

ENVIRONMENTAL SCOPING AND IMPACT ASSESSMENT FOR

THE MINERALS EXPLORATION ACTIVITIES
ON EXCLUSIVE PROSPECTING LICENCE (EPL) 8776

Erongo Region



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NON-TECHNICAL SUMMARY

Earth Environmental Services CC (EES) **JV** Alliance Environmental Consultancy CC (AEC) has been engaged by Mr. Mr. Karel. A Esterhuizen Snr (herein referred to as the proponent) to act on their behalf in obtaining an Environmental Clearance Certificate (ECC) for the proposed industrial minerals exploration activities on Exclusive Prospecting License (EPL)8776. The project area is located approximately 20km southeast of Swakopmund within the Dorob National Park, in the Erongo Region. This site is accessible via the D1984 road east of the Dorob National Park or via the C28. The EPL covers an area of approximately 12510.3425 hectares. Figure 1 provides a locality map of the project site.

This Scoping Report has been compiled in support of an application for an Environmental Clearance Certificate and includes an Environmental Impact Assessment section. Mitigation and enhancement measures which have been identified during the compilation of this report have been carried forward into an Environmental Management Plan which has been bound to this report.

The proposed project activities include land preparation, transporting relevant temporary construction material, equipment, construction of associated office and ablution facilities and other infrastructure, possible small-scale mining of gypsum mineral when exploration is successful using Wirtgen miner which entails surface excavating of less than 2m, stockpiling the mineral in heaps for a short period of time before they are sold in the market.

Erongo Region has become an extensive area of interest for mineral exploration and mining. Erongo is also a well-known hub with a vast cultural heritage site which plays a significant role in the communities. The EPL 8776 lies within the Dorob National Park as gazetted under the Nature Conservation Ordinance No.4 of 1975 on 1 December 2010. The park neighbors up with Namib-Naukluft National Park and Skeleton Coast National Park. This park has a spectacular coastal dune belt, vast gravel plains, Namibia's richest coastal area for birds, rich botanical diversity, and major ephemeral river systems and their river mouths.

Erongo region has a subtropical dry arid climate, which annually has temperatures varying from 14°C to 21°C and barely above 25°C and below 13 °C. The two main coastal towns of the Erongo Region - Swakopmund and Walvis Bay, are centrally located on the Namibian coastline in the arid Namib Desert. These arid conditions are as a result of dry descending air

and the upwelling of the cold Benguela Current. The central Namib is located within a summer rainfall zone, where most rainfall (0 – 50 mm/a) is variable and localized and can be expected between the months of January through to April. The location has an elevation between 110 – 150 meters above sea level. According to IEM (2022), the area has a prevailing easterly wind, average wind speed is the is approximately 1.7 meters per second (mps), with 21.3% calm days.

The site falls within the desert biome, which is characterized by central and southern desert vegetation type. Vegetation that occurs simultaneously on the coastal saline adapt to halophytic conditions such as semi-deserts, the Inland Foggy Zone which includes the project area, contains shrub communities (*Arthaerua leubnitiziae*) and lichen fields (*Caloplaca elegantissima-Xanthoparmelia walteri*), plants like Fensteralgen are more common under transparent stones such as quartz which also has a distinctive role in the fixation of minerals and soil formation. In general, the plant diversity of the project area varies between 50 – 99 (Mendelsohn et al., 2002).

The identification of potential impacts included impacts that may occur during the planning, construction, operational and decommissioning phases of the project. The assessment of impacts includes direct, indirect as well as cumulative impacts. In order to identify potential impacts (both positive and negative) it is important that the nature of the proposed projects is well understood so that the impacts associated with the projects can be assessed and the mitigations as detailed in the EMP Report are implemented and monitored by the Proponent.

The following potential impacts on the environment during construction and operation activities have been identified:

- Dust & Noise
- Health & Safety
- Visual
- Waste
- Ecological
- Groundwater and surface water
- Heritage & Socio-Economic

Due to the limited scope of the proposed activities and the use of a step-by-step approach in advancing construction and operations, the overall severity of potential environmental impacts of the proposed project activities on the receiving environment will be of medium

magnitude, temporally duration, localized extent, and high probability of occurrence. All impacts are provided with mitigation measures, minimized or avoided to acceptable degrees provided that the measures are put into consideration

Based on the conclusions of this EIA Report, it is thus recommended that an Environmental Clearance Certificate be provided for the planned project activities. When implementing the proposed program, the Proponent shall consider the following critical requirements:

- If applicable, the Proponent will negotiate Access Agreements with landowners/authorities.
- The Proponent is responsible for obtaining all additional permits that may be required.
- In accordance with all applicable national rules, the Proponent shall comply with all terms of the EMP and conditions of the Access Agreement to be signed into between the Proponent and the landowner/s.
- In cases where baseline information, national or international guidelines, or mitigation measures have not been supplied or do not adequately address the site-specific project effect, the Proponent must use the precautionary approach/principles.

