report any non-compliance(s) to the PR as soon as possible;

- ❖ Organize for an independent internal audit on the implementation of and compliance to the EMP to be carried out half way through each field-based exploration activity; audit reports to be submitted to the PR;

- ❖ Continuously review the EMP and recommend additions and/or changes to the EMP document;

- ❖ Monitor the Contractor's environmental awareness training for all new personnel coming onto site;

- ❖ Keep records of all activities related to environmental control and monitoring; the latter to include a photographic records of the exploration activities, rehabilitation process, and a register of all major incidents; and

- ❖ Attend regular site meetings.

6.2.4 Contractors and Subcontractors

The responsibilities of the **Contractors and Subcontractors** that may be appointed by the proponent to undertake certain field-based activities of the proposed / ongoing exploration programme include:

- ❖ Comply with the relevant legislation and the EMP provision;

- ❖ Preparation and submission to the proponent through the Project HSE of the following Management Plans:

- Environmental Awareness Training and Inductions;
- Emergency Preparedness and Response;
- Waste Management; and;
- Health and Safety.

❖ Ensure adequate environmental awareness training for senior site personnel;

❖ Environmental awareness presentations (inductions) to be given to all site personnel prior to work commencement; the Project HSE is to provide the course content and the following topics, at least but not limited to, should be covered:

- The importance of complying with the EMP provisions;
- Roles and Responsibilities, including emergency preparedness;
- Basic Rules of Conduct (Do's and Don'ts);
- EMP: aspects, impacts and mitigation;
- Fines for Failure to Adhere to the EMP;
- Health and Safety Requirements.

❖ Record keeping of all environmental awareness training and induction presentations; and

❖ Attend regular site meetings and environmental inspections.

6.3 Specific Mitigation Measures

6.3.1 Hierarchy of Mitigation Measures Implementation

A hierarchy of methods for mitigating significant adverse effects has been adopted in order of preference and as follows:

(i) Enhancement, e.g. provision of new habitats;

(ii) Avoidance, e.g. sensitive design to avoid effects on ecological receptors;

(iii) Reduction, e.g. limitation of effects on receptors through design changes; and

(iv) Compensation, e.g. community benefits.

6.3.2 General Mitigation Measures Implementation

The Environmental Management Plan (EMP) provides a detailed plan of action required in the implementation of the mitigation measures for minimising and maximising the identified negative and positive impacts respectively. The EMP also provides the management actions

with roles and responsibilities requirements for implementation of environmental management strategies by the proponent through the Contractors and Subcontractors who will be undertaking the exploration activities. The EMP gives commitments including financial and human resources provisions for effective management of the likely environmental liabilities during and after the implementation of the proposed / ongoing exploration programme.

Based on the findings of the Scoping work, Table 6.1 – 6.18 provides the detailed specific mitigations measures to be implemented by the proponent with respect to the proposed / ongoing exploration programme activities and in particular for the field-based exploration activities. The following is the summary of the key general mitigation measures provided in Tables 61-6.18:

1. Protect the pans habitats through effective project planning and implementation;
2. Implementation of the EMP;
3. Public and stakeholders relations;
4. Measures to enhance positive socioeconomic impacts;
5. Environmental awareness briefing and training;
6. Erection of supporting exploration infrastructure;
7. Use of existing access roads, tracks and general vehicle movements;
8. Mitigation measures for preventing flora destruction;
9. Mitigation measures for preventing faunal destruction;
10. Mitigation measures to be implemented with respect to the exploration camps and exploration sites;
11. Mitigation measures for surface and groundwater protection as well as general water usage;
12. Mitigation measures to minimise negative socioeconomic impacts;
13. Mitigation measures to minimise health and safety impacts;
14. Mitigation measures to minimise visual impacts;
15. Mitigation measures to minimise vibration, noise and air quality;
16. Mitigation measures for waste (solid and liquid) management;
17. Rehabilitation plan, and;
18. Environmental data collection.

Table 6.1: Project planning and implementation.

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
Protect the pans habitats and establish a strong environmental awareness protocol from project implementation to final closure in order to ensure the least possible impact to the environment.	1. Resources (Human and Financial) are provided for the Environmental Awareness and Training, Regular Safety, Health and Environment meetings and for internal and external Environmental Monitoring Costs as well as for any rehabilitation costs that may arise. 2. Appointment of a senior and experienced persons as Proponent's Representative (PR), Project Manager (PM) and Project HSE to assume responsibility for environmental issues. 3. All individuals including sub-contractors who work on, or visit, the sites are aware of the contents of the Environmental Policy and the EMP. 4. The EMP and Environmental Policy will be included in Tender Documents. 5. Field visit will take place during which main access tracks will be discussed in cooperation with the land owner/s 6. Limit damage to the various ephemeral pans throughout the area – i.e. access routes onto pans should be limited to prospecting areas only; 7. Limit exploration activities to the dry season only as heavy vehicles would leave more scars on wet soils requiring more rehabilitation; 8. Rehabilitate all damage to the pans affected by the exploration activities.	1. Regional reconnaissance field-based mapping and sampling activities; 2. Initial local field-based mapping and sampling activities; 3. Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; 4. Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.2: Implementation of the EMP.

