SERJAHGE CONSULTANTS
CC/2020/0010007

Draft Environmental Management Plan (EMP)

The Proposed Prospecting and Exploration Activities on Exclusive Prospecting License (EPL) No. 8904 located East of Sesfontein in the Kunene Region, Namibia

MEFT Application No.: **APP-01885**

Document Version: **Draft as prescribed by Regulation 8(j) of the EIA Regulations (2012) – It is a living document that can be updated throughout the project cycle, as deemed necessary**

Proponent: **Gemco Investments CC**

P. O. Box 27158 Windhoek, Namibia

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DOCUMENT INFORMATION

Title: Draft Environmental Management Plan (EMP) for the Proposed Prospecting and Exploration Activities on Exclusive Prospecting License (EPL) No. 8904 located East of Sesfontein in the Kunene Region, Namibia

Prepared by:

Author:	Fredrika N. Shagama (Hydrogeologist & Environmental Consultant / EAP*)
Qualifications:	PhD. Student: Civil Engineering (Geotechnics & Hydrogeology), VSB - Technical University of Ostrava, Czech Republic MSc. Geological Engineering (*cum laude*) with primary focus in Hydrogeology, VSB - Technical University of Ostrava, Czech Republic BSc. Geological Engineering, VSB - Technical University of Ostrava, Czech Republic
Professional Affiliations:	International Association of Hydrogeologists (IAH) - Full (online) Member, Membership No.139790 Namibian Hydrogeological Association (NHA) – Member Environmental Assessment Professionals of Namibia (EAPAN) - Ordinary Member Practitioner (Membership No. 183)
Contact Details:	Mobile: +264 81 749 9223 Email: eias.public@serjaconsultants.com Postal Address: P. O. Box 27318 Windhoek, Namibia
Signature:	
Date:	15 February 2024

EAP* - *Environmental Assessment Practitioner*

SERJA' STATEMENT OF INDEPENDENCE

As the Appointed Environmental Consultant to undertake the Environmental Scoping Assessment (ESA) Study and Preparation of this Draft Environmental Management Plan (EMP) for the Proposed Prospecting and Exploration Activities on Exclusive Prospecting License (EPL) No. 8904 located East of Sesfontein in the Kunene Region, Namibia, Serja Hydrogeo-Environmental Consultants cc declare that we:

- do not have, to our knowledge, any information or relationship with the Proponent (Gemco Investments CC), the Ministry of Environment, Forestry and Tourism (MEFT)'s Department of Environmental Affairs and Forestry (DEAF) or the Competent Authority (Ministry of Mines and Energy (MME) that may reasonably have potential of influencing the outcome of this Environmental Assessment and the subsequent Environmental Clearance Certificate applied for.
- have knowledge of and experience in conducting environmental assessments, the Environmental Management Act (EMA) No. 7 of 2007 and its 2012 Environmental Impact Assessment (EIA) Regulation as well as other relevant national and international legislation, guidelines, policies, and standards that govern the proposed project as presented herein.
- have performed work related to the ECC application in an objective manner, even if the results in views and findings or some of these may not be favorable to the Proponent.
- have complied with the EMA and other relevant regulations, guidelines and other applicable laws as listed in this document.
- declare that we do not have and will not have any involvement or financial interest in the undertaking/implementation of the proposed project, other than remuneration (professional fees) for work performed to conduct the ESA and apply for the ECC in terms of the EIA Regulations' requirement as an Environmental Assessment Practitioner (EAP).

Disclaimer: Serja Hydrogeo-Environmental Consultants will not be held responsible for any omissions and inconsistencies that may result from information that was not available at the time this document was prepared and submitted for evaluation.

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Signature:

Fredrika N. Shagama: Principal Environmental Assessment Practitioner & Hydrogeologist

Date: 15 February 2024

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LIST OF ABBREVIATIONS

DEAF: Department of Environmental Affairs and Forestry

DWA: Department of Water Affairs

ECC: Environmental Clearance Certificate

ECO: Environmental Control Officer

EIA: Environmental Impact Assessment

EMA: Environmental Management Act

EMP: Environmental Management Plan

EPL: Exclusive Prospecting License

ESA: Environmental Scoping Assessment

GG & GN: Government Gazette & Government Notice

I&APs: Interested and Affected Parties

MAWLR: Ministry of Agriculture, Water and Land Reform

MEFT: Ministry of Environment, Forestry and Tourism

MME: Ministry of Mines and Energy

ND TA: Nami Daman Tradition Authority (Traditional Authority for the area hosting the EPL)

NHC: National Heritage Council

PRO: Public Relation Officer

PPE: Personal Protective Equipment

SHE Officer: Safety, Health & Environment Officer

VDCs: Village Development Committees

1 INTRODUCTION

1.1 Project Background and Location

Gemco Investments CC (hereinafter referred to as the Proponent) had applied for the rights to prospect and explore on Exclusive Prospecting Licences (EPL) No. 8904 from the Ministry of Mines and Energy (MME) on the 07th of June 2022. The letters of the intention to grant the EPL issued to the Proponent by MME requires that an Environmental Clearance Certificate (ECC) is obtained first and submitted to the MME for consideration of the EPL as shown on the Namibia Mines and Energy Portal (''pending ECC'') https://portals.landfolio.com/namibia/ - Figure 1-1.

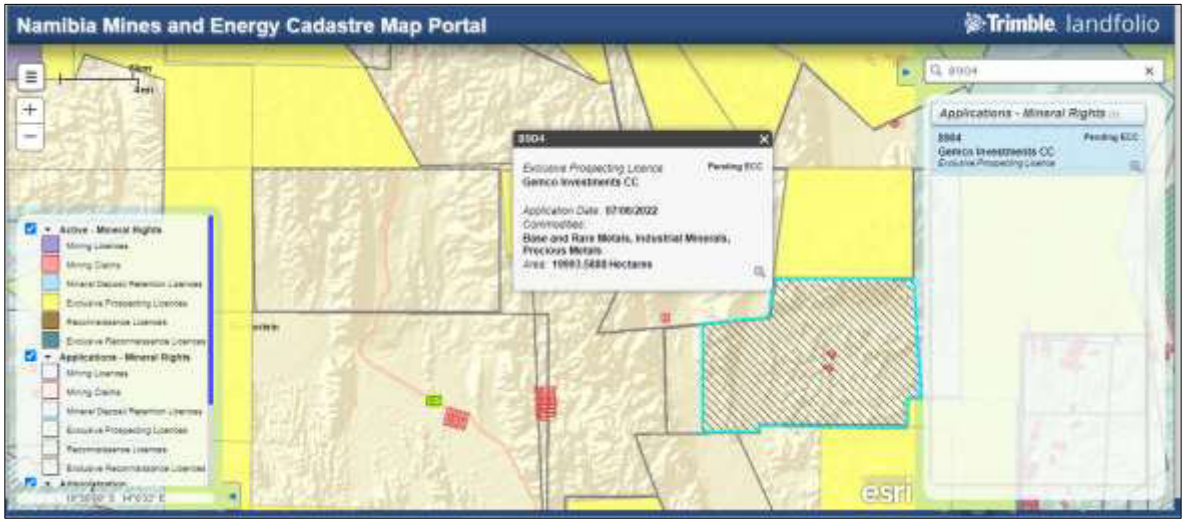

Figure 1-1: The status of EPL-8904 on the Namibia Mines and Energy Cadastre Map Portal (https://portals.landfolio.com/namibia/)

Upon issuance of the ECC and approval of the EPL, the Proponent intends to prospect and explore mineral commodities such as Base & Rare Metals, Industrial Minerals, and Precious Metals within EPL-8904. The EPL covers an area of 19,993.5888 hectares (ha) and located about 40km east of Sesfontein Settlement in the Sesfontein Constituency of the Kunene Region - Figure 1-2. The EPL lies within the Omatendeka Conservancy as shown on the Land Use map in Figure 1-3.

