Excel Dynamic Solutions

Environmental Management Plan (EMP)

Environmental Assessment (EA) For Exclusive Prospecting License (EPL) No. 8039 located North-west of Kalkfeld in the Erongo and Otjozondjupa Region, Namibia

DRAFT

Reference Number: APP- 002525

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1 INTRODUCTION

1.1 Project Background

Damaran Exploration Namibia (Pty) Ltd (hereinafter referred to as *The Proponent*) is the holder of the Exclusive Prospecting Licence (EPL) No. 8039, granted by the Ministry of Mines and Energy (MME). The Proponent intends to acquire an ECC in order to conduct prospecting and exploration activities on the EPL. The Proponent focuses on acquisition, exploration and development of targeted commodities (i.e. Base and Rare Metals, Industrial Minerals, and Precious Metals). The locality map of the proposed EPL site is shown in **Figure 1**. The tenure of these EPL is from 18 November, 2020 and 17 November, 2023.

Section 27 (1) of the Environmental Management Act (EMA), no. 7 of 2007 and in line with Sections 32-37 of the EMA as gazetted in 2012, the proposed prospecting and exploration activities on the EPL form part of the listed activities that may not be conducted without an EIA being undertaken and an ECC obtained. The relevant listed activities as per EIA regulations are:

- *3.1 The construction of facilities for any process or activities which requires a license, right of other forms of authorization, and the renewal of a license, right or other form of authorization, in terms of the Minerals (Prospecting and Mining Act, 1992).*
- *3.2 other forms of mining or extraction of any natural resources whether regulated by law or not.*
- *3.3 Resource extraction, manipulation, conservation and related activities.*

This statutory document has been prepared as per requirement in accordance with Section 8 of the EMA (No. 7 of 2007). The compilation of this EMP is one of the requirements (scope of work) presented to Excel Dynamic Solutions (Pty) Ltd by The Proponent. It is required of the Environmental Consultant to comply with the EMA and provide for the following:

- Prepare an explicit Environmental Management Plan to be used as a guideline to monitor compliance to the recommendations stipulated in the EIA and to assist in managing and monitoring activities throughout the operation and maintenance of the proposed exploration and prospecting activities on the EPL.
- The Environmental Consultant must clearly elucidate in the EMP the roles and responsibilities of the Proponent, the contractors and any other identified stakeholders.