OBJECTIVES	INDICATOR	SCHEDULE	RESPONSIBILITY
1. Define roles and responsibilities in terms of the EMP. To make all personnel, contractors and subcontractors aware of these roles and responsibilities to ensure compliance with the EMP provisions. 2. Implement environmental management that is preventative and proactive. 3. Establish the resources, skills, etc. required for effective environmental management.	1. Senior staff and senior contractors are aware of, and practice the EMP requirements. These persons shall be expected to know and understand the objectives of the EMP and will, by example, encourage suitable environmentally friendly behaviour to be adopted during the exploration 2. Recognition will be given to appropriate environmentally acceptable behaviour. 3. Inappropriate behaviour will be corrected. An explanation to why the behaviour is unacceptable must be given, and, if necessary, the person will be disciplined. e.g. fees set out for non-compliance	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.3: Public and stakeholders relations.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
Maintain sound relationships with the Other land users/ land owner/s and other stakeholders / public	1. No littering or any other activity prohibited 2. Permission to utilise water as well as all applicable permits are obtained.	1. Regional reconnaissance field-based mapping and sampling activities; 2. Initial local field-based mapping and sampling activities; 3. Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; 4. Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.4: Measures to enhance positive socioeconomic impacts.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
Measures to enhance positive socioeconomic impacts in order to: 1. Avoid exacerbating the influx of unemployed people to the area. 2. Develop a standardised recruitment method for sub-contractor and field workers.	1. Stipulate a preference for local contractors in its tender policy. Preference to local contractors should still be based on competitive business principles and salaries and payment to local service providers should still be competitive; 2. Develop a database of local businesses that qualify as potential service providers and invite them to the tender process; 3. Scrutinise tender proposals to ensure that minimum wages were included in the costing; 4. Stipulate that local residents should be employed for temporary unskilled/skilled and where possible in permanent unskilled/skilled positions as they would reinvest in the local economy; 5. Must ensure that potential employees are from the area, they need submit proof of having lived in the area for a minimum of 5 years; 6. Must ensure that contractors adhere to Namibian Affirmative Action, Labour and Social Security, Health and Safety laws. This could be accomplished with a contractual requirement stipulating that monthly proof should be submitted indicating payment of minimum wages to workers, against their ID numbers, payment of social security and submission of affirmative action data; 7. Encouraged to cater for the needs of employees to increase the spending of wages locally.	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.5: Environmental awareness briefing and training.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
Implement environmental awareness briefing / training for individuals who visit, or work, on site.	1. Every senior/supervisory member of the team shall familiarise themselves with the contents of the EMP. They shall understand their roles and responsibilities with regard to personnel and project compliance with the EMP. 2. Subject to agreement of the parties, the Environmental Coordinator will hold an Environmental Awareness Briefing meeting, which shall be attended by all contractors before the start of the mineral exploration activities. 3. Briefings on the EMP and Environmental Policy shall discuss the potential dangers to the environment of the following activities: public relations, littering, off-road driving, waste management, poaching and plant theft etc. The need to preserve soil, conserve water and implement water saving measures shall be presented. 4. Individuals can be questioned on the Environmental Philosophy and EMP and can recall contents.	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.6: Erection of supporting exploration infrastructure.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
1. Get Environmental Clearance before implementation 2. Establishment of the supporting exploration infrastructure done on an area with the least disturbance to the environment and within the non-sensitive areas	1. Documented Environmental Clearance from MET. 2. All on site exploration infrastructure (e.g. water tanks, sewage tanks, waste disposal) are not situated on environmental sensitive area and have disturbed as less as possible. 3. No littering.	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.7: Use of existing access roads, tracks and general vehicle movements.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
1. Plan a road/track network that considers the environmental sensitivity of the area and a long-term tourism potential, and which is constructed in a technically and environmentally sound manner. 2. Stick to the recommended track and sensitivity management zones.	1. Avoid unnecessary affecting areas viewed as important habitat – i.e. Ephemeral River and its network of tributaries of ephemeral rivers; rocky outcrops; clumps of protected tree species; 2. Make use of existing tracks/roads as much as possible throughout the area; 3. Ensure that no hydraulic fluid, oils and fuel contaminate the pans; 4. Capture/contain leaks and/or remove all contaminated soils to an appropriate landfill site; 5. Conduct daily inspections of all vehicles entering the pans to prevent accidental spillages; 6. Do not drive randomly throughout the area (could cause mortalities to vertebrate fauna and unique flora; accidental fires; erosion related problems, etc.); 7. Avoid off-road driving at night as this increases mortalities of nocturnal species; 8. Implement and maintain off-road track discipline with maximum speed limits (e.g.30km/h) as this would result in fewer faunal mortalities and limit dust pollution; 9. Use of "3-point-turns" rather than "U-turns"; 10. Where tracks have to be made to potential exploration sites off the main routes, the routes should be selected causing minimal damage to the environment – e.g. use the same tracks; cross drainage lines at right angles; avoid placing tracks within drainage lines; avoid collateral damage (i.e. select routes that do not require the unnecessary removal of trees/shrubs, especially protected species); 11. Leave vehicles on tracks and walk to point of interest, when possible; 12. Rehabilitate all new tracks created.	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.8: Mitigation measures for preventing flora and ecosystem destruction and promotion of conservation.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
1. Prevent flora and ecosystem destruction and promote conservation	1. Limit the development and avoid rocky outcrops throughout the entire area; 2. Avoid development and associated infrastructure in sensitive areas – e.g. Ephemeral River, in/close to drainage lines, cliffs, boulder and rocky outcrops in the area, etc. This would minimise the negative effect on the local environment especially unique features serving as habitat to various species; 3. Avoid placing access routes (roads and tracks) trough sensitive areas – e.g. over rocky outcrops/ridges and along drainage lines. This would minimise the effect on localised potentially sensitive habitats in the area; 4. Avoid driving randomly through the area (i.e. "track discipline"), but rather stick to permanently placed roads/tracks – especially during the detailed field-based exploration phase. This would minimise the effect on localised potentially sensitive habitats in the area; 5. Stick to speed limits of maximum 30km/h as this would result in less dust pollution which could affect certain flora – e.g. lichen species. Speed humps could also be used to ensure the speed limit; 6. Remove unique and sensitive flora (e.g. all Aloe sp.) before commencing with the development activities and relocate to a less sensitive/disturbed site if possible; 7. Prevent and discourage the collecting of firewood as dead wood has an important ecological role – especially during the development phase(s). Such collecting of firewood, especially for economic reasons, often leads to abuses – e.g. chopping down of live and/or protected tree species such as Acacia erioloba which is a good quality wood; 8. Attempt to avoid the removal of bigger trees during the development phase(s) – especially with the development of access routes – as these serve as habitat for a myriad of fauna; 9. Prevent and discourage fires – especially during the development phase(s) – as this could easily cause runaway veld fires causing problems (e.g. loss of grazing and domestic stock mortalities, etc.) for the neighbouring farmers; 10. Rehabilitation of the disturbed areas – i.e. initial development access route "scars" and associated tracks as well as temporary accommodation sites. Preferably workers should be transported in/out to the EPL area on a daily basis to avoid excess damage to the local environment (e.g. fires, wood collection, poaching, etc.). Such rehabilitation would not only confirm the company's environmental integrity, but also show true local commitment to the environment; 11. Implement erosion control. The area(s) towards and adjacent the drainage line(s) are easily eroded and further development may exacerbate this problem. Avoid undertaking any exploration activities including supporting activities such as camping within 20m of the main drainage line(s) to minimise erosion problems as well as preserving the riparian associated fauna; 12. Conduct a thorough investigation on the flora associated with the proposed exploration site(s); 13. Prevent the introduction of potentially invasive alien plant species (e.g. Tecoma stans, Pennisetum setaceum, etc.) for ornamental purposes as part of the landscaping should mining activities eventually commence. Alien species often "escape" and become invasive causing further ecological damage; 14. A thorough investigation of water use and ground water extraction should take place before actual mining activities commence as this would affect the local flora, especially the ephemeral riparian vegetation, not only locally, but downstream as well.	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.9: Mitigation measures for preventing faunal and ecosystem destruction and promotion of conservation.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
Prevent faunal and ecosystem destruction and promote conservation	1. Limit the development and avoid rocky outcrops throughout the entire area; 2. Avoid development & associated infrastructure in sensitive areas – e.g. in/close to drainage lines, cliffs, boulder and rocky outcrops in the area, etc. This would minimise the negative effect on the local environment especially unique features serving as habitat to various species; 3. Avoid placing access routes (roads & tracks) trough sensitive areas – e.g. over rocky outcrops/ridges and along drainage lines. This would minimise the effect on localised potentially sensitive habitats in the area; 4. Avoid driving randomly through the area (i.e. "track discipline"), but rather stick to permanently placed roads/tracks – especially during the detailed field-based exploration phase. This would minimise the effect on localised potentially sensitive habitats in the area; 5. Stick to speed limits of maximum 30km/h as this would result in fewer faunal road mortalities. Speed humps could also be used to ensure the speed limit; 6. Remove (e.g. capture) unique fauna and sensitive fauna before commencing with the development activities and relocate to a less sensitive/disturbed site if possible; 7. Prevent and discourage the setting of snares (poaching), illegal collecting of veld foods (e.g. tortoises, etc.), indiscriminate killing of perceived dangerous species (e.g. snakes, etc.) and collecting of wood as this would diminish and negatively affect the local fauna – especially during the development phase(s); 8. Attempt to avoid the removal of bigger trees during the development phase(s) – especially with the development of access routes – as these serve as habitat for a myriad of fauna; 9. Prevent and discourage fires – especially during the development phase(s) – as this could easily cause runaway veld fires affecting the local fauna, but also causing problems (e.g. loss of grazing & domestic stock mortalities, etc.) for the neighbouring farmers; 10. Rehabilitation of the disturbed areas – i.e. initial development access route "scars" and associated tracks as well as temporary accommodation sites. Preferably workers should be transported in/out to the EPL area on a daily basis to avoid excess damage to the local environment (e.g. fires, wood collection, poaching, etc.). Such rehabilitation would not only confirm the company's environmental integrity, but also show true local commitment to the environment; 11. Implement erosion control. The area(s) towards & adjacent the drainage line(s) are easily eroded and further development may exacerbate this problem. Avoid undertaking exploration activities including supporting activities such as camping within 20m of the main drainage line(s) to minimise erosion problems as well as preserving the riparian associated fauna; 12. Conduct a thorough investigation on the fauna associated with the proposed exploration site(s); 13. Prevent the number of domestic pets – e.g. cats & dogs – accompanying the workers during the field-based exploration activities as cats decimate the local fauna and interbreed & transmit diseases to the indigenous African Wildcat found in the area. Dogs often cause problems when bonding on hunting expeditions thus negatively affecting the local fauna. The indiscriminate and wanton killing of the local fauna by such pets should be avoided at all costs.	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.10: Mitigation measures to be implemented with respect to the exploration camps and exploration sites.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