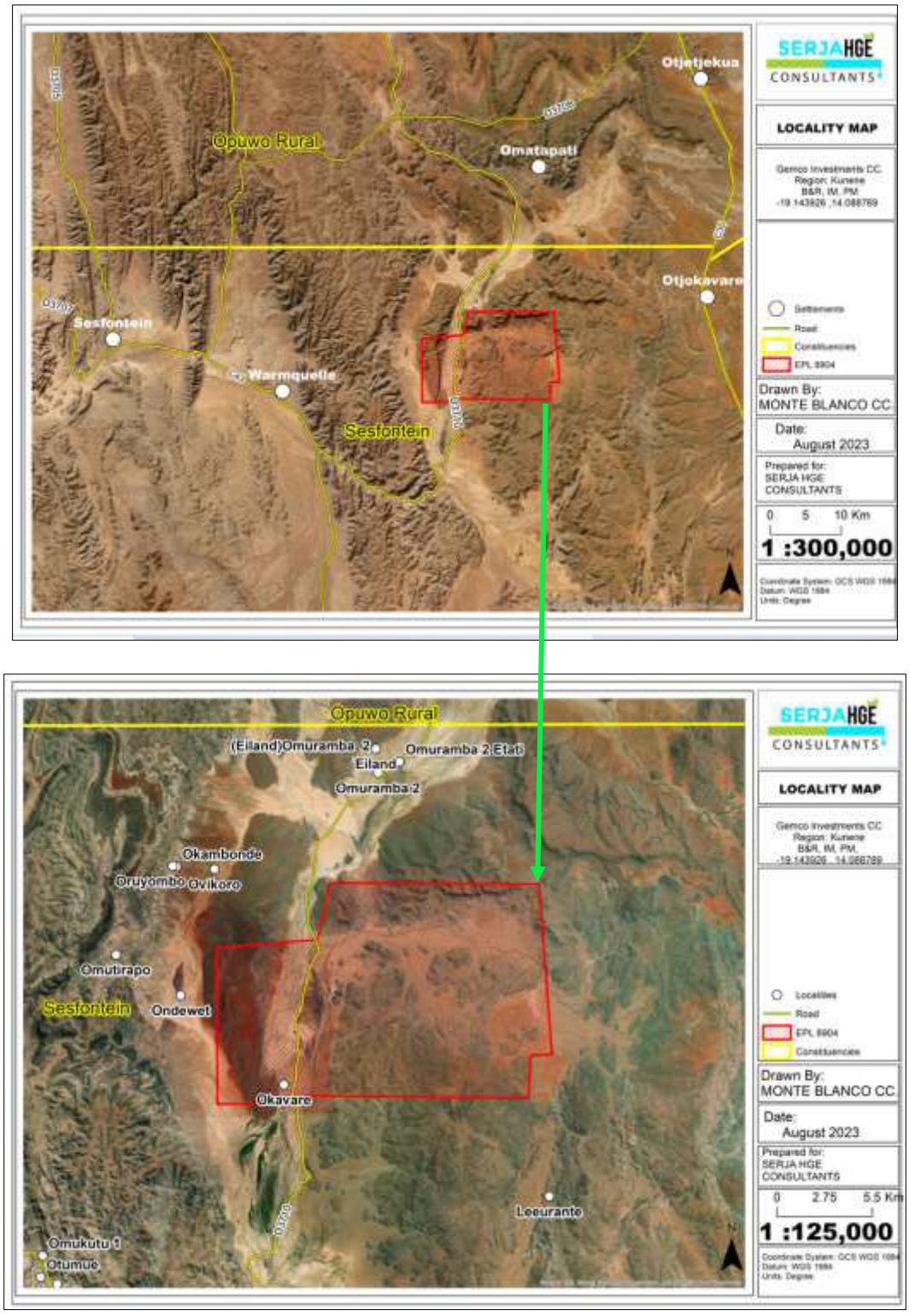

Figure 1-2: Locality map of EPL-8904 east of Sesfontein, Kunene Region

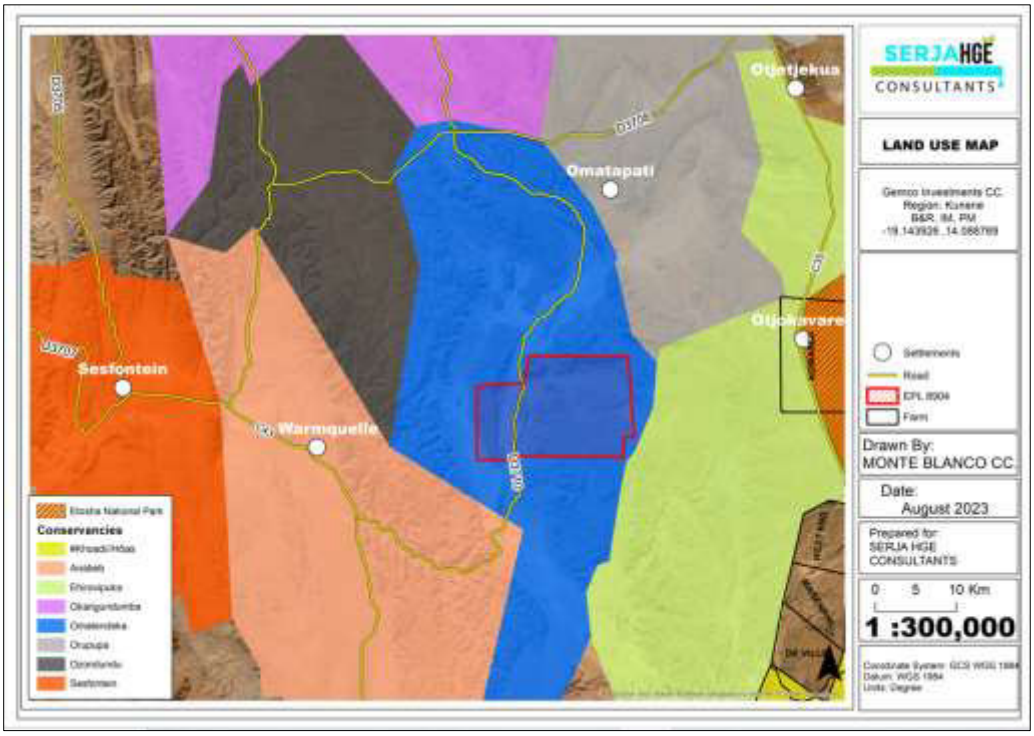

Figure 1-3: The location of the EPL within the significant land use (Omatendeka Conservancy)

The GPS coordinates of the EPL corners are presented in Table 1-1 below.

Table 1-1: The GPS coordinates of the EPL

Point	GPS Coordinates	Point (continued)	GPS Coordinates
A	-19.0827 14.0585	E	-19.1975 14.0001
B	-19.0833 14.1672	F	-19.1166 13.9997
C	-19.1723 14.1628	G	-19.1122 14.0522
D	-19.1946 14.1618	Centre Coordinates	-19.1398 14.0975

1.2 Purpose of the Draft Environmental Management Plan (EMP)

The Draft EMP is developed in accordance with Regulation 8(j) of the EIA Regulations (2012) that it should 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 the proposed management & 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 exploration. 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 EMP is therefore aimed at guiding environmental management throughout the different phases of the proposed exploration activities, namely: planning, prospecting & exploration, and decommissioning & rehabilitation phase:

- **Planning phase** – Preparation of all the administrative and technical requirements needed for the actual works on the ground. The planning would entail obtaining the necessary permitting and authorization from relevant national and local stakeholders (such as affected land custodians/users), facilitating the recruitment and procurement processes, etc.
- **Exploration phase –** The stage during which actual groundwork (prospecting and exploration activities) and associated activities are conducted within the EPL.
- **Decommissioning and Rehabilitation** – The stage during which the Proponent is rehabilitating the disturbed sites, regardless of the results of exploration activities.

2 BRIEF DESCRIPTION OF THE PROPOSED PROJECT ACTIVITIES

Prior to mobilizing to site and undertaking any groundwork for the proposed activities at the site (on the EPL), the Proponent will engage with the land custodian (Nami Daman Traditional Authority) land user (Omatendeka Conservancy) to set conditions of land use and sign land access and use agreements.

The proposed activities will be conducted at least 1.5km from tourism facilities (lodges and camps, if any within the EPL boundaries), villages, settlements and homesteads, i.e., a 1.5km buffer zone from environmentally and socially sensitive areas such as human settlements will be maintained during exploration. Therefore, no exploration activities will be undertaken within these buffer zones

The anticipated duration of the proposed prospecting and exploration activities is between anticipated to last between (6) and twenty-four (24) months. However, should the anticipated timeframe turn out to be insufficient or depending on the exploration findings by the end of 24 months, this may be stretched longer to some more months and communicated with the relevant stakeholders.