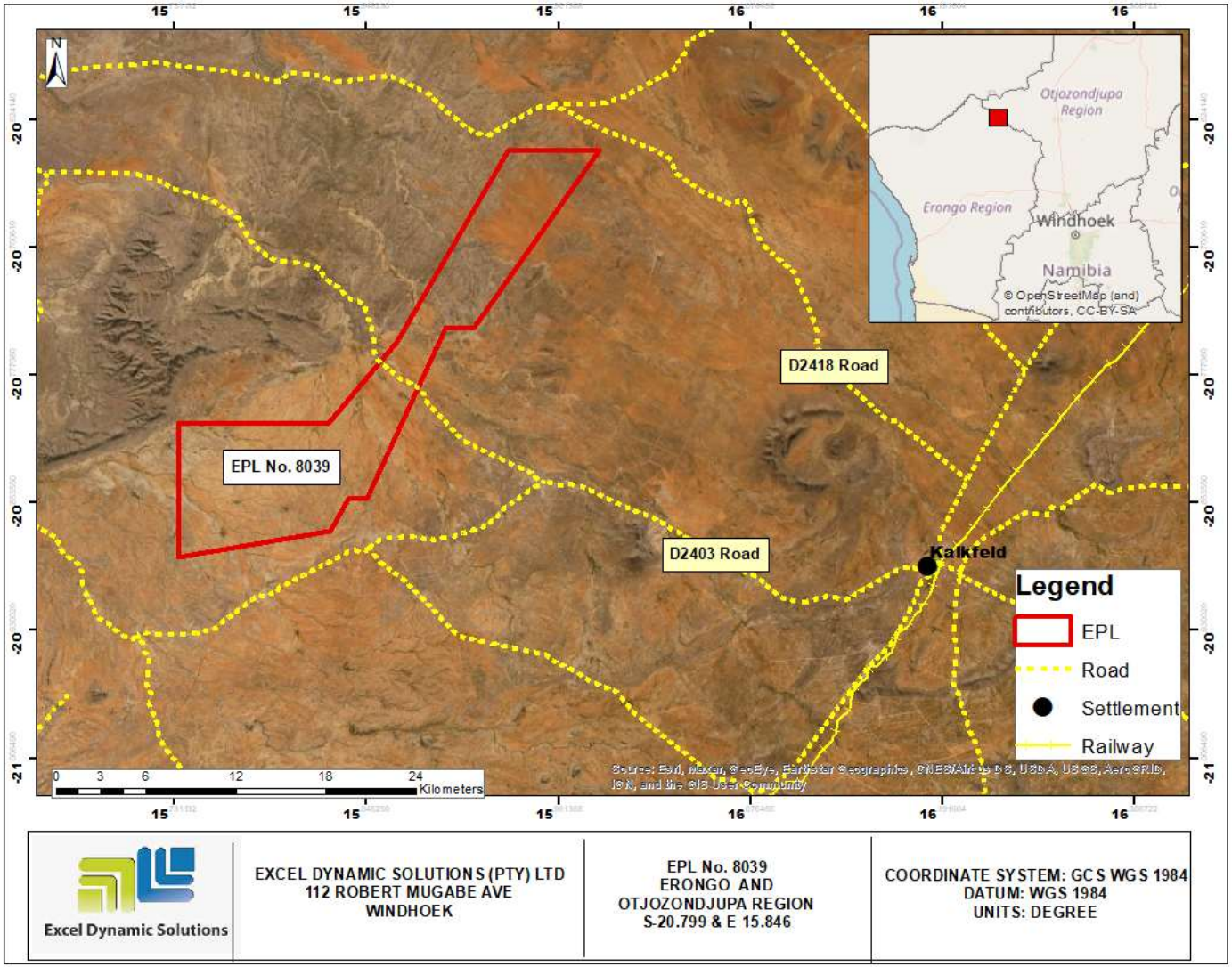

Figure 1: Location of the EPL no. 8039 located North-west of Kalkfeld, in the Erongo/Otjozondjupa Region

1.2 Aim of the Draft Environmental Management (EMP)

Regulation 8(j) of the EIA Regulations (2012) requires that a draft Environmental Management Plan (EMP) shall be included as part of the Environmental Assessment (EA) scoping report. A '**Management Plan**' is defined as:

> *"…a plan that describes how activities that may have significant environments effects on the environment are to be mitigated, controlled and monitored."*

An EMP is one of the most important outputs of the EA process as it synthesizes all of the proposed mitigation and monitoring actions, set to a timeline and with specific assigned responsibilities. It provides a link between the impacts identified in the EA process and the required mitigation measures to be implemented during operation. It is important to note that an EMP is a statutory document and a person who contravenes the provisions of this EMP may face imprisonment and/or a fine. This EMP is a living document and can be amended to adapt to address project changes and/or environmental conditions and feedback from compliance monitoring.

The purpose of this document is, therefore, to guide environmental management throughout the different phases of the proposed exploration activities, namely: operation and maintenance phase, and decommissioning phase:

- **Operation and Maintenance -** This is the phase where The Proponent will do exploration and prospecting for the targeted commodity groups and undertake related activities on site. It is also the phase during which maintenance of the area, equipment and machinery is done by The Proponent.
- **Decommissioning and Rehabilitation** – This is the phase during which the exploration activities on the EPL cease. The decommissioning of the exploration operations may be considered as a result of poor exploration results or declining in the focus commodity market price. Before the decommissioning phase, The Proponent will need to put site rehabilitation measures in place.

***Environmental Monitoring Requirements*:** In order to support and ensure that the proposed mitigation measures are achieving the desired results, a monitoring plan must be implemented alongside the mitigation plan.

This draft EMP will be used by The Proponent, employees and/or contractors to provide management measures to be undertaken during the exploration and prospecting activities, to

address the environmental impacts identified in the scoping report and ensure that the impacts on the environment are avoided, or limited if they cannot be avoided completely.