Promotion of conservation through preservation of flora, fauna and ecosystem around the exploration camps and exploration sites	1. Select camp sites and other temporary lay over sites with care – i.e. avoid important habitats (e.g. raptor breeding sites); 2. Use portable toilets to avoid faecal pollution around camp and exploration sites; 3. Initiate a suitable and appropriate refuse removal policy as littering could result in certain animals becoming accustomed to humans and associated activity and result in typical problem animal scenarios – e.g. baboon, black-backed jackal, etc.; 4. Avoid and/or limit the use of lights during nocturnal exploration activities as this could influence and/or affect various nocturnal species – e.g. bats and owls, etc. Use focused lighting for least effect; 5. Prevent the killing of species viewed as dangerous – e.g. various snakes – when on site; 6. Prevent the setting of snares for ungulates (i.e. poaching) or collection of veld foods (e.g. tortoises, monitor lizard) and unique plants (e.g. various *Aloe*and *Lithop*) or any form of illegal hunting activities; 7. Avoid introducing dogs and cats as pets to camp sites as these can cause significant mortalities to local fauna (cats) and even stock losses (dogs); 8. Remove and relocate slow moving vertebrate fauna (e.g. tortoises, chameleon, snakes, etc.) to suitable habitat elsewhere on property; 9. Avoid the removal and/or damaging of protected flora potentially occurring in the general area e.g. various *Aloe*, *Commiphora*, and *Lithop* species, etc.; 10. Avoid introducing ornamental plants, especially potential invasive alien species, as part of the landscaping of the camp site, etc., but rather use localised indigenous pecies, should landscaping be attempted, which would also require less maintenance (e.g. water); 11. Remove all invasive alien species on site – e.g. *Opuntia* sp. This would not only indicate environmental commitment, but actively contribute to a better landscape; 12. Inform contractors/workers regarding the above mentioned issues prior to exploration activities and monitor for compliance thereof throughout; 13. Rehabilitate all areas disturbed by the exploration activities – i.e. camp sites, exploration sites, etc.; 14. Implement a policy of replacing 2 tree species (preferably the same species) for every 1 protected tree species having to be removed (if necessary); 15. Ensure that adequate firefighting equipment (e.g. fire beaters; extinguishers, etc.) is available at camp sites and clear kitchen areas to avoid accidental fires; 16. Employ an independent environmental auditor to ensure compliance, especially of the rehabilitation of all the affected areas.	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.11: Mitigation measures for surface and groundwater protection as well as general water usage.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
Effective management / protection of surface and groundwater resources and general water resources usage	1. Always use as little water as possible. Reduce, reuse and re-cycle water where possible; 2. All leaking pipes / taps must be repaired immediately they are noticed; 3. Never leave taps running. Close taps after you have finished using them. 4. Never allow any hazardous substance to soak into the soil; 5. Immediately tell your Contractor or Environmental Control Officer / Site Manager when you spill, or notice any hazardous substance being spilled during the field-based exploration activities or around the camp site; 6. Report to your Contractor or Environmental Control Officer / Site Manager when you notice any container, which may hold a hazardous substance, overflow, leak or drip; 7. Immediately report to your Contractor or Environmental Control Officer / Site Manager when you notice overflowing problems or unhygienic conditions at the ablution facilities; 8. No washing of vehicles, equipment and machinery, containers and other surfaces; 9. Limit the operation to a specific site and avoid sensitive areas and in particular the Ephemeral River Channel. This would sacrifice the actual area for other adjacent Ephemeral River areas and thus minimise any likely negative effect on water resources; 10. Disposal of wastewater into any public stream is prohibited; 11. The Proponent must obtained permission of the land owners before utilising any water resources or any associated infrastructure; 12. If there is a need to drilling a water borehole to support the exploration programme the proponent (Proponent) must obtain permission form the land owner and Department of Water Affairs in the Ministry of Agriculture and Forestry. In an event of discovery of economic minerals resources, the sources of water supply for the mining related operations will be supplied by NamWater; 13. If there are any further (larger scale) exploration/drilling activities and/or mining activities to follow from the initial planned drill holes, groundwater monitoring must be implemented to include water level monitoring and also water sampling on a bi-annual basis. In order to have greater transparency on the water monitoring activities, the affected landowners / farmers must be given full access to the results of the water monitoring analyses.	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.12: Mitigation measures to minimise negative socioeconomic impacts.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
Effective management of socioeconomic benefits of the proposed / ongoing project activities	1. The employment of local residents and local companies should be a priority. To ensure that potential employees are from the area, they need submit proof of having lived in the area for a minimum of 5 years; 2. Providing information such as the number and types of jobs available, availability of accommodation facilities and rental costs and living expenses, could make potential job seekers wary of moving to the area; 3. Addressing unrealistic expectations about large numbers of jobs would be created; 4. Exploration camp if required should be established in close consultation with the land owners; 5. Exploration camp should consider provision of basic services; 6. When employees contracts are terminated or not renewed, contractors should transport the employees out of the area to their hometowns within two days of their contracts coming to an end; 7. Tender documents could stipulate that contractors have HIV/Aids workplace policies and programmes in place and proof of implementation should be submitted with invoicing; 8. Develop strategies in coordination with local health officers and NGO's to protect the local communities, especially young girls. 9. Contract companies could submit a code of conduct, stipulating disciplinary actions where employees are guilty of criminal activities in and around the vicinity of the EPL. Disciplinary actions should be in accordance with Namibian legislation; 10. Contract companies could implement a no-tolerance policy regarding the use of alcohol and workers should submit to a breathalyser test upon reporting for duty daily; 11. Request that the Roads Authority erect warning signs of heavy exploration vehicles on affected public roads; 12. Ensure that drivers adhere to speed limits and that speed limits are strictly enforced; 13. Ensure that vehicles are road worthy and drivers are qualified; 14. Train drivers in potential safety issues.	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.13: Mitigation measures to minimise health and safety impacts.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
Promotion of health and safe working environment in line with national Labour Laws	1. Physical hazards: Follow national and international regulatory and guidelines provisions, use of correct Personal Proactive Clothing at all times, training programme, as well as the implementation of a fall protection program in accordance with the Labour Act; 2. Some of the public access management measures that may be considered in an event of vandalism occurring are: • All exploration equipment must be in good working condition and services accordingly; • Control access to the exploration site through using gates on the access road(s) if required; • The entire site, must be fenced off; the type of fencing to be used would, however, be dependent on the impact on the visual resources and/or cost; and; • Notice or information boards relating to public safety hazards and emergency contact details to be put up at the gate(s) to the exploration area. 3. There is a comprehensive First Aid Kit on site and that suitable anti-histamine for bee stings / snake bites should be available. 4. Rubber gloves are used in case of an accident to reduce the risk of contracting HIV/AIDS; 5. All individuals have received instructions concerning the dangers of dehydration or hyperthermia. Encourage all to drink plenty of clean water not directly from the surface water bodies. 6. No person under the influence of alcohol or drugs is allowed to work on site. 7. The Exploration Manager ensures compliance with the requirements of the relevant Namibian Labour, Mining and Health and Safety Regulations. 8. Dangerous or protected / sensitive areas are clearly marked and access to these areas is controlled or restricted. 9. Due care must be taken when driving any vehicles on any roads particularly the gravel roads. ALL Drivers must drive with their headlights switched on when travelling on the gravel roads (day and night). 10. Persons driving a vehicle must be in possession of a valid driver's license 11. Awareness on HIV/AIDS among workers is raised	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.14: Mitigation measures to minimise visual impacts.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
Preserve the landscape character in the development of supporting infrastructure and choice of visual screening	1. Consider the landscape character and the visual impacts of the exploration area including camp site from all relevant viewing angles, particularly from public roads; 2. Use vegetation screening where applicable. Do not cut down vegetation unnecessary around the site and use it for site screening; 3. Avoid the use of very high fencing; 4. Minimise access roads and no off-road that could results in land scarring is allowed; 5. Minimise the presence of secondary structures: remove inoperative support structures; 6. Remove all infrastructure and reclaim, or rehabilitate the project site after exploration activities are completed.	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.15: Mitigation measures to minimise vibration, noise and air quality.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
Promote of effective management of vehicle movement, drilling and blasting operations and use of Personal Protective Equipment (PPE) in mitigating air quality and vibrations impacts in line with national laws	1. Limit vehicle movements and adhere to the speed of 60 km/h; 2. Vehicles and all equipment must be properly serviced to minimise noise pollution; 3. Use of Personal Protective Equipment (PPE) to minimise Occupational Health Safety impacts dues to noise pollution around the site; 4. National or international acoustic design standards must be followed. 5. Drilling and blasting operations can major sources of vibration, noise and dust and where required the following mitigation measure shall be implemented; • Drilling and blasting operations shall only be done by a qualified person who must at all times adhere to the required blasting protocol; • Prior warning shall be given to all persons, neighbour and visitors before the blasting takes place; • Careful planning and timing of the blast program to minimise the size of the charge; • Where practicable, use of explosive products with lower detonation velocities, but noting that this would require more explosives to achieve the same blast result; • Use of detonating caps with built-in time delays, as this effectively reduces each detonation into a series of small explosions; • Use of a procedure ("decking the charge") which subdivides the charge in one blast hole into a series of smaller explosions, with drill patterns restricted to a minimum separation from any other loaded hole; • Over-drilling the holes to ensure fracturing of the rock; • Staggering the detonation for each blast hole in order to spread the explosive's total overpressure over time; • Matching, to the extent possible, the energy needed in the "work effort" of the borehole to the rock mass to minimise excess energy vented into the receiving environment.	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.16: Mitigation measures for waste (solid and liquid) management.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
Promotion of effective waste (solid and liquid) management through the adoption of sound and hierarchical approach to waste management, which would include waste minimisation, re-use, recovery, recycling, treatment, and proper disposal.	1. Burial of waste on anywhere within the EPL area is not allowed and all generated solid waste must be disposed at the at an approved municipal waste disposal site; 2. Toilet and ablution facilities must be provided on site and should not be located close to Ephemeral Rivers or visible discontinuities (fractures, joints or faults); 3. Provide site information on the difference between the two main types of waste, namely: • General Waste; and • Hazardous Waste. 4. Sealed containers, bins, drums or bags for the different types of wastes must be provided. Never dispose of hazardous waste in the bins or skips intended for general waste; 5. All solid and liquid wastes generated from the proposed / ongoing project activities shall be reduced, reused, or recycled to the maximum extent practicable; 6. Trash may not be burned or buried, except at approved sites under controlled conditions in accordance with the municipal regulations; 7. Never overfill any waste container, drum, bin or bag. Inform your Contractor or the Environmental Control Officer / Site Manager if the containers, drums, bins or skips are nearly full; 8. Never litter or throwaway any waste on the site, in the field or along any road. No illegal dumping; 9. Littering is prohibited. 10. Latrines and French drains built >100m from watercourses or pans to avoid pollution of primary and secondary aquifers. 11. Chemical toilets or suitable waste water management system shall be provided on site and around the camp as may be required.	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.17: Rehabilitation plan.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
Contributions toward environmental preservation and sustainability through rehabilitation of disturbed areas such as exploration sites and remove all unwanted part of the fixtures and restore the sites to close an approximation of the pristine state as is technically, financially and reasonably possible.	1. The following rehabilitation actions are practiced: • Small samples are preferably removed from site to avoid additional scars in the landscape; • Litter from the site has been taken to the appropriate disposal site. • Debris, scrap metal, etc is removed before moving to a new site or closure of the mine. • Water tanks are dismantled and removed if not need for after use. • Tracks on site and the access road are rehabilitated by smoothing the 'middle mannetjie'(middle ridge between the tracks) and raking the surface. 2. The following should be undertaken at all disturbed areas that require further rehabilitation: • if applicable the stockpiled subsoil to be replaced (spread) and/or the site is neatly contoured to establish effective wind supported landscape patterns; • Replace the stored topsoil seed bank layer. • Five (5) years after rehabilitation the sites are not visible from 500 m away.	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