2.1 Duration of Prospecting and Exploration Works

The exploration programmes are based on an iterative, results-driven and phased nature. Therefore, it is not possible at an early stage of exploration to give exact areas for future drilling or an exact duration of the exploration activities (Resilient Environmental Solutions, 2019). Soil sampling programmes for instance may last from between one week to a month at a time over specific areas, until the explored area is fully sampled as desired. Drilling programmes may initially range from two weeks to a month at a time, depending on the planned programme or based on the results of the programme. The Proponent undertakes to work with all relevant stakeholders to keep them informed of exploration progress to facilitate site visits and access to ongoing field exploration programmes.

In general terms, the minerals exploration activities can take up to a maximum of seven years, with different projects at various stages of the exploration phase (Resilient Environmental Solutions, 2019).

The Proponent intends to adopt a systematic and standard prospecting and exploration approach for the 2 exploration categories of the commodities (Base & Rare Metals, Industrial Minerals, and Precious Metals) potentially occurring on the EPL. The exploration methods are presented in the ESA Report, but also summarized below.

2.2 Planned Exploration Methods

The proposed activities will be done using both non-Invasive and invasive techniques as summarized below and detailed under Chapter 2 of the ESA Report:

- Desktop Study (non-invasive): Literature review, mapping and aero surveying (geophysics).
- Soil and rock sampling (invasive): collection of soils and rocks samples.
- Detailed exploration (invasive): Trenching, and drilling (Reverse Circulation and diamond drilling).

2.3 Decommissioning and Rehabilitation of Disturbed Sites

Once the exploration activities on the EPL are completed, the Proponent will need to put site rehabilitation measures in place. To ensure the project activities are ceased in an environmentally friendly manner and site is rehabilitated by carrying out the following:

- Dismantling and removal of campsites and associated infrastructures from the project site and area,
- Carrying away all exploration equipment and vehicles, and
- Clean up of site working areas and transporting the recently generated waste to the nearby approved waste management facility (as per agreement with the facility operator/owner),

Further decommissioning and rehabilitation practice onsite will include:

- Backfilling of pits and trenches used for sampling upon completion of exploration works – Incomplete or active exploration trenches/holes will be fenced off and rehabilitated as in Figure 2-1,

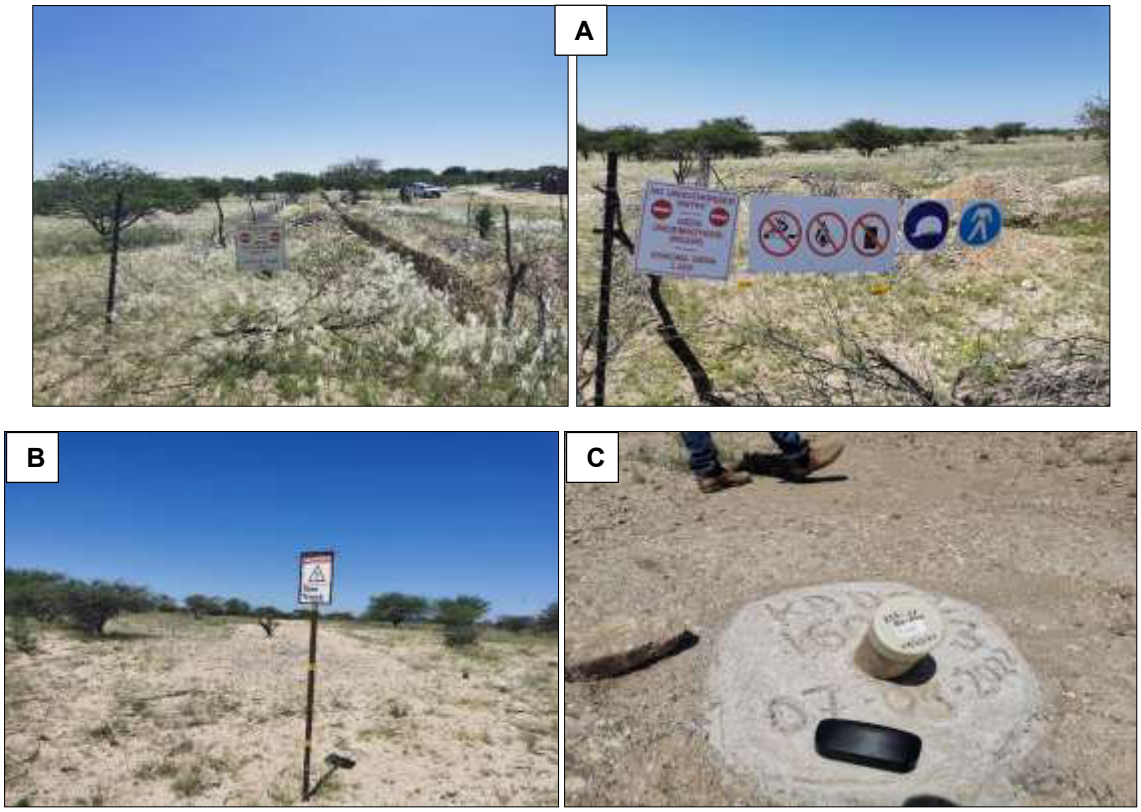

Figure 2-1: A- fenced off exploration trench awaiting backfilling upon completion of sampling, B – backfilled trench and C – capped exploration hole at an active exploration site in 2022

- Closing and capping of exploration boreholes to ensure that they do not pose a risk to both people and animals in the area, and
- Levelling of stockpiled topsoil. This will be done to ensure that the disturbed land sites are left close to their original state as much as possible.

3 LEGAL FRAMEWORK: PERMITTING AND LICENSES

The Proponent 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 3-1 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 on the EPL.

Table 3-1: List of legal requirements and permits to the activities on 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. Should the ECC be issued to the Proponent, it should be renewed every 3 years, counting from the date of issue. For any amendments to the EMP (and subsequent ECC) or transfer of the ECC to another Proponent, an appropriate application should be submitted to the Office of the Environmental Commissioner at the Department of Environmental Affairs (DEAF) and Forestry of the MEFT. The contact details are: **Mr. Timoteus Mufeti:** Environmental Commissioner **Tel: +264 61 284 2701**
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).	
Minerals (Prospecting and Mining) Act (No. 33 of 1992)	Section 48 (3): 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.	The Proponent should ensure that all necessary permits/authorization for the EPL are obtained from the Ministry of Mines and Energy (MME). Contact person and details at the MME (Mining Commissioner) **Mrs. Isabella Chirchir** **Tel: +264 61 284 8251.**
Traditional Authority Act (Act No. 25 of 2000):	The Traditional Authorities should be involved in the planning of land use and development for their area.	The affected communal land falls under the Nami Daman Tradition Authority jurisdiction. Therefore, the Nam Daman TA should be consulted throughout. **Chief Jeremia Gaobaeb in Sesfontein**

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Water Resources Management Act (No 11 of 2013)	Ensure that the water resources of Namibia are managed, developed, used, conserved, and protected in a manner. **Therefore, a Groundwater Abstraction & Use Permit should be applied for. The Permit is required for all commercial and industrial water uses. Although, exploration is not entirely commercial, the associated activities such as drilling fall under industrial activities, thus, the need to apply for an abstraction permit.**	The Water Permit should be applied from the Ministry of Agriculture, Water and Land Reform (MAWLR) **Department of Water Affairs (DWA)** **Contact: Mr. Franciskus Witbooi Division: Water Policy and Water Law Administration Division** **Tel: +264 61 208 7158**
	For any project wastewater planned for discharge into the environment, **a discharge permit should be applied for and obtained.**	**MAWLR, DWA' Water Environment Division** **Contact: Ms. Elise Mbandeka** **Tel: +264 61 208 7167**
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)	Regulation 3(2)(b) states that "No person shall possess 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 (Consumer Installation Permit). **Mr. Carlo Mcleod** (Ministry of Mines and Energy: Acting Director – Petroleum Affairs) Tel: +264 61 284 8291

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, such as bones, unknown graves, old weapons/equipment etc. be found on the EPL, 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 (NHC) of Namibia **Mrs. Erica Ndalikokule – NHC Director** **OR** **Ms. Agnes Shiningayamwe (Regional Heritage Officer) – National Heritage Council of Namibia** **Tel: +264 61 301 903**

4 EMP IMPLEMENTATION RESPONSIBILITIES

Gemco Investments (the Proponent) and his exploration partners (if any) is ultimately responsible for the implementation of the EMP. However, the Proponent may delegate this responsibility or part of it at any time, as they deem necessary. The roles and responsibilities of all delegates/parties involved in the effective implementation of this EMP are set in Table 4-1.