1.3 Appointed Environmental Assessment Practitioner

In order to fulfill the requirements of the EMA and its 2012 EA Regulations, The Proponent appointed Excel Dynamic Solutions (Pty) Ltd (EDS), an independent consulting company to conduct the required EA process on their (Proponent's) behalf. This draft EMP will be submitted as part of an application for an ECC to the Environmental Commissioner at the Department of Environmental Affairs (DEA), at Ministry of Environment, Forestry and Tourism (MEFT).

The EA project is headed by Mr. Nerson Tjelos, a qualified geoscientist and experienced Environmental Assessment Practitioner (EAP). The consultation process and reporting are done by Mr. Silas David and reviewed by Ms. Rose Mtuleni and Mr. Nerson Tjelos.

1.4 Environmental Assessment Legal Requirements

The content of the EMP must meet the requirements of Section 8 (j) of the EIA Regulations. The EMP must address the potential environmental impacts of the exploration and prospecting activities on the environment throughout the project life-cycle. It must also include a system for assessment of the effectiveness of monitoring and management arrangements after project implementation.

The Proponent, therefore, has the responsibility to ensure that the exploration activities as well as the EA process conform to the principles of the EMA and must ensure that employees act in accordance with such principles. **Table 2** below lists the requirements of an EMP as stipulated by Section 8 (e) of the EIA Regulations, primarily on specific approvals and permits that may be required for the activities required of the EPL.

Table 1: Applicable legal requirements and permits to the activities of the EPL

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Environmental Management Act EMA (No 7 of 2007)	Requires that projects with significant environmental impacts are subject to an environmental assessment process (Section 27). Details principles which are to guide all EAs.	The EMA and its regulations should inform and guide this EA process.

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878)	Details requirements for public consultation within a given environmental assessment process (GN 30 S21). Details the requirements for what should be included in a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15).	Should the ECC be issued to the Proponent, it should be renewed every 3 years, counting from the date of issue. Contact details at the Department of Environmental Affairs (DEA), Ministry of Environment and Tourism (MET) Contact person(s) at MET and their details: **Mr. Damian Nchindo or Mr. Josafat Hiwana** (Chief and Senior Conservation Scientists and EIA Report Reviewers/evaluators) Tel: +264 61 284 2717 / +264 61 284 2962 Email: damian.nchindo@met.gov.na and josafat.hiwana@met.gov.na, respectively
Minerals (Prospecting and Mining) Act (No. 33 of 1992)	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): details provisions pertaining to the decommissioning or abandonment of a mine	The Proponent should ensure that all necessary permits/authorization for these exploration activities (if any) are obtained from the Ministry of Mines and Energy (MME). Contact person and details at the MME (Mining Commissioner) **Mr. Erasmus Shivolo** Tel: +264 61 284 8167

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
		Email: Erasmus.Shivolo@mme.gov.na
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)	Regulation 3(2)(b) states that "No person shall posses [sic] or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area"	The Proponent should obtain the necessary authorisation form the MME for the storage of fuel on-site. **Carlo Mcleod** (Ministry of Mines and Energy: Acting Director – Petroleum Affairs) Tel: +264 61 284 8291
Labour Act 11 of 2007 Health and Safety Regulations (HSR) GN 156/1997 (GG 1617).	Adhere to all applicable provisions of the Labour Act and the Health and Safety regulations.	**Division of Labour Services** at the Ministry of Labour, Industrial Relations and Employment Creation. Tel: +264 61 206 6111
Forestry Act 12 of 2001, Amended Act 13 of 2005	Prohibits the removal of any vegetation within 100 m from a watercourse (Forestry Act S22 (1)). The Act prohibits the removal of and transport of various protected plant species.	Should there be protected plant species, which are known to occur within the project site, these are required to be removed and a permit should be obtained from the nearest Forestry office (Ministry of Agriculture, Water & Forestry(MAWF)) prior to removing them. Contact Details at MAWF (Director of Forestry) **Mr. Joseph Hailwa** Tel: +264 61 208 7663 Email: Joseph.Hailwa@mawf.gov.na