Table 6.18: Environmental data collection.

OBJECTIVES	MITIGATION MEASURES	SCHEDULE	RESPONSIBILITY
1. Collect data that will add value to environmental monitoring and reporting to the regulators 2. Collect data that will add to the general scientific and geographic knowledge of the environment in which the exploration process takes place. 3. Acknowledged that the required skills and knowledge to collect all the suggested data may not be available within the mine /exploration team, however, as much data as is practical should be collected.	1. Environmental Monitoring Report Compiled and submitted by the Environmental Coordinator to the regulators 2. The following types of information should be gathered: • Fauna. What tracks or signs of animal activity have been seen? (photographs and GPS recording) What animals, birds etc were identified? Alternatively provide a description and/ or photo if unidentified. • Unusual weather conditions, e.g. records of the prevailing wind direction and the direction from which storm events come. Was there fog or rain, frost overnight or intense heat? Preferably have a thermometer and rain gauge on site. • Vegetation. Record trees, shrubs, grass, etc. that are found in the vicinity along each of the profiles. Some plants do only occur after rainfall and might not have been seen for decades. • Any archaeological, cultural or historical sites that may be found. GPS coordinates, photograph and plot the position on a 1: 50 000 map. • other including surface water, spring, large scale geological features etc	(i) Regional reconnaissance field-based mapping and sampling activities; (ii) Initial local field-based mapping and sampling activities; (iii) Detailed local field-based activities such as local geological mapping, geochemical mapping and sampling, trenching and drilling of closely spaced boreholes and bulk sampling; (iv) Prefeasibility and feasibility studies.	(i) Proponent's Representative (PR) (ii) Project Manager (PM) (iii) Project HSE (iv) Contractor (v) Subcontractors

6.3.3 Specific Radiation Mitigation Measures Implementation

6.3.3.1 Management of External Radiation Exposure Pathway

The following is the summary of the three (3) general methods of managing external radiation exposures:

(i) Time — external radiation exposures can be reduced by decreasing the time spent near a radiation sources or in contaminated areas;

(ii) Distance — external radiation exposures can be reduced by increasing the distance from the source of radiation. The reduction generally follows the inverse square law which states that the dose is reduced by the square of the increase in distance. Thus, doubling the distance will reduce the dose to a quarter of what it would be at the original distance, increasing the distance three times reduces the dose to one ninth, and increasing distance by a factor of ten reduces the dose to one hundredth. Strictly, this law only applies to point sources, but it can be applied to large sources when the distance from a source is much greater than its lineal size. It is not applicable when close to large area sources, such as areas of contaminated soil, and;

(iii) Shielding — placing some radiation absorbing material (shielding) between the source and the potentially exposed person can reduce the resulting external radiation dose. The amount and nature of the shielding required depends on the type of radiation involved. Heavy elements, such as lead, are very effective for shielding X and gamma radiations. At high radiation energies, all materials are approximately equivalent, and the shielding depends on the density of the shield. Personal shielding, such as a lead-rubber apron, is only practical against low energy X and gamma radiation, and rapidly becomes totally impracticable at higher energies. Millimetre thin layers of metal, or a centimetre or so of plastic, are effective for shielding beta radiation. Neutrons are quite penetrating in heavy elements. They are more effectively shielded by materials containing hydrogen such as water, wax or polythene.

6.3.3.2 Management of Internal Radiation Exposure Pathway

The procedures for protection against internal exposure are not as simple as those for external exposure, given that there are numerous possible exposure pathways. Protection focuses on limiting intakes, and some general principles including the following may be considered:

(i) Isolation from sources by keeping people away from potential sources of exposure, such as contaminated areas, means that the intake of radioactive materials will be reduced;

(ii) Ventilation, which removes contaminated air and provides fresh air for breathing, is another way of reducing exposure;

(iii) Reduction of the activities of the sources that produce potential exposure pathways should be minimised; for example, dust generation should be reduced where practicable by wetting down dusty materials;

(iv) Personal protection is the common forms of personal protection include protective clothing, footwear, gloves and respiratory protection, which removes contaminants

from inhaled air. This can range from a relatively simple respirator to a complete 'air suit' with its own air supply. Personal protective equipment which impedes normal working arrangements is not routinely used because other means of providing a save working environment for all (for instance by ensuring buildings provide adequate shielding and have appropriate air filters) are given a higher priority in the hierarchy of occupational health and safety measures, and;

(v) Personal hygiene is very important for reducing ingestion, particularly via hand-to mouth transfer. Removal of contaminated clothing and showering after leaving a contaminated area can reduce the spread of radioactive material to uncontaminated work or living areas. It should be noted that 'radiation protective clothing' does not protect against external radiation exposure, except for low-energy beta radiation, but it is an aid to decontamination after working in contaminated areas.

6.3.3.3 Monitoring of External and Internal Radiations Exposure

The initial stages of the proposed exploration activities will not be associated with major external or internal radiation exposure. However, once potential uranium mineralised zones / targets are have been delineated / found and requiring detailed site-specific activities such as detailed drilling, bulk sampling and test mining for feasibility study to be implemented, it's highly recommended that measures are put in place to manage any potential external or internal radiation exposures. In accordance with the provisions of the Atomic Energy and Radiation Protection, 2005, (Act No. 5 of 2005) administered by the National Radiation Protection Authority (NRPA), the proponent will be required to prepared and implement a Radiation Management Plan (RMP) to be approved by NRPA.

In order to develop an occupational health and safety guidelines or thresholds for management of ionisation radiation, a separate specialist study must be undertaken as part of the feasibility study for exploration and possible mining. This specialist study will then feed into the preparation of a Radiation Management Plan (RMP) as required by the Atomic Energy and Radiation Protection, 2005, (Act No. 5 of 2005) under the Ministry of Health and Social Services.

The RMP must be a comprehensive document that must outline the responsibilities, programmes and actions to be undertaken in managing radiation. The overall aim will be to minimise, monitor and manage any likely radiation exposure to employees and the public exposure. Within the framework of the RAM the following must be elaborated in detail covering the entire proposed project lifecycle and included:

- The operational details of the proposed new uranium mine;
- Processing plant (technology);
- The occupational radiation monitoring programme
- The workplace and public radiation exposure control programme
- The radiation training and awareness programmes,
- The environmental impact assessments and dose assessments carried;
- The waste management, and;
- Transport and disaster management plans.

The radiation monitoring programme to be developed within the framework of the RAM must comprise the monitoring of three exposure pathways namely:

- Internal exposure (exposure within the body, mostly to lungs and airways) to alpha radiation, mainly from the inhalation of the short-lived decay products of radon (radon is a gas and is a radioactive decay product arising from the natural radioactive decay of uranium);

- Internal exposure to alpha radiation from the inhalation of the long-lived radionuclides occurring in uranium ore dust, and;

- External exposure to gamma radiation, mostly from ore outcrops, ore stockpiles and from extracted uranium oxide stored onsite.

The monitoring data will enable Radiation Safety Officer/s to ensure that radiation exposure levels in all areas of the operations are kept as low as is reasonably achievable in order to ensure that such exposure levels comply with national and international radiation protection standards of 20 mSv per year stipulated in the new Namibian regulations of the Atomic Energy and Radiation Protection, 2005, (Act No. 5 of 2005).

6.3.3.4 Radiation Management Action Plan

Within the framework of the EMP and to be provided for in the Radiation Management Plan (RMP), the summary of the radiation management actions and expectations from the Proponent, Radiation Safety Officer, Administrative Officer (Radiation) are outlined in Tables 6.19 – 6.29. These provisions may need to be revised and incorporated in the RMP to be prepared for the proposed by the proponent once potential uranium mineralised zones / targets are have been delineated / found and requiring detailed site-specific activities such as detailed drilling, bulk sampling and test mining for feasibility study to be implemented. The following is the summary of the exploration radiation exposure mitigation measures, management and monitoring requirements as detailed in Tables 6.19 -6.29:

1. Radiation exposure management appraisals and reviews;

2. Radiation exposure inspections;

3. Radiation exposure internal audits;

4. Radiation exposure external audits;

5. Radiation exposure training of all employees;

6. Radiation exposure storage of sources of radiation;

7. Radiation exposure with respect to the management of radioactive spills;

8. Management of radiation accidents;

9. Radiation emergencies;

10. Sealed radiation source emergencies category, and;

11. Sealed radiation source emergencies category 2.

Table 6.19: Radiation exposure management appraisals and reviews.

Description: Regular assessment of the effectiveness, suitability and acceptance of the management of ionising radiation safety on an informal basis			
ACTION	**RESPONSIBILITY**	**TIMING**	**PROGRESS/COMMENT**
1. Review the operation of the ionizing radiation management plan with respect to the RMP in consultation with the management on at least an annual basis	• Radiation Safety Officer • Administrative Officer (Radiation)	At least annually	
2. Review the recording system, the company's legal obligations, and accountability at least annually		At least annually	
3. Review the audits, corrective actions, objectives and targets, legislative compliance, and incident data, and report the results to the management		At least annually	

Table 6.20: Radiation exposure inspections.

Description: The Department Radiation Safety Officers will carry out regular inspections of the locations of ionising radiation work in their areas of responsibility			
ACTION	**RESPONSIBILITY**	**TIMING**	**PROGRESS/COMMENT**
1. Perform regular inspections of the locations of ionizing radiation work	• Radiation Safety Officer • Administrative Officer (Radiation)	Every 3 months	
2. Ensure that the local rules as those relating to appropriate PPE, waste disposal practices and regular monitoring are obeyed		Every 3 months	
3. Inspect records for the monitoring of X-Ray apparatus and the purchase of unsealed radioactive material		Every 3 months	

Table 6.21: Radiation exposure internal audits.

Description: To ensure continuing adherence to the company's policy and the RMP and EMP will be conducted in accordance with agreed protocols approved by the management.			
ACTION	**RESPONSIBILITY**	**TIMING**	**PROGRESS/COMMENT**
1. Audit ionizing radiation work carried out by the Radiation Safety Officer	• Radiation Safety Officer • Administrative Officer (Radiation)	Annually	
2. Audits of the records maintained by the Administrative Officer (Radiation)		Annually	
3. Provide reports of the internal audits on ionising radiation work carried out by other mine operational areas		Annually	
4. Provide reports of the internal audits on ionizing radiation work carried out by other mine operational areas		Annually	
5. Internal auditors to carry out follow-up inspections where corrective action is needed to ensure compliance		Annually	

Table 6.22: Radiation exposure external audits.