Table 4-1: The EMP implementation responsibilities for prospecting and exploration

Role	Responsibilities
Gemco Investments (Proponent) with Exploration Partners and or their Representative	-Managing the implementation of this EMP and updating and maintaining it when necessary.

Role	Responsibilities
	-Management and monitoring of individuals and/ or equipment on-site in terms of compliance with this EMP and issuing fines for contravening EMP provisions.
Exploration Manager	This individual will be responsible to ensure that the exploration activities of the project are completed on time. The Manager's duties and responsibilities will include: -Ensure that relevant commitments contained in the EMP 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 (ECO) / Safety, Health & Environment (SHE) 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) / SHE Officer. The ECO will have the following responsibilities: -Management and facilitation of communication between the Proponent, PR and Interested and Affected Parties (I&APs) regarding this EMP. -Conducting site inspections of all areas with respect to the implementation of this EMP (monitor and audit the implementation of the EMP). -Advising the Proponent or Exploration Manager 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 exploration activities on site are conducted in accordance with the International System organization (ISO) standard 14001: 2015.

Role	Responsibilities
Public Relations Officer (PRO)	The PRO will be responsible for the following tasks: -Liaising between the stakeholders, public and the Proponent. -Ensure effective communication with stakeholders, media (if necessary) and the public. -Organising and overseeing public relations activities, Managing public relations issues. -Preparing and submitting public relations reports, if required. -Collaborating with personnel and maintaining project-related open communication among personnel.

5 ENVIRONMENTAL MANAGEMENT MEASURES

5.1 Key identified Potential negative Impacts

The key potential negative impacts identified, described, and assessed in the Environmental Scoping Assessment Report and for which the management measures (action plans) have been provided are listed below:

Potential Positive impacts (although temporary):

- Local socio-economic development through temporary employment creation,
- Payment of land use fees to the Conservancy and Traditional Authority to assist in uplifting the communities within and near the EPL.
- Procurement of local goods and services for exploration by small and medium businesses to promote local entrepreneurship empowerment and local economic development.
- The presence of exploration crew in the area, particularly the Exploration Manager and Environmental Control Officer (ECO) will aid in deterring crime against wildlife (anti-poaching). This will be done through raising continuous anti-poaching awareness to the workers and their responsibility to report suspicious movements in the area to the Exploration Manager and ECO while working/operating in the area.
- Rendering assistance to the anti-poaching team in the Conservancy with basic needs and other possible aids (donations) through the Conservancy (as per signed Memorandum of Understanding (MoU)).

Potential negative (adverse) impacts:

- Physical land / soil disturbance,
- Impact on local biodiversity (fauna and flora); potential illegal harvesting of protected vegetation and wildlife hunting (poaching) and habitat disturbance in the area,
- Potential conflicts between the Proponent and small-scale miners who applied for or have Mining Claims (MCs) within the EPL's boundaries. The two MCs are MC-70432 (16 hectares) and MC-70433 (17 hectares) applied for by Maud Trudy Tjikongo on 16 November 2017,
- Potential impact on water resources and soils particularly due to pollution,
- Visual impact from unrehabilitated explored areas on the EPL may be an eyesore to travellers (including tourists) using roads such as the D3710,
- Accidental fire outbreaks related to the project activities,
- Air quality issue: potential dust generated from the project activities such as drilling, possibly trenching and movement of heavy trucks on unpaved access roads,
- Potential and community occupational health and safety risks (open and unattended/unguarded trenches and drilled holes may pose a risk to people and animals (both livestock and wildlife), and
- Vehicular traffic safety and impact on services infrastructure such as local roads.

5.2 Environmental Management Measures and Rehabilitation of Sites

The management actions are aimed at avoiding the above-listed potential negative impacts, where possible, and where it is impossible to avoid these impacts, measures are provided to reduce the impacts' significance.

The Management action plans (mitigation measures) recommended for the potential impacts rated in the ESA Study were based on the following project stages (phases):

- Planning, Prospecting and Exploration phases (Table 5-1).
- Site Rehabilitation and Decommissioning (Table 5-2), and
- Biophysical and Social Environmental Monitoring (Table 5-3).

Table 5-1: The Environmental management and mitigation measures for Planning as well as Prospecting and Exploration activities

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Planning Phase					
EMP implementation and training	Lack of EMP awareness and implications thereof	-A Comprehensive Health and Safety Plan for the project activities should be compiled. -An EMP non-compliance penalty system should be implemented on site. -The Proponent should appoint an Environmental Control Officer (ECO) or SHE Officer to be responsible for managing the EMP implementation and monitoring.	-All required EMP implementation Plans, and Systems are compiled and in place. -ECO is appointed	-Proponent	Pre-exploration
Authorizations	Lack of Agreements, Permits/ Licenses	-All the required agreements and licenses or permits should be applied for and signed, respectively before commencement of work on the EPL, or as required. -The permits, agreements referred to herein include: (a) Land use agreement by the TA and the Conservancy. (b) Waste management disposal permits from the relevant facility operator/owner (c) Water supply agreements or groundwater abstraction & use permit (if abstracting directly from a borehole, river or dam) (d) Fuel storage permit from MME for petroleum stored onsite.	-Applicable permits and licenses to obtained from relevant authorities.	-Proponent -Exploration Manager	Pre-exploration
Land use agreements and movement in the area	Lack of joint engagement meeting between Proponent, land custodians and key land user	-Once the ECC is issued and EPL certificate is issued, a joint consultation meeting should be held between Gemco Investment, Omatendeka Conservancy Management and Traditional Authority to agree on land use before starting with the prospecting activities in the area. This includes drawing up and signing a Memorandum of Understanding (MoU). -A communication and engagement plan for issues arising during project activities should be drawn up and shared with the Traditional Authority and Conservancy	-The Memorandum of Understanding (MoU) is drawn up and signed by both parties	-Proponent	-Pre-prospecting and exploration

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Communication between the Proponent and land custodians / users	Lack of communication between land custodians/users and Proponent with regards to land use/access	-The Proponent should appoint an officer or a Public Relation Officer (PRO) to liaise with the authorities and land users. -The communities should be notified on time of the commencement of the project activities and any expected delays in the progress. -A clear communication procedure/plan which should include a grievance mechanism should be developed.	-A PRO is appointed -Ongoing Consultation throughout the project, when and as required. -PRO contact details provided to land custodians -Complaint's logbook	-Proponent	PRO appointment (Prior to project activities) and their responsibilities throughout the project activities
Employment	Creation of employment opportunities	-where possible, source the unskilled and semi-skilled labour for casual works from the local communities (villages) within the EPL and surroundings. Out-of-area employment should be justified, for example by the unavailability of local skills. -Contractors should give all unskilled and semi-skilled work to the locals before considering outsiders. This is to avoid the influx of outsiders into the area for works that can be done the locals. -The anticipated work opportunities and number of positions should be announced through the local leadership offices (Sesfontein Constituency, Nami Daman TA (or respective local Traditional Authority of the project area) and local VDCs). -The name of the prospective workers should be screened by the local leaders to verify their place of origin to ensure that the opportunities reserved for the locals are not given to outsiders. -Where possible, the locals (such as graduates and youth) employed during exploration should be provided with the necessary training of skills required to avoid bringing in many out-of-area workers.	-Number of locals employed for exploration activities -Work opportunities are announced through the Sesfontein Constituency Office in collaboration with the local Village Development Committees (VDCs)	-Proponent in collaboration with the Drilling contractors	Pre-exploration and when necessary, throughout
Land use fees for socio-economic development	Local socio-economic development	-Commit to the conditions listed in the Memorandum of Understanding (MoU) signed with authorities such as the Traditional Authority and the affected Conservancy.	-Proof of funds paid to the respective authorities bank account and related records.	-Proponent	Pre-exploration and when necessary, throughout