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
National Heritage Act No. 76 of 1969	Call for the protection and conservation of heritage resources and artefacts.	Should any archaeological material, e.g. bones, old weapons/equipment etc be found on the exploration site, work should stop immediately and the National Heritage Council of Namibia must be informed as soon as possible. The Heritage Council will then decide to clear the area or decide to conserve the site or material. Contact Details at National Heritage Council of Namibia **Mr. Salomon April or Dr. Alma Nankela** Tel: +264 81 244 375
Road traffic and transport Act 52 of 1999 and its 2001 Regulations	Provides for the control of traffic on public road and the regulations pertaining to road transport, including the licensing of vehicles and drivers.	**Eugene de Paauw** (Roads Authority- specialist Road legislation) Tel: +264 61 284 7072

1.5 Draft EMP Limitations

This EMP has been drafted with the acknowledgment of the following limitations:

- This EMP has been drafted based on the Environmental Assessment (EA) conducted for targeted prospecting and exploration of Base and Rare Metals, Industrial Minerals, and Precious Metals on the EPL located northwest of Kalkfeld in Erongo/Otjozondjupa regions. **No specialist study was included as part of the environmental assessment**.
- The mitigation measures recommended in this EMP document are based on the risks/impacts in the EA Report which were identified based on the project description as provided by the Proponent, site investigation and public input. Should the scope of the proposed project change, the risks/impacts will have to be reassessed and mitigation measures provided accordingly.

2 EMP ROLES AND RESPONSIBILITIES

The Proponent is ultimately responsible for the implementation of the EMP. However, the Proponent may delegate this responsibility at any time, as they deem necessary during the project phases. The roles and responsibilities of all delegates/parties involved in the effective implementation of this EMP are set out below:

Competent Monitoring Authority (Ministry of Environment, Forestry and Tourism: Department of Environmental Affairs (DEA)): Responsible for enforcing compliance with the EMA, its regulations and full implementation of this EMP. The competent authority also reviews biannual reports and grant ECC renewal after 3 years following an environmental Audit.

Proponent's Representative (PR): If the Proponent does not personally manage all aspects and phases' activities referred to in this EMP, they should assign this responsibility to a suitably qualified individual referred to in this plan as the Proponent's Representative (PR). The PR may be appointed to manage all phases of the exploration project, or to manage only the EMP aspects for the project. The PR's responsibilities may include:

- Managing the implementation of this EMP and updating and maintaining it when necessary.
- Management and monitoring of individuals and/ or equipment on-site in terms of compliance with this EMP.
- Issuing fines for contravening EMP provisions.

Exploration Project Manager (as appropriate): This individual(s) will be responsible to ensure that the exploration and prospecting activities of the project are completed on time. The manager's duties and responsibilities will include:

- Ensure that relevant commitments contained in the EMP Action Plans are adhered to.
- Ensure relevant staff is trained in procedures entailed in their duties.
- Maintain records of all relevant environmental documentation for the project.
- Reviewing the EMP annually and amending the document when necessary.
- Issuing fines to individuals who may be in breach of the EMP provision and if necessary, removing such individuals from the site.
- Cooperate with all relevant interested and affected parties/stakeholders.
- Development and management of schedules for daily activities.

Environmental Control Officer or Environmental, Health & Safety Officer: The Proponent may assign the responsibility of ensuring EMP compliance throughout the project life cycle to a designated member of staff or external qualified and experienced person, referred to in this EMP as the Environmental Control Officer (ECO) or Safety, Health & Environment, (SHE) Officer. The ECO/SHE will have the following responsibilities:

- Management and facilitation of communication between the Proponent, PR and Interested and Affected Parties (I&APs) with regard to this EMP.
- Conducting site inspections (recommended frequency is monthly during the operation phase and bi-annually for the operation and maintenance) of all areas with respect to the implementation of this EMP (monitor and audit the implementation of the EMP).
- Advising the PR on the removal of person(s) and/or equipment not complying with the provisions of this EMP.
- Making recommendations to the PR with respect to the issuing of fines for contraventions of the EMP.
- Undertaking an annual review of the EMP and recommending additions and/or changes to this document.
- Ensuring that the operational activities on site operate according the International System organization (ISO) standard 14001: 2015.

2.1 Management of Key Potential Environmental Impacts to be managed

From the assessment conducted, the following key potential negative impacts have been identified per project phase and are summarized in **Table 2** below.