Description: To ensure that those directly responsible for ionizing radiation safety around the proposed mine continue to maintain a high standard of management of the hazard of radiation and enable the mine to demonstrate that it meets the appropriate standards in radiation safety			
ACTION	**RESPONSIBILITY**	**TIMING**	**PROGRESS/COMMENT**
1. A biennial external audit of ionising radiation safety covering the entire mine operation		Annually	
2. An audit to be conducted when new equipment are installed, a change in the uranium recovery process or heap leaching modifications		As required	
3. An audit of radioactive waste (waste rock, tailings and contaminated equipment) is to be conducted		Annually	
4. Appoint external auditors to operate under an agreed protocol and with clearly identified objectives with reports directed to the management		Annually	

Table 6.23: Radiation exposure training of all employees.

Description: All employees must receive training appropriate to their use of ionising radiation.			
ACTION	**RESPONSIBILITY**	**TIMING**	**PROGRESS/COMMENT**
1. All radiation employees must receive training in the elementary principles of radiation safety and ALARA (As Low As Reasonably Achievable)	• Radiation Safety Officer • Administrative Officer (Radiation)	As part of induction and there after every six months	
2. All employees must receive training relating to the Company Policy relating to ionizing radiation			
3. All employees must receive training relating to the Radiation Management Plan (RMP)			
4. All employees must receive training relating to the Radiation Safety Manual			
5. All employees must receive training relating to the National Radiation Protection and Control Regulations			
6. Radiation employees to be provided with detailed instruction in procedures and operations relevant to the work being carried.			
7. The company should develop web-based radiation safety training material to be used in addition to formal training Sessions.			

Table 6.24: Radiation exposure storage of sources of radiation.

Description: The potential use of radioactive materials in acts of terrorism requires the proponent to pay particular attention to the security of radioactive material			
ACTION	**RESPONSIBILITY**	**TIMING**	**PROGRESS/COMMENT**
1. The proponent must develop a security policy for sealed sources that addresses the potential threat. 2. The policy must take into account the storage of long-lived radioactive waste for which currently no disposal pathway exists in Namibia.	• Radiation Safety Officer • Administrative Officer (Radiation)	Throughout proposed Project life Cycle	

Table 6.25: Radiation exposure with respect to the management of radioactive spills.

Description: Any loss of control of radioactive material is an abnormal situation and spills will produce contamination of natural environment, equipment, and in more serious cases, the floor and people.			
ACTION	**RESPONSIBILITY**	**TIMING**	**PROGRESS/COMMENT**
1. Ensure that radiation workers are trained in how to deal with radioactive spills and in relevant remedial actions	• Department Radiation Safety Officers	Throughout proposed Project life Cycle	
2. Ensure that spill kits are available key specific areas.	• Radiation Safety Officer • Department Radiation Safety Officers		

Table 6.26: Management of radiation accidents.

Description: A loss of control of a source of ionising radiation where control is not regained, or a significant dispersal of radioactive material takes place, or a person is likely to receive a dose or intake that is at least twice that normally received in the work with that source			
ACTION	**RESPONSIBILITY**	**TIMING**	**PROGRESS/COMMENT**
1. Ensure that radiation workers are trained in how to deal with radiation accidents and in relevant emergency actions	• Radiation Safety Officer • Department Radiation Safety Officers	Throughout proposed Project life Cycle	

Table 6.27: Radiation emergencies.

Description: Radiation Emergency means a situation in which a source of ionising radiation is out of control to such an extent that the continued exposure of a person to excessive amount of ionising radiation while the source of ionising radiation remains out of control is unavoidable unless the normal functions or operations of the facility or place in which the source of ionising radiation is being used are grossly disrupted			
ACTION	**RESPONSIBILITY**	**TIMING**	**PROGRESS/COMMENT**
1. Ensure that radiation workers are trained in how to deal with radiation emergencies as described in the Company Radiation Safety Manual and in relevant emergency actions	• Radiation Safety Officer • Department Radiation Safety Officers	Throughout proposed Project life Cycle	

Table 6.28: Sealed radiation source emergencies category 1.

Description: The source is temporarily "loose" from its proper housing or shielding but the dose to the operator is less than 500 µSv per hour (about 10 µSv per minute).			
ACTION	**RESPONSIBILITY**	**TIMING**	**PROGRESS/COMMENT**
1. Ensure that radiation workers are trained in how to deal with radiation emergencies and in relevant emergency actions	• Radiation Safety Officer • Department Radiation Safety Officers	Throughout proposed Project life Cycle	

Table 6.29: Sealed radiation source emergencies category 2.

Description: The source cannot be returned to its proper storage configuration due to failure of mechanical or electrical actuators. This is a serious emergency			
ACTION	**RESPONSIBILITY**	**TIMING**	**PROGRESS/COMMENT**
1. Ensure that radiation workers are trained in how to deal with radiation emergencies and in relevant emergency actions	• Radiation Safety Officer • Department Radiation Safety Officers	Throughout proposed Project life Cycle	

6.4 Overall Monitoring of the Environmental Performance

6.4.1 Overview

The monitoring of the environmental performances for the proposed / ongoing exploration project can be divided into two (2) parts and these are:

(i) Routine / ongoing daily monitoring activities to be undertaken by the Project HSE Officer with the support of the external specialist consultants as maybe required;

(ii) Preparation of quarterly and annual Environmental Monitoring Report and Environmental Closure covering all activities related to the Environmental Management Plan during exploration / prospecting stages and at closure of the proposed / ongoing exploration to be undertaken by the Project HSE Officer with the support of the external specialist consultants as maybe required.

The proponent will be required to report regularly (twice in a year or as the case maybe) to the Environmental Commissioner in the Ministry of Environment and Tourism (MET), the environmental performances as part of the ongoing environmental monitoring programme. Environmental monitoring programme is part of the EMP performances assessments and will need to be compiled and submitted as determined by the Environmental Commissioner. The process of undertaking appropriate monitoring as per specific topic (such as fauna and flora) and tracking performances against the objectives and documenting all environmental activities is part of internal and external auditing to be coordinated by the Project HSE Officer.

The second part of the monitoring of the EMP performance will require a report outlining all the activities related to effectiveness of the EMP at the end of the planned mineral exploration to be undertaken by the Project HSE Officer with the support of the external specialist consultants as maybe required. The objective will be to ensure that corrective actions are reviewed and steps are taken to ensure compliance for future EIA and EMP implementation.

The report shall outline the status of the environment and any likely environmental liability after the completion of the proposed / ongoing project activities. The report shall be submitted to the Environmental Commissioner in the Ministry of Environment and Tourism and will represent the final closure and fulfilment of the conditions of the Environmental Clearance Certificate (ECC) issued by the Environmental Commissioner and the conditions of the Pro-Forma Environmental Contract signed by the Proponent, Environmental Commissioner and the Mining Commissioner.

7. CONCLUSION AND RECOMMENDATION

7.1 Conclusions

Headspring Investments (Pty) Ltd (**the Proponent**) intends to undertake exploration activities in the Exclusive Prospecting Licence (EPL) No. 6781. The proponent intends to undertake prospecting for nuclear fuels covering the following activities:

- Desktop studies and review of historical exploration in the area;
- Purchase from the Ministry of Mines and Energy (MME) existing aerial surveys data set such as geophysical data sets (magnetics, radiometric and gravity) for further interpretation;
- Acquire additional aerial data as may be necessary including conducting hyperspectral surveys;
- Undertake initial (reconnaissance) field-based activities such as geological mapping and sampling, and;
- Conduct detailed field-based activities such as geological mapping, ground geophysics, trenching, drilling and sampling with laboratory testing leading to the preparation of a prefeasibility and feasibility studies that will support the application for a mining license if economic resources are discovered.

Once a viable mining project has been defined as a result of the above listed activities, a separate field-based and site-specific Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) reports with specialist studies will be prepared as part of the prefeasibility and feasibility studies that will support the application for a Mining License (ML) application.

The overall severity of potential environmental impacts of the proposed / ongoing project activities on the receiving environment (physical, biological, socioeconomic environments and ecosystem functions, services, use and non-use values or passive uses) will be of low magnitude, temporally duration, localised extent and low probability of occurrence. Mitigation measures must be implemented as detailed in Section 6 (EMP) of this report. *The proponent must obtain permission of the land owners (surface rights holders) before exercising their subsurface rights in all the farms covered by the EPL 6781.*

7.2 Recommendations

It's hereby recommended that the proposed / ongoing exploration activities be issued with an Environmental Clearance Certificate (ECC). The proponent shall take into consideration the following key requirements for implementing the proposed exploration programme:

(i) Mitigation measures must be implemented as detailed in Section 6 (EMP) of this Scoping and EMP report;

(ii) The proponent negotiate an Access Agreement with the land owner/s;

(iii) The Proponent shall adhere to all the provisions of the EMP and conditions of the Access Agreement to be entered between the proponent and the land owner/s in line with all applicable national regulations;

(iv) Before entering any private property such as a private farm, the proponent must give advance notices and obtain permission to access such private property from the land owners at all times, and;

(v) Where possible, and if water is found during the detailed exploration boreholes drilling operations, the proponent shall support other land users in the area in terms of access to freshwater supply for both human consumption, wildlife and agricultural support as may be requested by the local community / land owners/s. The abstraction of the groundwater resources shall include water levels monitoring, sampling and quality testing on a bi-annual basis, and that the affected landowners must have access to the results of the water monitoring analyses as part of the ongoing stakeholder disclosure requirements on shared water resources as maybe applicable.