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-The payments of land use fees should be made as agreed.			
Specialised procurement of services and goods	Empowerment of local businesses	-All services related to exploration activities such as trenching, site establishment, and drilling that the Proponent may need, preference and available, locally and regionally, priority should be given to local and regional businesses for such services and goods.	-Number of hired contractors. -Record of hired or contracted companies or services providers	-Proponent -Exploration Manager	Pre-exploration
Prospecting and Exploration Phase					
EMP implementation and training	Lack of EMP awareness and implications thereof	-EMP trainings should be provided to all workers on site. -All site personnel should be aware of necessary health, safety, and environmental considerations applicable to their respective work. -The implementation of this EMP should be monitored. The site should be inspected, and a compliance audit done throughout **the project activities, monthly and bi-annually for overall EMP implementation.** -EMP non-compliance penalty system should be implemented.	-Records of EMP compliance/monitoring conducted bi-annually -The ECC is renewed every 3 years -Records of EMP training conducted.	-Exploration Manager -ECO	Throughout the exploration phase
Presence of exploration crew in the area	Combating / fighting anti-poaching and promoting biodiversity conservation	-Commit to assisting the Conservancy in fighting against poaching (crime against wildlife) by creating awareness among the project workers and the impact of such crimes on the host environment and country at large. -Report any suspicious activities related to wildlife crime to the Conservancy Management and nearest Police. -While operating in the area, and if possible, assist the Conservancy and with basic needs contributing to biodiversity conservation. -To minimize the risk of poaching by outsiders, commit to hiring more locals for jobs that they can do, as they are likely to appreciate the importance of conserving wildlife in their areas.	-Proof of assistance rendered to Conservancy in combating poaching and promoting biodiversity conservation in the area.	-Proponent -Exploration Manager	Pre-exploration and throughout the project phases

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Communication between the Proponent and land custodians / users	Lack of communication (proper liaison) between land custodians and Proponent on land use	-The PRO should be introduced to the stakeholders and their contact details provided to them prior to undertaking activities for easy communication. -The Proponent should compile a clear communication procedure / plan which should include a grievance and response mechanism.	-PRO is part of the project personnel. -Records of stakeholders' continued consultation -Public grievances addressed to their satisfaction -Complaint's logbook	-PRO -ECO	Throughout exploration
Communication and Cooperation between the Proponent and small-scale miners (Mining Claims (MCs)) owners/applicants	Lack of communication, understanding and cooperation between the Proponent and MCs' owners.	-The legal and approved MCs owners as well as aspiring MC applicants within EPL should be educated about their rights to mine in an area, even if it is inside an EPL. However, work should be limited to within their Mining Claims boundaries only. -The Mining Claim owners or new applicants in the area and within the EPL should be respected. -Promote open communication, transparency and cooperation. -If needed, enter into agreements of operation with willing individual MC owners to ensure peaceful and transparent working relationships. This agreement should be signed in the presence of a local leadership as witness.	-The small-scale miners are educated on the rights and boundaries pertaining to their MCs -There are no crashes or conflicts between the Proponent and MCs owners -Where needed, there are signed working/operational agreements between the Proponent and MC owners within the EPL(s). -Complaints are recorded in the Grievance logbook	-Exploration Manager -PRO or Proponent Representative	Prior to exploration and when necessary, throughout the exploration phase
Land Use and distance from closest villages/settlements	Exploration very close to human settlements or activities	-Exploration activities should only be conducted at least 1.5km from villages, settlements and homes, i.e., a 1.5km buffer zone from human settlements (communities), accommodation/tourism facilities, and villages should be maintained and no exploration activities should be done within the buffer zones.	-No prospecting and exploration works within 1.5km of the listed sites. -The 1.5km is implemented	-Exploration Manager	Throughout the exploration phase
Water Resources Use	Over-abstraction (water demand and availability)	-Water should be used efficiently, and recycling and re-using of water on certain site activities should be encouraged.	-Water supply agreements -Proof/ recording/ quantification of water saving efforts.	-Proponent	Once off supply agreement

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Consider carting water for drilling from elsewhere outside the site area to not put pressure on the available resources. Agreements for water supply should be made between the willing water supplier and the Proponent. The feasible option is to enter into a water supply agreement with NamWater in Sesfontein. -Borehole water established onsite during exploration activities should not be donated to individuals, but to be handed over to the nearest MAWLR's Rural Water Supply Office for documenting and further action (for community use). -Water reuse/recycling methods should be implemented as far as practicable such that the water used to cool off exploration equipment should be captured and used for the cleaning of project equipment, where possible. -Water storage tanks should be inspected daily to ensure that there is no leakage, resulting in wasted water on site. -Water conservation awareness and saving measures training should be provided to all the project workers to understand the importance of conserving water and become accountable.	-Water supplying agreements -Water storage tanks on site	-Exploration Manager	Throughout the exploration phase
Soils	Physical soil / land disturbance and loss of topsoil	-Stockpiled topsoil and drill materials should be used to backfill the excavated and disturbed site areas/spots. -The topsoil that was stripped from certain site areas to enable project works and can be returned to its initial position, should be returned. This is to avoid unnecessary stockpiling of site soils which would leave them prone to erosion. -Soils that are not within the intended footprints of the site target areas should be left undisturbed and soil conservation implemented as far as possible. -Project vehicles/machinery should stick to access roads provided and not to unnecessarily create further tracks on and	-No proliferation of informal vehicle tracks created by project activities. -No new erosion gullies. -No complaints from the Conservancy, communities or other stakeholders pertaining to unnecessary creation of tracks in the area (visual nuisance).	-Exploration Manager -ECO	Throughout exploration