Table 2: Summary of key potential environmental impacts per project phase

	Project Phase	Potential negative impacts identified in the EA
1	Operation and maintenance	Biodiversity loss, dust generation, Occupational Health and safety risks, Scars to landscape, Waste generation, Noise.
2	Decommissioning	Loss of employment by workers at the mining site and contribution to the national economy.

2.2 Aim of the Environmental Management Plan Actions

The aim of the management actions of the EMP is to avoid potential negative impacts where possible. Where impacts cannot be avoided, measures are provided to reduce the significance of these impacts.

Management actions recommended for the potential impacts rated in the EIA carried out for the prospecting and exploration activities were based on the three project phases listed below:

- Operation Phase (**Table 3**)
- Monitoring (**Table 4**)
- Decommissioning and Rehabilitation

The responsible person(s) should assess these actions in detail and acknowledge their commitment to the specific management actions detailed in the phases given under the following subsections.

2.3 Phase 1: Operation Phase Management Action Plans (Mitigation Plan)

The management action plans recommended for this phase are presented in **Table 3** below.

Table 3: Management action plans for the Operation and Maintenance Phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
EMP training	Lack of EMP awareness and the implications thereof	• All personnel should be educated about the necessary health, safety and environmental considerations applicable to their respective works.	ECO/SHE Officer	Prior to site setup activities Ongoing
Monitoring	EMP non-compliance	• The implementation of this EMP should be monitored. • An EMP non-compliance penalty system should be implemented on site	ECO/SHE Officer	During the course of the exploration Phase
Water Resources Use	Over-abstraction leading to the depletion of local aquifer resources	• Water reuse/recycling methods should be implemented as far as practicable, especially for drilling works. Water used for equipment should be captured and used for the cleaning of equipment if possible. • The Proponent should prioritize the use of reverse circulation (RC) technique as far as possible over diamond drilling, which consumes relatively more water. • In the case that the exploration works will mainly rely on diamond drilling over RC and the local boreholes cannot provide the required water volumes, the Proponent should consider transporting water from sources with sufficient supply or from beyond the exploration area.	ECO	Throughout exploration phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
Visual (sense of place)	Scarring of Landscape	• All the necessary options to improve the aesthetic of the site should be considered and incorporated in the activities of the prospecting and exploration program. • The Proponent should consider the implementation of continuous rehabilitation programme, by using overburden waste rocks.	Exploration Manager ECO / SHE Officer	Throughout exploration phase
Biodiversity	Loss of biodiversity	• Vegetation found on the site, but not in the targeted areas of exploration should not be removed, but left to preserve biodiversity on the site. • Even if a certain shrub or tree is found along exploration spots on site, this does not mean that it should be removed. Therefore, care should be taken when exploring for/extracting mineral species without destroying the vegetation. • Where vegetation clearing and/or damage is unavoidable, permits for clearing protected plant species should be obtained from the nearest Forestry office. These permits can be obtained either from the Kalkfeld Forestry office. • Environmental awareness on the importance of biodiversity preservation should be provided to the workers. • Personnel should refrain from damaging or cutting down vegetation that is not within exploration site footprints and not necessarily require removal for the exploration activities.	ECO/SHE Officer/Exploration Manager/ Personnel	Throughout the exploration phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
		• The movement of vehicles and machinery should be restricted to existing roads and tracks to prevent unnecessary damage to the vegetation. • No personnel are allowed to cut down or damage trees belonging to the landowners without permission.		
Air Quality	Generation of dust and emissions of hydrocarbons from vehicles	• The exploration schedule should be limited to between 08h00 and 17h00 in order to keep the vehicle-related to dust level minimal in the area. • Vehicles and machinery on site should be serviced regularly to prevent emission of harmful gases. • Vehicle and machinery on site should be serviced regularly to prevent emission of harmful.	Exploration Manager ECO/SHE Officer	Throughout the exploration phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
Waste Generation	General waste	• Workers should be sensitized to dispose of waste in a responsible manner and not to litter. • After each daily works, the Proponent should ensure that there are no wastes left on site. • All domestic and general operational waste produced on a daily basis should be contained until such that time it will be transported to designated waste site. • No waste may be buried or burned on site or anywhere else. • The exploration site(s) should be equipped with separate waste bins for hazardous and general waste/domestic. • A penalty system for irresponsible disposal of waste on site and anywhere in the area should be implemented.		
	Solid waste during exploration operations	• Provision of animal-proof waste storage containers for storage of waste until disposal at a designated disposal site. • Personnel should dispose of waste in a responsible manner and not litter. • The project site should be equipped with different waste bins for each waste type (except for sewage that will be contained in the provided chemical toilets and/ or periodical type of long drop ablution). • After each daily works, no waste should be left scattered on site. • No waste may be buried or burned on site or anywhere else throughout the exploration duration.		