The proponent must take all the necessary steps to implement all the recommendations of the EMP for the successful implementation and completion of the proposed exploration programme covering the EPL 6781. Recommended actions to be implemented by the proponent as part of the implementations of the EMP are as follows:

(i) The proponent must implement precautionary measures / approach to environmental management. Once a viable and potential economic resources have been identified, the proponent must develop and implement a separate EIA and EMP inclusive of the specialist studies such as fauna and flora to be undertaken by specialist consultants as part of the feasibility study stage;

(ii) Before detailed site-specific exploration activities such as extensive drilling operations and access routes are selected, the Project HSE Officer with the support of the external specialist consultants as maybe required, should consider the flora, fauna and archaeological sensitivity of the area and commission a field survey in advance of any site development as may be required based on the assessment undertaken;

(iii) The Project HSE Officer shall lead, implement and promote environmental culture through awareness raising of the workforce, contractors and sub-contractors in the field during the whole duration of the proposed / ongoing exploration period;

(iv) The proponent to provide all the necessary support including human and financial resources, for the implementation of the proposed / ongoing mitigations and effective environmental management during the planned exploration activities for the EPL 6781;

(v) Project HSE Officer with the support of the external specialist consultants as maybe required to develop a simplified environmental induction and awareness programme for all the workforce, contractors and sub-contractors;

(vi) Where contracted service providers are likely to cause environmental impacts, these will need to be identified and contract agreements need to be developed with costing provisions for environmental liabilities;

(vii) Implement internal and external monitoring of the actions and management strategies developed during the mineral exploration process. Final Environmental Monitoring report shall be prepared by the Project HSE Officer with the support of the external specialist consultants as maybe required to be submitted to the regulators and to mark the closure of the proposed / ongoing mineral exploration, and;

(viii) Develop and implement a monitoring programme that will fit into the overall company's Environmental Management Systems (EMS) as well as for any future EIA for possible mining projects.

7.3 Summary ToR for Test Mining and Mining Stages

In an even that economic minerals resources are discovered within the EPL 6781 area and could lead to the development of mining project, a new Environmental Clearance Certificate (ECC) for mining will be required. The ECC being supported by this Scoping and EMP report only covers the exploration phase. A separate field-based and site-specific Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) reports supported by specialist studies as maybe applicable must be prepared in order to support the application for the new ECC for mining operations.

The EIA and EMP studies shall form part of the prefeasibility and feasibility study with respect to the test mining or possible mining operations. The site-specific EIA and EMP shall cover the area identified to have potential economic minerals resources as well as all areas to be used for infrastructural support areas such as pit / shaft area/s, waste rock, tailings dump, access, office blocks, water and energy infrastructure support areas (water, energy and road / access). In addition to the Terms of Reference (ToR) to be developed during the Environmental Scoping study phase for the test mining / mining stages, the following field-based and site-specific specialist studies shall be undertaken as prat of the EIA and EMP for possible test mining or mining operations in an event of a discovery of economic minerals resources and possible development of a mining project:

(i) Groundwater studies including modelling as may be applicable and required by the Department of Water Affairs in the Ministry of Agriculture, Water and Forestry with respect to the applications for the freshwater and wastewater discharge permits;

(ii) Radiation Assessment and preparation of the Radiation Management Plan (RMP) in line with the requirement of National Radiation Protection Authority (NRPA);

(iii) Field-based flora and fauna diversity;

(iv) Dusty, noise and sound modelling linked to engineering studies as maybe applicable;

(v) Socioeconomic assessment, and;

(vi) Others as may be identified / recommended by the stakeholders/ land owners/ Environmental Commissioner or specialists.

The aims and objectives of the Environmental Assessment (EA) covering EIA and EMP to be implemented as part of the feasibility study if a variable minerals resources are discovered are:

(i) To assess all the likely positive and negative short- and long-term impacts on the receiving environment (physical, biological and socioeconomic environments) at local (EPL Area), regional, national (Namibia) and Global levels using appropriate assessment guidelines, methods and techniques covering the complete project lifecycle. The EIA and EMP to be undertaken shall be performed with reasonable skill, care and diligence in accordance with professional standards and practices existing at the date of performance of the assessment and that the guidelines, methods and techniques shall conform to the national regulatory requirements, process and specifications in Namibia and in particular as required by the Ministry of Mines and Energy, Ministry of Environment and Tourism and Ministry of Agriculture, Water Affairs and Forestry, and;

(ii) The development of appropriate mitigation measures that will enhance the positive impacts and reduce the likely negative influences of the negative impacts identified or anticipated. Such mitigation measures shall be contained in a detailed EMP report covering the entire project lifecycle.

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Appendix B:

(Performance Assessment Checklist)

PROJECT INFORMATION	
Site Name:	EPL 6781
Location:	Gobabis District, Omaheke Region
Date of Assessment	14- 16 June 2022
Document Type:	Performance Assessment Checklist
Assessed By:	Eco-Wise Environmental Consulting cc
Assessed For:	Headspring Investments (Pty) Ltd
Assessment Based on:	Site visit and responses from the exploration personnel which is supported by supporting documents
Consultant overall view	No much work was done in EPL 6781, only exploration well 9-05 and 9-06 with depths of 305.5 meters and 263.69 meters respectively were drilled. Hence no significant impacts were observed
Recommendations:	Proponent should conduct bi-annual and annual monitoring and submit the reports to Ministry of Environment Forestry and Tourism

Potential Impacts	Mitigation	Compliance			
		Yes	No	N/A	Comments
Landscape	▪ Removed rocks and soil should be replaced back and levelling of the area done so as to try to restore the area to its natural state	Y			No much exploration work was done in EPL On the exploration wells, a radius of 10-20 meters was maintained when clearing vegetation. Backfilling and sealing of exploration wells were done after drilling. **See Appendix D, site images** showing sealed exploration wells.
	▪ Do not cut down vegetation unnecessary around the site	Y			
	▪ Maximise on using existing roads and minimise on creating new access roads, no off-road that could result in land scarring is allowed	Y			
	▪ Minimise the presence of secondary structures: remove inoperative support structures	Y			
	▪ Remove all infrastructure and reclaim, or rehabilitate the project site after exploration activities are completed.	Y			

Fauna	▪ Poaching of wildlife and indiscriminate killing of perceived dangerous species (e.g., snakes, etc.) shall not be allowed	Y			No open pits were observed during the site visit. Poaching is not allowed Use of speed limits (30-40km/hr)
	▪ A drilling interval should be established, used and adhered to	Y			
	▪ Working hours should be limited to minimum of 8 hours per day	Y			
	▪ Proper and timely maintenance of machineries and vehicles to prevent noise	Y			
	▪ Avoid driving randomly	Y			
	▪ Stick to speed limits of maximum 30km/h as this would result in fewer faunal road mortalities	Y			
	▪ Avoid disturbance of habitat areas such as big trees, boulders, rocky outcrops as these areas serve as habitat for a myriad of fauna	Y			
	▪ Prevent and discourage fires as this results in loss of grazing & fauna mortalities	Y			
Air quality (Dust & Emissions)	▪ Workers should be provided with dust masks if working in sensitive areas	Y			Controlled speed limits have been agreed with the farm owners

	▪ Control speed and operation of exploration vehicles	Y			
	▪ Prohibit idling of vehicles	Y			
Waste	▪ Burial of waste within the EPL area shall not be allowed, all generated waste must be disposed at an approved waste disposal site	Y			No littering, the sites were found to be clean No unearthed rocks or soils were found around the drilled exploration wells. Portable toilets are used during operations Contaminated waste is disposed at appropriate waste disposal sites
	▪ Strictly, no burning of waste on the site shall be allowed as it possess environmental and public health impacts	Y			
	▪ Excavation waste should be re-used or backfilled	Y			
	▪ Portable toilets and ablution facilities must be provided on site and should not be located close to Ephemeral Rivers or visible discontinuities (fractures, joints or faults);	Y			
	▪ No littering shall be allowed	Y			
	Hazardous Waste ▪ Machinery should be well maintained to prevent oil leaks.		N		
	▪ Contaminated wastes in the form of soil, litter and other material must be disposed of at an appropriate disposal site.	Y			

Noise	▪ Limit vehicle movements and adhere to speed limits	Y			Speed limits are in place
	▪ Adhere to National or international standards on noise	Y			
Vegetation loss	▪ Exploration personnel shall not be allowed to cut trees for firewood	Y			No massive clearing of vegetation was done, a radius of approximately 10-20meters was used on well 9-05 and 9-06 when clearing was done to pave way for the drilling. The Proponent was incorporating trees in their development No firewood was used for cooking, rather a gas mobile kitchen is used. Use of existing roads was maximised and new access roads were created when necessary.
	▪ Massive clearing shall not be allowed and all the major trees will be preserved and the activities will fit into the environment without affecting the trees.	Y			
	▪ Environmental considerations will be adhered to at all times before clearing roads, drilling and establishing exploration camps	Y			
	▪ Prevent and discourage fires as this affect the grazing land and also the flora	Y			
Soil	▪ After completion of exploration activities removed soil layers must be replaced and levelling must be done so that the original condition is restored.	Y			Use of backfilling and sealing method for the exploration wells Proper disposal of contaminated waste