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		around the site by driving everywhere resulting in soil compaction and erosion. -Off-road driving within the EPL and neighbouring area is strictly prohibited. Stick to approved site access roads by the Conservancy.			
Soils and water resources	Soils and water resources pollution	-Spill control preventive measures should be in place on site to management soil contamination, thus preventing and or minimizing the contamination from reaching water resources. -To minimize the risk of inevitable water pollution from surface runoffs (from active exploration sites), and given that the area receives good and sometimes heavy rains between November/December and March, exploration activities such as trenching and drilling should only be carried out during between April and October. -No drilling mud, wastewater, hydrocarbons (oil, fuel or grease) and solid waste should be disposed of in the rivers or streams onsite and in the immediate area. These should be contained in designated containers onsite and transported for proper disposal at the nearest appropriate waste management facility. -Sensitize project employees about the impacts of soil pollution and advised to follow appropriate fuel handling procedures. -Develop and prepare countermeasures to contain, clean up, and mitigate the effects of an oil spill. This includes keeping spill response procedures and a well-stocked cache of supplies easily accessible. -Ensure employees receive basic Spill Prevention, Control, and Countermeasure (SPCC) Plan training. -Project machines and equipment should be equipped with drip trays to contain possible oil spills when operated on site.	-No complaints of pollutants on the soils and eventually in the water due to exploration activities -Exploration activities such as trenching and drilling are done between April and October. -No visible oil spills on the ground or pollution spots. -No disposal of waste in surface water systems such as rivers and streams -The waste is recorded in a logbook onsite -Availability of waste containers -Non-permeable material to cover the ground surface at areas where hydrocarbons and potential pollutants are utilized.	-Exploration Manager -ECO	Throughout exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Polluted soil should be removed immediately and put in a designate waste type container for later disposal. -Drip trays must be readily available on this trailer and monitored to ensure that accidental fuel spills along the tank trailer path/route around the exploration sites are cleaned on time (soon after the spill has happened). -Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility. -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. -Toilet water should be treated using chemical portable toilets and periodically emptied out before reaching capacity and transported to a wastewater treatment facility.			
Biodiversity	Loss of Fauna and Flora	**Fauna (animals)** -Refrain from disturbing, or killing small soil and animals species found in rock outcrops on and around the site. -Breeding sites for occurring on and around the EPL should not be destroyed nor disturbed. -Exploration trenches and boreholes should be secured (temporary fencing) and backfilled and capped after sampling is completed to prevent animals from falling into trenches. -Incorporate Environmental awareness and biodiversity preservation into the employment contracts of all workers. **Flora (vegetation):** -Avoid unnecessary removal of the already scarce vegetation to promote a balance between biodiversity and the project.	-No disturbance to unmarked areas. -No complaints from locals regarding unauthorised vegetation removal or cutting down of trees. -No complaints of wildlife hunted by the project workers. -No intentional disturbance and destruction of site vegetation and faunal species	-Exploration Manager -ECO	Throughout the exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Vegetation found on the site, but not in the targeted exploration site areas or access route should be left undisturbed/avoided. -Vehicle movement should be restricted to existing roads and tracks to prevent unnecessary damage to the surrounding vegetation. -No onsite vegetation should be cut or used for firewood. -Access roads should be created in a manner that disturbs minimal vegetation. -Environmental awareness on faunal and floral biodiversity preservation should be provided to the workers and contractors. This should be incorporated into the workers' contracts.	-Barricading tape (to indicate working areas) -Visible preservation of onsite vegetation		
Illegal hunting	Illegal hunting of wildlife	-The Poaching (illegal hunting) or disturbance/harming of wildlife within the EPL and surrounding areas is strictly prohibited. -A No tolerance to Poaching Policy should be developed and apply to all site personnel (workers) as well as project visitors. -Incorporate a No-tolerance rule for poaching in every employment contract and ensure that the workers understand the seriousness of this. In other words, there is no tolerance for poaching or to wildlife crime.	-Proven incident reports of illegal hunting of wildlife by the crew reported to the Police. -Contact details of the Anti-poaching Police Unit provided and visible onsite	-Exploration Manager -ECO	During site set up, and throughout exploration
Land Use	Conflict between land uses and exploration activities	-Exploration activities should not in any way hinder the existing land uses within the EPL but rather promote co-existence throughout the project operations while respecting other land users (Conservancy and related operations). -Limit the project activities to the actual active sites on the EPL only but not unnecessarily wander and drive around the area. -Ensure that the project activities comply with the conditions set by the competent, regulatory, and affected authorities such that the proposed exploration activities do not severely impact the different existing activities around the EPL.	-Land use permits / authorizations. -Compliance with conditions set within operational permits by relevant and affected authorities. -Little to no complaints of significant interference from the neighbouring land users	-Exploration Manager -ECO	Throughout the exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Visual (aesthetic)	The scarring of landscape and presence of exploration vehicles and machinery may impact the scenic view of the area for tourism and travellers on the roads.	-The exploration activities should be done away from the roads, and explored sites rehabilitated as far as possible. -Concentrated stone block sampling to the areas behind the mountain that overlook the local roads. In other words, exploration activities that are likely to leave visible scars on the hills or mountains should be done on areas behind these mountains and not on the areas that are visible from the road. -Minimize the land scarring by targeting specific areas only. -The campsite should be established behind outcrops where possible to limit their obvious presence to road users (tourists and travellers alike).	-No complaints of visual nuisance from the travellers and or Conservancy -No disturbed sites areas are left without rehabilitation -Exploration works are limited to areas far from the roads.	-Exploration Manager	Throughout the exploration phase
Road use and safety	Increase in vehicular traffic flow	-Project related goods and services should be delivered to site once to twice a week to reduce the daily movement of trucks and putting too much pressure on local roads. -Travelling to the area for exploration activities should only be done between April and October when the road conditions are good. The main road connections in the Kunene, particularly the Opuwo-Sesfontein road (C43) and local access roads are normally in very bad conditions for traffic movement. -Drivers of all project phases' vehicles should be in possession of valid and appropriate driving licenses and adhere to the road safety rules. -Drivers should drive slowly (40km/hour or less) and be on the lookout for wildlife. -Ensure that the site access roads are well equipped with temporary road signs. -Project vehicles should be in a road worthy condition and serviced regularly to avoid accidents owing to mechanical faults.	-No complaints from members of the public regarding vehicular traffic issues related to the project activities. -All personnel operating the project vehicles and machinery are appropriately licensed and possession of valid driving licenses. -Demarcated areas for parking, offloading, and loading zones are on sites. -No creation of unnecessary tracks on site.	-Proponent -Exploration Manager -ECO	Throughout exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Vehicle drivers should only make use of designated site access roads provided and as agreed. -Vehicle drivers should not be allowed to operate vehicles while under the influence of alcohol. -Project vehicles should be parked within the boundary or demarcated areas for such purpose. -Deliveries from and to site should be done optimally during weekdays and between the hours of 8am and 5pm. -The site access road(s) should be maintained to an unacceptable standard for the vehicles.			
Local roads	Overuse and maintenance	-The heavy trucks transporting materials and services to site should be scheduled to travel maximum twice a week to avoid daily travelling to site, unless on cases of emergencies. -Consider frequent maintenance of local roads in the area to ensure that the roads are in a good condition for other roads users such as travellers and tourists from and outside the area.	-Visible efforts of maintaining access and communal roads by the Proponent	-Proponent -Exploration Manager	Throughout exploration, when necessary
Occupational Health and safety	General health and safety associated with project activities in both phases	-During inductions, provide project workers with an awareness training of the risks of mishandling equipment and materials on site and health & safety risk associated with their respective jobs. -Project workers should be properly equipped with adequate and appropriate personal protective equipment (PPE) such as coveralls, gloves, safety boots, earplugs, dust masks, safety glasses, etc. -Heavy vehicle, equipment and fuel storage site should be properly secured, and appropriate warning signage placed where visible.	-Comprehensive health and safety plan for all exploration activities compiled. -Quarterly refresher training on health & safety -Occupational Health and Safety Personnel Health and Safety Trainings -Availability of fully-furnished first aid kits -Trained worker to administer first aid	-Proponent -Exploration Manager -ECO	Throughout exploration and trainings offered as and when required

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-Drilled exploration holes that will no longer be in use or to be used later after being drilled should be properly marked for visibility and capped/closed off. -Trenches should be temporarily fenced off during sampling, and once completed, they should be backfilled thereafter -Drill cuttings and excavated materials should be put back into the hole and the holes filled and levelled, and trenches backfilled respectively. -An emergency preparedness plan should be compiled, and all personnel appropriately trained. -Workers should not be allowed to enter the working sites when under the influence of alcohol as this may lead to mishandling of equipment which results into injuries and other health and safety risks. -Ensure that goods and projected loads are securely fastened to vehicles to avoid falling and injure people. -Warning signage should be erected at hazardous site areas such as open trenches. -The site areas that are considered temporary risks should be equipped with "danger" or "cautionary" signs clearly written in English and local languages (Damara, and Otjiherero).			
	Potential increase of prevalence of HIV and AIDS, as well as other sexually transmitted diseases (STDs) prevalence	-Engage workers in sexual 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 and health trainings. These pamphlets can be obtained from the nearest local health facility in Sesfontein, and if needed, health care services should be obtained from Sesfontein or if necessary, Opuwo.	-No new infections recorded linked to project workers -Occupational health and safety personnel -Sex and Health Education/Awareness -Provision of condoms at the campsite	-Exploration Manager -ECO	Throughout exploration

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
	Accidental fire outbreak	-Portable and serviced fire extinguishers should be provided at site and camp. -No open fires to be created by project personnel onsite. -Consider using gas or paraffin cooks to prepare food instead of open fires. The cooks/stoves fire should be put out before leaving the camp. -Make provision for smoking areas for crew members who smoke. This is to ensure that the cigarettes' fire is completely put out to and disposed of in allocated bins at the smoking area. -Potential flammable areas and structures such as fuel storage tanks should be marked as such with clearly visible signage. -Raise awareness to workers on the impact of careless handing of fires and flammable substances in the fire.	-No wildfires recorded (due to presence of workers) -Fire extinguishers (1 per vehicle) and 1 per working site	-Exploration Manager -ECO	Throughout exploration
Archaeology and heritage	Accidental disturbance of archaeological or heritage objects	-If any archaeological materials or human burials or skeletal remains are uncovered during prospecting or exploration activities, then the work in the immediate area should be halted, the finds would need to be reported to the NHC may require inspection by an Archaeologist. The ECO should have the area fenced off and contact NHC (Tel: +264 61 244 375), National Forensic Laboratory (+264 61 240 461) immediately. -Buffer zones (as provided in the Environmental assessment report) should be maintained around known significant archaeological, historical or cultural heritage sites as far as possible. Graves, caves, rock shelters, stratigraphic profiles and areas with cultural significance are excluded from any project activities. -A "No-Go-Area" should be put in place where there is evidence of sub-surface archaeological materials, archaeological sites, gravesites, historical, rock paintings, cave/rock shelters or past human dwellings. It can be a demarcation by fencing off or avoiding the site completely by not working closely or near the	-Preservation of all artefacts and objects that are discovered on and around project site -Salvage equipment -Archaeologist to recommend further actions -Flag tapes -GPS (site marking)	-Exploration Manager -ECO -Operator (Driller or Excavating personnel)	As and when required, i.e., prior to site set up, and during exploration.