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
		• All domestic and general waste produced on a daily basis should be contained until such that time it will be transported to designated waste site on a weekly basis or as required.		
Occupational Health and Safety	Health and safety of the workers associated with exploration activities	• A comprehensive health and safety plan should be compiled for all exploration drilling activities. • All personnel should be trained in/sensitised to the potential health and safety risks associated with their respective jobs. • As part of their induction, the workers should be provided with an awareness training of the risks of mishandling equipment and materials on site • When working on site, employees should be properly equipped with personal protective equipment (PPE) such as coveralls, gloves, safety boots, earplugs, safety glasses, etc. • No employee should be allowed to drink alcohol prior to and during working hours as this may lead to mishandling of equipment which results into injuries and other health and safety risks. • Employees should not be allowed on site if under the influence of alcohol.	Exploration Manager ECO/SHE Officer	Prior to site setup activities and as required throughout the exploration phase
	Accidental fire outbreak	• Portable fire extinguishers should be provided on site. • No open fires to be created by exploration personnel.	ECO / SHE Officer	Throughout the exploration phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
Noise & Vibration	Potential Increase in noise levels and vibrations in the area of operations	• During exploration, the operational times should be set such that, no activity is carried out during the night or very early in the mornings. • Exploration drilling activities usually done every day of the week in order to meet exploration deadlines and because of this there will be no limitation to days allocated to this. However, in order to limit the noise from equipment and the movement of vehicles, exploration works should be limited to or only be done between 08h00 and 17h00. • When operating the drilling machinery onsite, workers should be equipped with appropriate personal protective equipment (PPE) such as earplugs to reduce noise exposure. • Machinery and vehicles should be serviced regularly so that they function normally without excessive noise.	Exploration Manager ECO/ SHE Officer	Throughout the exploration phase
Vehicular Safety	The increase in traffic density and slow moving exploration trucks may lead to road accidents	• Drivers should drive slowly (40km/hour or less), and on the lookout for local livestock and wildlife • All drivers of the project vehicles should be in possession of valid and appropriate driving licenses to operate such vehicles. • Vehicle drivers should adhere to the road safety rules. • Project vehicles should be in a road worthy condition and serviced regularly in order to avoid accidents as a result of mechanical faults of vehicles. • Vehicle drivers should only make use of designated site access roads provided.	ECO/SHE Officer	Throughout the exploration phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
		• Vehicles drivers should not be allowed to operate vehicles while under the influence of alcohol. • All project related heavy trucks and others vehicles should only be parked within the allocated or designated project site boundaries.		
Soils	Land Degradation	• Overburden material (if any) should be handled efficiently during exploration operations to avoid erosion when subjected erosional processes. • Prevent the creation of huge piles of waste rocks by performing sequential backfilling. • Site soils should not be disturbed, if not needed or related to the actual exploration works. • Spill control preventative measures should be put in place to manage soil contamination, no matter how small the amount of pollution (spill) is.	Exploration Manager ECO/SHE Officer	Throughout the exploration phase
Water and soil pollution	Comprised water quality due to fuel and lubricant spills	• Regular inspections and servicing of vehicles and machinery off-site or in designated areas. • Fuels and lubricants must be stored in containers. If stored on the ground, these containers should be placed on a non-permeable surface (e.g. high-density polyethylene plastic sheets). • Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility.	ECO / SHE Officer	Throughout the exploration phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
		• Soil contamination should be minimised by lining the ground with durable plastic where necessary. • Washing of equipment contaminated hydrocarbons, as well as the washing and servicing of vehicles should take place at a dedicated area, where contaminants are prevented from contaminating soil or water resources. • The exploration effluent/wet waste and hydrocarbons should be contained on site in designated containers and disposed of in accordance to municipal wastewater discharge standards, so that they do not reach to local groundwater systems. • Chemical used for drilling activities (in the drilling mud) should be non-hazardous and biodegradable (Resilient Environmental Solutions, 2019)		
Poaching of wildlife	Illegal hunting of wildlife (Poaching) by exploration workers	• Exploration personnel should not hunt wildlife on and around the project site. • Site personnel should refrain from killing/poaching or snaring or intentionally disturbing local animals that may be found on and around the exploration site. • Personnel are not allowed to kill or in any way disturb local livestock. • Any project personnel to be found poaching wildlife in the area should be reported to the nearest Police Station or Anti-Poaching Unit.	Exploration Manager ECO/SHE Officer	Throughout the exploration phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
		• The Proponent should work together with the Police and/or the Anti-Poaching Unit in the area to raise awareness on the negative impact of poaching to the local and regional economy.		
Archaeology and cultural heritage	Potential disturbance to archaeological and cultural heritage resources	• The Proponent should consider having a qualified and experienced Archaeologist on standby during the entire operational phase. This action will be to assist on the possible of uncovering of sub-surface graves or other Cultural/heritage objects and advice the Proponent accordingly. • Exploration workers should be informed to not destroy/damage any unknown object or archeological materials found/discovered on site during exploration operations, but to report these objects to the Exploration Manager or ECO who then informs the National Heritage Council of Namibia (NHC). • Caution should be exercised when carrying out excavations associated with the exploration activities in the event that archaeological/heritage reamains are discovered.	Exploration Manager ECO/SHE Officer	Prior to site setup activities. Ongoing observation
HIV and AIDS (Other STIs)	Potential increase of prevalence of HIV and AIDS, as well as other STIs prevalence	• The workers should be engaged in health talks and training about the dangers of engaging in unprotected sexual relations which results in contracting HIV/AIDS and other sexual related infections • Provision of condoms and sex education through distribution of pamphlets. These pamphlets can be obtained from local health facilities	SHE Officer	During site setup and throughout exploration phase