	▪ Proper care should be taken so that there is no spill that would cause soil contamination	Y			The Proponent plans to introduce a fining system to contractors who cause spillages that is if exploration resumes
	▪ If any hazardous waste is produced it should be properly handled and sent for disposal to appropriate disposal areas	Y			
Surface and groundwater	▪ Installation of hydrogeological wells to monitor groundwater			N/A	no much work had been done
	▪ Conduct water sampling tests			N/A	
	▪ Waste oils and fuels from drip trays on stationery vehicles and machinery will be disposed of as hazardous waste at a licensed disposal facility	Y			
	▪ No servicing and washing of vehicles, equipment and machinery and other surfaces on site	Y			
Damage of roads	▪ Do not drive randomly throughout the area	Y			The exploration personnel work per site hence there is no random movement around the EPL.
	▪ Where access roads have to be established, the routes should be selected causing minimal damage to the environment – e.g. use the same tracks; cross drainage lines at right angles; avoid placing tracks within drainage lines; avoid collateral damage (i.e. select routes that do not	Y			

	require the unnecessary removal of trees/shrubs, especially protected species)				
	▪ Leave vehicles on tracks and walk to point of interest, when possible	Y			
Occupation Health and Safety	▪ Provide all staff on site with relevant and adequate protective clothing and equipment (helmets, gloves, respirators, work suits, earplugs, goggles and safety shoes where applicable).	Y			Currently, the exploration personnel are mainly exposed to the natural radiation of the area they are working. However, precautions are taken for personnel working with core samples. The personnel carry radiometers to measure the intensity of the natural radiation levels so as to determine whether it is safe to work within the area. No major accidents have been previously recorded. Only minor bruises have been recorded. Some of the measures in place include; ensuring that the contractors provide the personnel with adequate protective clothing, safety talks, inductions, ensuring machinery used does not produce noise levels that can disturb the surroundings. The exploration personnel for Headspring Investments (Pty) Ltd went for first aid training, s**ee Appendix C,** one of the employees' first aid certificate Immediate dismissal of workers who come drunk at work
	▪ Provision of First Aid at the site	Y			
	▪ No person under the influence of alcohol or drugs is allowed to work on site	Y			
	▪ Train workers on personal safety and disaster preparedness	Y			
	▪ Continuous and vigilant monitoring of the radiation levels	Y			

Impacts associated with camping of exploration staff	▪ Select camp sites and other temporary lay over sites with care – i.e. avoid important habitats (e.g. raptor breeding site	Y			Generally, the area experiences bushfires hence the exploration personnel stay equipped in cases of any fire
	▪ No visitors allowed	Y			
	▪ Ablution facilities to be provided in the form of portable toilets	Y			
	▪ Good housekeeping	Y			
	▪ No poaching or collecting of unique plants	Y			
	▪ Drinking alcohol shall not be allowed on sit	Y			
	▪ Ensure that adequate firefighting equipment is available at camp sites and clear kitchen areas to avoid accidental fires	Y			
Population Influx	▪ Local employment should be a priority so as to reduce the number of outsiders	Y			Local companies are employed for drilling Locals are employed for non-skilled jobs An access agreement is in place between the farm owners and the Proponent. Farm gates are closed when going in and outside
	▪ An access agreement to be signed prior to exploration	Y			
	▪ No gates to be left open or fences damaged	Y			

Risk and spread of HIV/AIDS	▪ Employer should allocate time for employees to visit their families.	Y			
Employment creation	▪ Employ locals in all casual labour and ensure gender equality.	Y			Currently the Proponent employed the exploration personnel which include; the exploration manager, mine manger, geologist etc. The Proponent also contracted local companies to carry out drilling. In addition, locals are also benefiting as they are being employed on all non- skilled jobs. The Proponent is also currently renting accommodation for its employees hence indirectly creating employment for locals in this remote area. Given that, medium to minable deposits are discovered and mining activities start in future, many people will be employed. This project therefore is definitely going to be beneficial in future.
Social responsibility	▪ Continue promoting community development programmes	Y			Headspring Investments (Pty) Ltd participates in community development programmes.

Appendix C:

(Supporting Documents)

BRUMAR CONSTRUCTION CC
Structural Construction Solutions

KUPFERBERG WASTE DISPOSAL SITE
Telephone: +264 61 257 174 • Fax: +264 61 257 594
P.O. Box 1932, Windhoek, Namibia
E-mail: lab@africaonline.com.na

WASTE MANIFEST/ SAFE DISPOSAL CERTIFICATE

Ref. No.: 20721

CONTRACTING FOR WINDHOEK MUNICIPALITY

Weighbridge Transaction No.: B.....

Weighbridge Transaction No.: B 941 273

GENERATOR'S NAME AND ADDRESS	CONTACT PERSON
HEADSPRING INVESTMENTS	Name: ..... Delivery Date: 2021/12/14
TRANSPORTER'S NAME	**CONTACT PERSON**
KAD	Name: ..... Delivery Date: 2021/12/14
DISPOSAL SITE	**CONTACT PERSON**
KUPFERBERG GENERAL & HAZARDOUS WASTE DISPOSAL SITE C 26 KUPFERBERG ROAD, WINDHOEK	Mr. C. Katzao - Cell: +264 81 128 3881

WASTE DETAILS, TYPE & COMPOSITION								QTY (Kg/No.)
	Condemned/Off-Spec. Foods		Condemned Cosmetics		Seized Goods		Waste Outside WHK	
	Blood Waste		Animal Carcasses		Meat and Bone Meal		Film Effluent	
	Sewage Sludge		Tannery Effluent		Leather Trimmings		Petroleum Sludge	
	Waste Oils		Waste Oil Sludge	✓	Contaminated Soil		Transformer Oils	660kg
	Incineration Ash		Medical Waste		Pharmaceuticals		Histological (Lab)	
	Paints/Thinners		Carbide Lime		Asbestos		Bitumen	
	Chemicals		Sulphuric Acid		Ferrous Sulphate		Fluorescent Tubes	
	Plant Poisons		Chemical Containers		Flooring Adhesive		Carbon Dioxide Filters	

SPECIAL INSTRUCTIONS, TESTING & TREATMENT					
Trenching: Excluding pre-treatment		TRENCHING		Co-Disposal by Trenching	
Pre-treatment required	✓	FLY-ASH		ENCAPSULATION	
Pre-treatment required		LIME		Other (CHEMICALS)	

REMARKS:

CERTIFICATION	NAME (PRINTED)	SIGNATURE
GENERATOR: I hereby declare that the contents are properly described, packaged, marked and labelled prior to transportation according to all relevant legislation.		
TRANSPORTER: Acknowledgement of receipt of waste.		
FACILITIES/ OR OPERATOR: Acknowledgement of receipt of waste.	PAULINA	
HEALTH INSPECTOR: Acknowledgement of Off-Spec Foodstuffs.		

THIS DOCUMENT FORMS PART OF A WASTE TRACKING MEASURE TO ENSURE A SAFE DISPOSAL SYSTEM. IF FOUND PLEASE RETURN TO THE GENERATOR AS LISTED ABOVE.

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KUPFERBERG WASTE DISPOSAL SITE
Telephone: +264 61 257 174 • Fax: +264 61 257 594
P.O. Box 1932, Windhoek, Namibia
E-mail: lab@africaonline.com.na

BRUMAR CONSTRUCTION CC
Structured Construction Solutions

WASTE MANIFEST/ SAFE DISPOSAL CERTIFICATE

Ref. No.: 20747

CONTRACTING FOR WINDHOEK MUNICIPALITY

Weighbridge Transaction No.: B.....

Weighbridge Transaction No.: B 94708

GENERATOR'S NAME AND ADDRESS	CONTACT PERSON
Head Spring Investment Pty Ltd	Name: ..... Delivery Date: 2021/12/17
TRANSPORTER'S NAME	**CONTACT PERSON**
Yellow Shrimp Exploration	Name: 08132 5002 Delivery Date: 2021-12-17
DISPOSAL SITE	**CONTACT PERSON**
KUPFERBERG GENERAL & HAZARDOUS WASTE DISPOSAL SITE C 26 KUPFERBERG ROAD, WINDHOEK	Mr. C. Katzao - Cell: +264 81 128 3881

	WASTE DETAILS, TYPE & COMPOSITION							QTY (Kg/No.)
	Condemned/Off-Spec. Foods		Condemned Cosmetics		Seized Goods		Waste Outside WHK	
	Blood Waste		Animal Carcasses		Meat and Bone Meal		Film Effluent	
	Sewage Sludge		Tannery Effluent		Leather Trimmings		Petroleum Sludge	
	Waste Oils		Waste Oil Sludge	✓	Contaminated Soil		Transformer Oils	1020kg
	Incineration Ash		Medical Waste		Pharmaceuticals		Histological (Lab)	
	Paints/Thinners		Carbide Lime		Asbestos		Bitumen	
	Chemicals		Sulphuric Acid		Ferrous Sulphate		Fluorescent Tubes	
	Plant Poisons		Chemical Containers		Flooring Adhesive		Carbon Dioxide Filters	

SPECIAL INSTRUCTIONS, TESTING & TREATMENT					
Trenching: Excluding pre-treatment		TRENCHING		Co-Disposal by Trenching	
Pre-treatment required	✓	FLY-ASH		ENCAPSULATION	
Pre-treatment required		LIME		Other (CHEMICALS)	
REMARKS: Contaminated Sand with oil					

CERTIFICATION	NAME (PRINTED)	SIGNATURE
GENERATOR: I hereby declare that the contents are properly described, packaged, marked and labelled prior to transportation according to all relevant legislation.	ALDO.H	
TRANSPORTER: Acknowledgement of receipt of waste.	ALDO.H	
FACILITIES/ OR OPERATOR: Acknowledgement of receipt of waste.	Constus	
HEALTH INSPECTOR: Acknowledgement of Off-Spec Foodstuffs.		

THIS DOCUMENT FORMS PART OF A WASTE TRACKING MEASURE TO ENSURE A SAFE DISPOSAL SYSTEM. IF FOUND PLEASE RETURN TO THE GENERATOR AS LISTED ABOVE.