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		known site. The 'No-Go Option' might have a NEUTRAL impact significance. -Direct damage to archaeological or heritage sites should be avoided as far as possible and, where some damage to significant sites is unavoidable, scientific/historical data should be rescued. -All accidental discoveries shall be reported immediately to an archaeologist/heritage practitioner so that an investigation and evaluation of the finds can be made, acting upon advice the ECO will advise the necessary actions to be taken; -Any pile of stones or mound of the earth looking even remotely like a grave should be avoided at all costs -Cognizance must be taken of the larger historical landscape of the area to avoid the destruction of previously undetected heritage sites. Should any previously undetected heritage or archaeological resources be exposed or uncovered during the development phases of the proposed project, these should immediately be reported to the heritage specialist or heritage authority (National Heritage Council of Namibia). -The Proponent and Contractors should adhere to the provisions of Section 55 of the National Heritage Act in the event significant heritage and cultural features are discovered in the course of developmental works. -Whoever is going to be in charge of mitigation and monitoring measures should have the authority to stop any project activities that are in contravention of the National Heritage Act of 2004 and National Heritage Guidelines as well as the overall project EMP.			
Littering and waste management (general waste and sanitation)	Environmental Pollution	-Dispose of waste in a responsible manner and not to litter. -After each daily works, ensure that there are no wastes left on the working sites or scattered around the camp.	-No visible litter around the project area -Provision of sufficient waste storage containers	-Exploration Manager	Throughout exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-All domestic and general operational waste produced daily should be contained onsite until such that time it will be transported to designated waste sites. -No waste may be buried or burned on site or anywhere else. -The exploration site should be equipped with separate waste bins for hazardous and general/domestic waste. -Oil spills should be taken care of by removing and treating soils affected by the spill. -A penalty system for irresponsible disposal of waste on site and anywhere in the area should be implemented. -Ensure careful storage and handling of hydrocarbons on site. -An emergency plan should be available for major/minor spills at the site during operation activities.	-Waste management awareness -Waste disposal permits to municipalities -Environmental, Health and Safety Statements and Policy	-ECO	
	Wastewater generated by exploration workers living on-site.	-Potential contaminants such as hydrocarbons and wastewater should be contained on site and disposed of in accordance with municipal wastewater discharge standards so that they do not contaminate surrounding soils and eventually groundwater. -No open defecation is allowed on and around the site. -Sewage waste should be stored as per the portable chemical toilets supplied on site and regularly disposed of at the nearest treatment facility -Provide sufficient toilet facilities for workers (mobile/portable chemical toilet if possible). -Emptying of chemical toilets according to the manufacturer's specifications.	-Adequate toilet and basic ablution facilities on site -Chemical toilets Sewage removal operator -Waste treatment agents/chemicals.	-Exploration Manager -ECO	Throughout exploration phase
Air Quality	Dust generation	-Exploration vehicles within the area should not be driven at a speed more than 40 km/h to avoid dust generation.	-No complaints from the public about vehicle	-Exploration Manager -ECO	Throughout exploration phase

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-When and if the project reaches the advanced stages of exploration, a reasonable amount of water should be used on gravel roads, using regular water sprays on gravel routes and near exploration sites to suppress the dust that may be emanating from certain exploration areas on the EPL. -Dust masks, eye protective glasses and other respiratory personal protective equipment (PPE) such as face masks should be provided to the workers on site drilling areas, where they are exposed to dust. -Excavating equipment should be regularly maintained to ensure drilling and excavation efficiency and so to reduce dust generation and harmful gaseous emissions.	emissions and dust generation. -Visible efforts to curb dust -Complaint's logbook -Dust suppressant (Water)		
Noise	Nuisance	-Noise from operations' vehicles and equipment on the sites should be at acceptable levels. -Exploration hours should be restricted to between 07h30 and 17h00 to avoid noise and vibrations generated by exploration equipment and the movement of vehicles before or after hours. -When operating the drilling machinery onsite, workers should be equipped with personal protective equipment (PPE) such as earplugs to reduce exposure to excessive noise.	-Complaint's logbook -Noise protective equipment for workers	-Exploration Manager -ECO	Throughout exploration

Table 5-2: The Mitigation measures for site rehabilitation

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
Progressive Rehabilitation and Decommissioning Phase					
Rehabilitation	Disturbance and damaging of land site land	-All drilled boreholes and excavated pits related to the project activities should be capped and backfilled, respectively.	-Capped boreholes and backfilled pits/trenches	-Proponent	Progressive rehabilitation done throughout the exploration

Aspect	Impact	Management and Mitigation Measure(s)	Key Performance Indicator (KPI)	Implementation Responsibility	Timeline
		-All waste generated and stored on site during exploration activities should be disposed of at the respective nearest solid waste management sites. -The stockpiled topsoil should be levelled soon after completion of works at sites. -Any temporary setup on site should be dismantled, and the area rehabilitated as far as practicable, to their original state. -Explored areas on worksites should be progressively rehabilitated by stockpiling and backfilling. -Provision of both financial and technical resources for progressive rehabilitation. -The Traditional Authority and Omatendeka Conservancy should be consulted to approve and sign off Site Rehabilitation Completion	-Excavators and other backfilling/demolishing machinery -No sign of waste or littering seen on/around site areas. -Carrying away of waste, and removal of vehicles and equipment from site -No stockpiled topsoil (topsoil is levelled after completion of each work) -Campsite dismantled, -Campsite dismantled, site levelled and materials taken away from site -Visible signs of stockpiled topsoil -Record of trenches excavated, and boreholes drilled -Waste containers on sites -Photo records of backfilled sites -Records of finances set aside for decommissioning activities	-Exploration Manager	phase and complete decommission and rehabilitation done after completion of exploration works.

5.3 Environmental Monitoring Actions

To ensure that the implementation of recommended environmental management measures is working and produces the desired results (minimizing the "medium" and uphold the "low" significance ratings of impacts), certain key impacts will need to be monitored and reported on. The environmental aspects to be monitored are shown in Table 5-3. The ‘’Observation*, compliance status and ‘’Recommended Action*’’ columns will be completed for every monitoring done on site.

Monitoring reports are to be compiled by the project ECO, audited by an Independent Environmental Consultant, and submitted to the DEAF for archiving on a bi-annual basis (every 6 months throughout the project operations) or as required by the Environmental Commissioner (as per the ECC conditions). The environmental components or features provided in the Table will be updated accordingly once the project commences.

Table 5-3: Monitoring of Biophysical and Social Aspects referred to in the assessment (modified after Resilient Environmental Solutions, 2019)

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
Water and soil pollution									
Soil pollution by hydrocarbon (fuel and lubricant spills)	Complaints from land custodians / users or occupiers of land within the project sites	To prevent contamination of site soils	No complaints from land custodians or public about visible oil spills	Inspection of complaints logbooks	Weekly	ECO	ECO-> Exploration Manager	A logged complaint	Further consultations with the land custodians or users / communities
Wastewater generated by exploration workers living on-site.	Open defecation and urination.	To prevent environmental pollution	Adequate toilet facilities on site. Complaints from the public about	Visual observation. Inspection of complaints logbook.	Weekly	ECO	ECO-> Exploration Manager	A logged complaint	Clean-up of affected areas.