2.4 Phase 2: Monitoring Phase Management Action Plans (Monitoring Plan)

In order to support and ensure that the proposed mitigation measures are achieving the desired results, a monitoring plan must be implemented. The monitoring action plans recommended for planned exploration works are presented in **Table 4** below.

Table 4: Management action plans for the Monitoring Phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequent	Threshold	Action if threshold is exceeded
Soils	Loss of top soil	• All measures should be considered to present the loss of top soil	SHE Officer/ Exploration Manager	weekly	Proliferation of new vehicle tracks	Rehabilitation of affected areas
Monitoring	EMP non-compliance	• The ECO or the Proponent/Contractor should monitor the implementation of this EMP to ensure compliance. • The ECO(s) should inspect the site throughout the exploration period and after completion.	ECO/ SHE Officer	Daily	Increase in health, safety and environmental damage incidence	Daily safety talks, Remedy the consequences
Biodiversity	Loss of biodiversity	• Clear only footprint areas to maintain as much of the remaining natural vegetation on site and to prevent loss of habitat	ECO Workers involved in this phase	Weekly	Vegetation clearance outside of marked areas.	Rehabilitation of affected areas to the satisfaction of the SHE Officer

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequent	Threshold	Action if threshold is exceeded
Health and Safety	Health and safety of the workers	• Exploration workers should be trained on how to handle materials and equipment on site (if they do not already know how to) in order to avoid injuries. • Exploration equipment and materials transported to site should be securely fastened to the vehicles (trucks and cars). This is to ensure that the materials and equipment do not fall off the vehicles and cause injuries to anyone while transporting them. • The proponent and ECO/SHE Officer should ensure that all personnel are provided with appropriate personal protective equipment (PPE), such as gloves, safety boots, safety glasses and hard hats at all times during exploration (operation) hours on site to prevent serious injuries or loss of life	ECO/SHE Officer Worker Involved in this phase	Daily/Weekly	Health and safety incident	Remedy the consequences