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ATLANTIC TRAINING INSTITUTION

P.O. Box 11877,Oshakati
Tel: +264 65 226 599
Cell: +264 81 566 3635
Email: info@atlantic-institute.com

Atlantic Training Institution
Training the future

TAX INVOICE

REG No: CC/2017/07039
VAT REG NO:7833066-01-1

Customer

Emanya Exploration Services cc
P.O.BOX 5996
Windhoek

Date	21/10/2020
Valid until	N/A
TAX INV #	002-24

DESCRIPTION	QTY	RATE	TOTAL
Firt Aid -Class A Training	14	N$1,200.00	N$16,800.00
Transportation (To and From) per km	744km	N$3.50	N$2,604.00
Accomodation	3 days	N$600.00	N$1,800.00
Small Med-Kits	7	N$860.51	N$6,023.57
Large Med Kits	2	N$1,444.45	N$2,888.90

PAID
26 OCT 2020

SUBTOTAL	N$30,116.47
VAT @ 15%	N$0.00
TOTAL	N$30,116.47

BANKING DETAILS

Atlantic Training Institution
BANK WINDHOEK
ACCOUNT NUMBER: 3001745119
BRANCH NAME : ONGWEDIVA BRANCH
BRANCH CODE : 485673
ACCOUNT TYPE : NDP

Thank you for doing business with us!!

APPROVED
By K
2020 -10- 19

Appendix D:

(Site images)

SITE IMAGES FOR EPL 6781

Site image: shows exploration wells currently on site

Site image: shows vegetation around the area of study

Site image: shows clearing around the exploration well

Site image: shows storage area for core samples. Storage facility is located off site. It is properly fenced and safety signs erected

Appendix E:

(CV's of Consultants)

JULIET RUTH MUTYAVAVIRI

Name of Consultant: Juliet Ruth Mutyavaviri
Profession: Environmental Consultant
Contact details ecowise@protonmail.com

Key Experiences

- Occupational Safety and Health
- Environmental Assessment & Management
- Water, Ecology, Climate & Livelihoods
- Project Planning and Management

Career Objective

- To contribute significantly in ensuring safety and health in working environment
- To enhance sustainable development by preventing and reducing environmental pollution, degradation and natural resources depletion

Professional Qualification

Masters (MSc) in Environmental Engineering, Namibia University of Science and Technology. **Ongoing**

BSc (Hons) Degree in Geography and Environmental Science, Midlands State University. **Upper second class (2.1)**

Work Experience

2018-present: Eco-Wise Environmental Consulting cc, **Safety Health and Environmental Consultant** (Namibia)

2016-2018: N.G.S, **Environmental Consultant** (Namibia)

2012-2013: Zimbabwe Glass Industries (Zimglass), Safety **Health and Environmental Officer**, (Zimbabwe)

Project Experience

PROJECT DESCRIPTION	LOCATION	NATURE OF WORK (ENVIRONMENTAL PROCESS)	CLIENT	PROJECT STATUS
Proposed construction and operation of Omuthiya Vocational Training Centre,	Omuthiya, Oshikoto Region	Environmental Impact Assessment (EIA) & Environmental Management Plan (EMP)	Namibia Training Authority (NTA)	ECC granted-2018
Proposed subdivision of Consolidated Erf 2238 into 44 erven and remainder	Nomtsoub, Extension 1, Tsumeb Oshikoto Region	EIA & EMP	Tsumeb Town Council	ECC Granted 2018
Proposed exploration activities on EPLs 7901,7184,7441,6775,5982	Otwani area, Opuwo Constituency, Kunene Region	EIA & EMP	Kaoko Mining Namibia (Pty) Ltd	ECC Granted 2020
Proposed exploration activities on EPLs 6123,5600	Near Sesfontein area, Kunene Region	EIA & EMP	Kaoko Mining Namibia (Pty) Ltd	ECC Granted 2020
Proposed exploration activities on EPLs 6773,7718,7423,7440,7442	Near Sesfontein area, Kunene Region	EIA & EMP	Kaoko Mining Namibia (Pty) Ltd	ECC Granted 2020
Proposed exploration activities on EPL 7878	Near Otjapitjapi area, Opuwo Constituency, Kunene Region	EIA & EMP	Kaoko Mining Namibia (Pty) Ltd	ECC Granted 2020
Proposed exploration activities on EPL 7877	Near Otjapitjapi area, Opuwo Constituency, Kunene Region	EIA & EMP	Kaoko Mining Namibia (Pty) Ltd	ECC Granted 2021
Proposed exploration activities on EPL 7339	Near Sesfontein area, Kunene Region	EIA & EMP	Kaoko Mining Namibia (Pty) Ltd	ECC Granted 2021
Proposed exploration activities on EPL 7438	Near Otjapitjapi area, Opuwo Constituency, Kunene Region	EIA & EMP	Kaoko Mining Namibia (Pty) Ltd	ECC Granted
Proposed exploration activities on mining claims 70889, 70890, 70891	Otjapitjapi area, Opuwo Constituency, Kunene Region	EIA & EMP	Kaoko Mining Namibia (Pty) Ltd	Completed
Proposed exploration activities on mining claims 71139, 71133, 71150, 71140, 71141, 71142	Otjapitjapi area, Opuwo Constituency, Kunene Region	EIA & EMP	Kaoko Mining Namibia (Pty) Ltd	Completed
Proposed exploration activities on mining claims 71153, 71154, 71155, 71156, 71136	Otjapitjapi area, Opuwo Constituency, Kunene Region	EIA & EMP	Kaoko Mining Namibia (Pty) Ltd	Completed
Proposed exploration activities on mining claims 71145, 71146, 71147, 71148	Otjapitjapi area, Opuwo Constituency, Kunene Region	EIA & EMP	Kaoko Mining Namibia (Pty) Ltd	Completed

Proposed exploration activities on mining claims 70996, 70997, 70994, 70995,68753, 68754, 68755, 70310, 70754,70755,70756, 70757, 70758, 70759 ,70992, 70993, 71135	Otwani area, Opuwo Constituency, Kunene Region	EIA & EMP	Kaoko Mining Namibia (Pty) Ltd	Completed
Proposed exploration activities on mining claims 71149, 68756, 71134, 71137, 71152	Around Opuwo area, Kunene Region	EIA & EMP	Kaoko Mining Namibia (Pty) Ltd	Completed
Environmental Management Plan for Omuthiya Sand Borrow Pit	Omuthiya, Oshikoto	EMP	Omuthiya Town Council	ECC Granted 2021
Environmental Management Plan for Omuthiya Sewage Ponds	Omuthiya, Oshikoto Region	EMP	Omuthiya Town Council	ECC granted-2021
Proposed construction and operation of Joel and Ngore Service Station	Omaheke Region	EIA/EMP	Joel and Ngore Investment	Ongoing

PROJECT DESCRIPTION	LOCATION	NATURE OF WORK (ENVIRONMENTAL PROCESS)	CLIENT	PROJECT STATUS
Construction and operation of Soweto service station	Soweto area, Katutura Windhoek, Khomas Region	EIA & EMP		ECC granted-2018
Construction and operation of Superior I.G service station	Oniipa townlands, Oshikoto Region	EIA & EMP	Superior Investments	ECC Granted 2018
Construction and operation of Masivi service station	Rundu area, Kavango East Region	EIA & EMP	Masivi Investments	ECC Granted 2018
Construction and operation of Ekuku service station	Oshakati, Oshana region	EIA & EMP		ECC Granted 2017
Safety Health and Environmental Assessment for Puma Service Stations	(Opuwo, Ruacana, Outjo & Otjiwarongo)	EMP	Puma Energy	ECC Granted 2017
Monitoring of a fertilizer blending plant	Otjiwarongo, Otjozondjupa region	Monitoring	Profile Investment Holdings (Pty) Ltd	
Safety Health and Environmental Assessment for Engen Namibia Service Stations	Gobabis 1 site, Windhoek 13 sites, Walvis Bay 1 site, Swakopmund 2 sites, Usakos 2 sites, Uis 1 site, Khorixas 1 site, Okahandja 2 sites, Divundu 1 site, Kongola 1 site, Rundu 2 sites, Katima Mulilo 1 site	EMPs	Engen Namibia	ECC Granted 2017
Proposed mining activities on mining claims 65999, 66000, 66575 & 66576	situated on farm Lofdal Khorixas area, Kunene region, Namibia	EIA & EMP	Mavrick	ECC granted 2016

Proposed construction and operation of Orwetoveni FUEL retail facility	Otjiwarongo, Otjozondjupa Region, Namibia	EIA & EMP	Sagarias Solar Energy	ECC Granted 2016
Proposed construction and operation of a bulk fuel storage handling facility	Ondangwa, Oshana Region	EIA & EMP	Engen Namibia	ECC Granted 2016
Proposed construction and operation of a fertilizer blending plant	Otjiwarongo area, Otjozondjupa Region, Namibia	EIA & EMP	Profile Investments Holdings (Pty) Ltd	ECC Granted 2016
Environmental Management Plan for Engen Windhoek Depot	Windhoek, Khomas region, Namibia	EMP	Engen Namibia	ECC Granted 2016
Proposed construction and operation of Onyati Service Station	Onyati, Oshikoto Region, Namibia	EIA & EMP	Okasisiti Express Cc	ECC Granted 2016
Proposed construction and operation of a brick manufacturing plant	Okahandja, Otjozondjupa Region, Namibia	EIA & EMP	Native Brick Namibia (Pty) Ltd	2016
Monitoring the construction of a new photovoltaic (PV) solar energy facility and power line (working in collaboration with AEE Power from Spain)	Rosh Pinah, Namibia	Monitoring	AEE Power	2016
Proposed upgrade and Extension of Township Services for Talismanus Settlement	Talismanus Settlement, Omaheke Region	EIA/EMP	Talismanus Settlement	ECC Granted-2016
Environmental management for operation of the Windhoek Depot	Windhoek, Khomas region,	EMP	Engen Namibia	ECC Granted-2016