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
			open defecation.						
Soils									
Loss of topsoil	Increased loss of soil	To prevent loss of topsoil	No proliferation of informal vehicle tracks. No new erosion gullies	Visual observation	Weekly	ECO	ECO-> Exploration Manager	Proliferation of new vehicle tracks Formation of new gullies in work areas	Rehabilitation of affected explored areas
Air quality (Dust)									
Increase in dust generation, which might negatively affect occupational and residential respiratory health.	Complaints from public about increased in dust generation.	To reduce public complaints and prevent negative changes in air quality due to exploration activities	No complaints from the public about increased dust generation.	Inspection of complaints logbook.	Weekly	ECO	ECO-> Exploration Manager	A logged complaint	Dust suppression around working areas to reduce fugitive dust
Hydrocarbon emissions from vehicles	Complaints from the public about increased vehicles fumes	Same as above.	No complaints from the public about increased vehicle emissions	Inspection of complaints logbook.	Weekly	ECO	ECO-> Exploration Manager	A logged complaint	Servicing of vehicles and machinery by a certified service provider

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
Poaching (Illegal hunting)									
Illegal hunting of wildlife	Reported poaching incidents by projects team	To prevent illegal hunting of wildlife	Incidents reports of illegal hunting of wildlife by exploration workers.	Consultation with the local Police Service for reported incidents of poaching.	Weekly	ECO	ECO-> Exploration Manager > local Police Service (Anti-poaching Unit)	An incidents report logged with the local Police Service	Appropriate action will be decided by the local Police Service
Habitat loss (Biodiversity)									
Localised loss of habitat and vegetation	Loss of habitat	To prevent loss of habitat outside areas of interest	No disturbance to unmarked areas within the project area	Visual observation	Weekly	ECO	ECO -> Exploration Manager	Vegetation clearance outside of marked areas.	Rehabilitation of affected areas to the satisfaction of the ECO
Occupational and Public Health and Safety									
No health and safety plan for exploration activities.	Compiled health and safety plan for exploration activities.	To prevent health and safety impacts	No significant health and safety incidents (i.e., serious injuries or loss of life)	Visual observation Inspection of complaints logbooks	Daily/ weekly	ECO and Exploration Manager	ECO-> Exploration Manager	Health and safety incident	Remedy the consequences
Potential increase in outbreak of wildfires due to project activities	Occurrence of wildfires	To prevent environment damage caused by wildfires	No wildfires recorded (due to presence of exploration workers)	Visual observation	Daily	ECO	ECO -> Exploration Manager -> local Police Service	Outbreak of wildfires due to the exploration workers	Rehabilitation of affected areas
Archaeology and cultural heritage									

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
Potential disturbance of archaeological and cultural heritage resources	Presence or unearthing of archaeological or cultural heritage resources	To prevent destruction of artefacts and sites	Preservation of all artefacts and sites that are discovered within the site boundary or around the project site area	Inspection of records of findings	Daily	ECO Operator / Contractor	Operator->Foreman-> Superintended->ECO->Project Archaeologist -> National Heritage Council (NHC)	Unearthing of archaeological or cultural heritage resources	Cease all activities on site and wait for NHC to inspect site and give further instructions / actions
Employment creation and Corporate Social Responsibility (CSR)									
Creation of employment, procurement of goods and services	Employment opportunities -Community projects support -Local / regional procurement	To ensure that locals benefit from the Project	Employment, community support and local and regional procurement	Inspection: employed, procurement & community project records	Monthly	Exploration Manager	Exploration Manager or Proponent	Number of CSR projects	Open communication and reasonable requests / proposals
Noise									
Potential increase in noise	Above ambient noise levels.	To ensure that generated noise does not disturb residents.	Complaints from residents about noise generated.	Inspection of complaints logbook	Weekly	ECO	ECO -> Exploration Manager	A logged complaint about above normal noise levels	Revision of site activities
Vehicular Traffic									
Increase in traffic density on declared	Complaints from the public about	To ensure continued ease of access to	No complaints from the	Inspection of logbooks	Weekly	ECO	ECO -> Exploration Manager -> Roads Authority	A logged complaint about traffic	Find alternative access roads

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
Roads Authority (RA) roads or damage to these.	increase in traffic on the roads. Complaints about damage to RA roads caused by movement of project vehicles and machinery.	local roads by residents / communities	public about increase off traffic due to exploration activities					increase or damage to RA roads	for the workforce. Rehabilitation of affected roads
HIV and AIDS									
Potential increase in HIV and AIDS prevalence.	New HIV or sexually transmitted infections (STIs)	To prevent new infections in the area	No new HIV or STIs infections recorded	Liaison with local health facilities	Monthly	ECO	ECO -> Exploration Manager -> Ministry of Health and Social Services	Recorded new HIV or STIs linked to exploration workers	Continued sex education and provision of condoms
Environmental Pollution (Littering)									
Environmental pollution from solid waste during exploration activities.	Scattered litter	To prevent littering of the general project area	No visible litter around the project area	Visual observation	Daily	ECO	ECO -> Exploration Manager	Visible littering around project site	Clean-up of the affected areas and ensuring workers utilise waste containers provided.
Visual									
Visual impact owing to the	Contrasting landscape	To prevent and or reduce the	Reduction of and minor	Visual observation	Weekly	ECO	ECO -> Exploration Manager	Major and very visible	Effective implementation

Impact	Parameter to be Monitored	Monitoring Objective	Key Performance Indicator (KPI)	Methods of Monitoring	Frequency	Responsible Party	Reporting structure	Threshold	Action if threshold is exceeded
project's exploration activities	(eyesore to travellers on the local roads	appearance of contrasting land scars	contrasting landscape in the project site areas					contrasting land scars on the site areas	of provided measures and continual improvements.
Site Rehabilitation									
Soil and land disturbance because of exploration activities.	Stockpiled topsoil and very disturbed site areas	To prevent major soil / land damage by project activities	No major soil and land disturbance	Visual observation	Daily	ECO	ECO -> Exploration Manager	Visible soil and land disturbance	Effective progressive levelling of topsoil and backfilling of pits / holes

Appendix 1: Chance Finds Procedure (CFP) After Kinahan, 2020

Areas of proposed activities are subject to heritage survey and assessment at the planning stage. These surveys are based on surface indications alone, and it is therefore possible that sites or items of heritage significance will be found during development work. The procedure set out here covers the reporting and management of such finds.

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

Compliance: The "chance finds" procedure is intended to ensure compliance with relevant provisions of the National Heritage Act (27 of 2004), especially Section 55 (4): "*a person who discovers any archaeological …. object ……must as soon as practicable report the discovery to the Council*". The procedure of reporting set out below must be observed so that heritage remains reported to the NHC are correctly identified in the field.

Manager/Supervisor must report the finding to the following competent authorities:

- **National Heritage Council (NHC) of Namibia: +264 61 244 375**
- **NHC of Namibia (Technical Office): +264 61 301 903**
- **National Museum: +264 61 276 800**
- **National Forensic Laboratory: +264 61 240 461.**

Archaeological material must NOT be touched. Tempering with the materials is an offence under the Heritage act and punishable upon conviction by the law.

Responsibility:

Operator: To exercise due caution if archaeological remains are found

Foreman: To secure site and advise management timeously

Superintendent: To determine safe working boundary and request inspection

Archaeologist: To inspect, identify, advise management, and recover remains

Procedure:

Action by person identifying archaeological or heritage material:

a) If operating machinery or equipment stop work

b) Identify the site with flag tape

c) Determine GPS position if possible

d) Report findings to foreman

Action by foreman

a) Report findings, site location and actions taken to superintendent

b) Cease any works in immediate vicinity

Action by superintendent

a) Visit site and determine whether work can proceed without damage to findings

b) Determine and mark exclusion boundary

c) Site location and details to be added to project GIS for field confirmation by archaeologist

Action by Archaeologist

a) Inspect site and confirm addition to project GIS

b) Advise NHC and request written permission to remove findings from work area

c) Recovery, packaging and labelling of findings for transfer to National Museum

In the event of discovering human remains

a) Actions as above

b) Field inspection by archaeologist to confirm that remains are human

c) Advise and liaise with NHC and Police

d) Recovery of remains and removal to National Museum or National Forensic Laboratory, as directed.