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequent	Threshold	Action if threshold is exceeded
		• No employee should be allowed to drink alcohol prior to and during working hours as this may lead to mishandling of equipment which results into injuries and other health and safety risks.				
Neighbours to the site	Disturbance	• Exploration works schedule should be limited to normal working hours, between 08h00 and 17h00. This is to ensure generated noise does not become nuisance to the neighbours.	ECO Exploration Manager	Weekly	A logged complaint about excessive noise	Revision of site activities
Waste	Environmental Pollution	• The exploration site should be kept tidy at all times. • All domestic and general construction waste produced on a daily basis should be cleaned and contained daily to prevent environmental pollution. • Separate waste containers (bins) for hazardous and domestic / general waste must	ECO/SHE Officer Workers involved in this phase	Daily	Visible litter around project site A logged complaint	Clean-up of the affected areas and ensuring exploration workers utilise waste containers provided.

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequent	Threshold	Action if threshold is exceeded
		be provided on site to avoid mixing of waste				
Transport		• Exploration project workers will be transported, in an SUV/ bus (or similar suitable passenger vehicle) to and from site prevent inhaling of dust.	ECO/ SHE Officer	Daily	A logged complaint about bad form of transport affecting occupational safety and health of workers	
HIV and AIDS or STIs infections	Potential increase in HIV and AIDS prevalence	• To prevent new infections in the area	SHE Officer	Monthly		
Vehicular traffic safety	Increase in local traffic flow	• All drivers of the project vehicles should be in possession of valid and appropriate driving licenses to operate such vehicles. • Project vehicles should be in a road worthy condition and serviced regularly in order to avoid accidents as a result of mechanical faults of vehicles. • Vehicles drivers should not be allowed to operate vehicles	ECO/SHE Officer	Weekly	A logged complaint about traffic increase or damage to RA roads	Find alternative access roads for the team. Rehabilitation of affected roads

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Frequent	Threshold	Action if threshold is exceeded
		while under the influence of alcohol. • No heavy trucks or project related vehicles should be parked next to the residents' properties or obstruct the local traffic in any way.				

2.5 Phase 3: Decommissioning and Rehabilitation Phase

Decommissioning and rehabilitation will involve the following:

- Necessary landscaping of exploration areas will be undertaken upon completion of each phase of exploration
- Capping or backfilling of all drilled holes with loose materials.
- Collecting and disposing domestic waste at the nearest landfill/ dumpsite.
- Leveling the stockpiled top soil during exploration activities.
- Any temporary setup of camps should be dismantled, and the area should be rehabilitated as far as possible to its original state.

3 ENVIRONMENTAL MONITORING

In order to minimize the "medium" and uphold the "low" significance ratings of impacts identified and assessed in the EA report; bi-annual EMP compliance audits should be carried out during the course of the project cycle. The first bi-annual audit exercise should be done counting 6 months from the date of ECC issuance. Monitoring reports are to be compiled and submitted to the Department of Environmental Affairs (DEA) for archiving. This practice will make any considerations for ECC renewal easy when it is about to expire. Therefore, the Proponent should meritoriously monitor and submit the reports to the DEA. The submission is not only done for record keeping purposes, but also in compliance with the environmental legislation.

4 CONCLUSION

Potential negative and positive impacts stemming from the proposed prospecting and exploration activities were acknowledged, assessed and mitigation measures made thereof. The mitigation measures indorsed in the EA report and management action plans provided in the draft Environmental Management Plan can be considered adequate to elude and/or reduce the risks to acceptable levels. Therefore, Excel Dynamic Solutions (Pty) Ltd assures that these measures are sufficient to enable environmentally sustainable and safe exploration works on the EPL 8039. Therefore, it is recommended that an ECC issued in this regard should be issued on condition that the provided management measures and action plans are effectively implemented on site and monitored. Predominantly, monitoring of the environmental components described in the EA should be conducted by the Proponent and applicable Competent Authorities. This is to ensure that all potential impacts identified in this study and other impacts that might arise during implementation are properly identified in time and addressed. Furthermore, should the ECC be issued, the proponent will be expected to be compliant with the ECC conditions as well as legal requirements governing the prospecting and exploration activities.