LIST OF ABBREVIATIONS

AEC	Alliance Environmental Consultancy
BID	Background information Document
CV	Curriculum Vitae
°C	Degree Celsius
DEA	Directorate of Environmental Affairs
EA	Environmental Assessment
ECC	Environmental Clearance Certificate
EES	Earth Environmental Services
EIA	Environmental Impact Assessment
EMA	Environmental Management Act No 7 of 2007
EMP	Environmental Management Plan
EPL	Exclusive Prospecting Licence
H&S	Health & Safety
IAPs	Interested and Affected Parties
IUCN	International Union for Conservation of Nature
km	Kilometre
MEFT	Ministry of Environment Forestry and Tourism
MME	Ministry of Mines and Energy
MSDS	Material Safety Data Sheet
PPP	Public Participation Process
UNCCD	United Nations Convention to Combat Desertification

GLOSSARY OF TERMS

Alternatives	A possible course of action, in place of another, that would meet the same purpose and need but which would avoid or minimize negative impacts or enhance project benefits. These can include alternative locations/sites, routes, layouts, processes, designs, schedules and/or inputs. The "no-go" alternative constitutes the 'without project' option and provides a benchmark against which to evaluate changes; development should result in net benefit to society and should avoid undesirable negative impacts.
Competent Authority	A body or person empowered under the local authorities act or Environmental Management Act to enforce the rule of law.
Environment	As defined in the Environmental Assessment Policy and Environmental Management Act - "land, water and air; all organic and inorganic matter and living organisms as well as biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, palaeontological or social values".
Environmental Assessment (EA)	Process of assessment of the effects of a development on the environment.
Environmental Management Plan (EMP)	A working document on environmental and socio-economic mitigation measures, which must be implemented by several responsible parties during all the phases of the proposed project.
Evaluation	The process of ascertaining the relative importance or significance of information, the light of people's values, preference and judgements in order to make a decision.
Hazard	Anything that has the potential to cause damage to life, property and/or the environment. The hazard of a particular material or installation is constant; that is, it would present the same hazard wherever it was present.
Interested and Affected Party (IAP)	Any person, group of persons or organisation interested in, or affected by an activity; and any organ of state that may have jurisdiction over any aspect of the activity.
Mitigate	The implementation of practical measures to reduce adverse impacts.

Proponent (Applicant)	Any person who has submitted or intends to submit an application for an authorisation, as legislated by the Environmental Management Act no. 7 of 2007, to undertake an activity or activities identified as a listed activity or listed activities; or in any other notice published by the Minister or Ministry of Environment & Tourism.
Public	Citizens who have diverse cultural, educational, political and socio-economic characteristics. The public is not a homogeneous and unified group of people with a set of agreed common interests and aims. There is no single public. There are a number of publics, some of whom may emerge at any time during the process depending on their particular concerns and the issues involved.
Scoping Process	Process of identifying: issues that will be relevant for consideration of the application; the potential environmental impacts of the proposed activity; and alternatives to the proposed activity that are feasible and reasonable.
Significant Effect/Impact	An impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment.
Stakeholder Engagement	The process of engagement between stakeholders (the proponent, authorities and IAPs) during the planning, assessment, implementation and/or management of proposals or activities. The level of stakeholder engagement varies depending on the nature of the proposal or activity as well as the level of commitment by stakeholders to the process. Stakeholder engagement can therefore be described by a spectrum or continuum of increasing levels of engagement in the decision-making process. The term is considered to be more appropriate than the term "public participation".
Stakeholders	A sub-group of the public whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. The term therefore includes the proponent, authorities (both the lead authority and other authorities) and all interested and affected parties (I&APs). The principle that environmental consultants and stakeholder engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders.

Sustainable Development	<p>“Development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs and aspirations” – the definition of the World Commission on Environment and Development (1987).</p> <p>“Improving the quality of human life while living within the carrying capacity of supporting ecosystems” – the definition given in a publication called “Caring for the Earth: A Strategy for Sustainable Living” by the International Union for Conservation of Nature (IUCN), the United Nations Environment Programme and the Worldwide Fund for Nature (1991).</p>
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1. INTRODUCTION

Earth Environmental Services CC (EES) **JV** Alliance Environmental Consultancy CC (AEC) (herein referred to as the consultant) has been appointed by Mr. Karel. A Esterhuizen Snr (herein referred to as the proponent) to act on their behalf in obtaining an Environmental Clearance Certificate (ECC) for the proposed industrial minerals exploration activities on Exclusive Prospecting License (EPL) 8776. The project area is located approximately 20km southeast of Swakopmund in the Erongo Region.

1.1. Project Activities

The general mineral exploration activities are summarized as follows:

- i. Exploration activities include a desktop review of existing data as well as all past research. This is conducted in the general area to see if there are any prospective targets. This is done by purchasing high-resolution data from the Government and interpreting it as part of the first stage of exploration.
- ii. Regional reconnaissance assessment, which includes field-based activities such as regional mapping and sampling in order to identify and validate prospective targeted areas identified during stage 1. This step is only carried out if the step1 has identified some possible targets that need to be explored further.
- iii. Initial field-based activities such as widely distributed geological mapping, sampling, surveying, and maybe widely spaced trenching and drilling to verify the feasibility of any identified local target based on the regional data acquired in step 2 above. The degree or depth of exploration carried out at this stage is contingent on the discovery of viable/prospective mineral resources. Alternatively, if the specified target(s) proves to be non-variable, the license is revoked.

To assess the viability of the local targets, detailed local field-based operations such as localized site-specific geology mapping, trenching, bulk sample, surveying, and detailed drilling maybe carried out. If the detailed exploration activities yield positive results, the exploration data will be compiled into a pre-feasibility report, and if the prefeasibility results are positive, a detailed feasibility study will be conducted on the identified site-specific area, which will include detailed site-specific drilling, bulk sampling, and laboratory testing/test mining. If economic gypsum is discovered within the MCs area, the proponent will implement gypsum mining operations.

The following is a summary of the envisaged multi-phased project development process that will be implemented if the proposed exploration is successful:

- ❖ Feasibility, planning, and permitting
- ❖ Preconstruction and site clearing for Wirtgen continuous surface (2 meters depth) mining, supporting infrastructure, storage, access, and energy and water supply.
- ❖ Construction of the proposed mine and supporting infrastructure
- ❖ Mine operation, processing, stockpiling, transportation
- ❖ Decommissioning, final rehabilitation, closure, and aftercare.

The mining method that will be employed at this site is a tried and tested method (with some amendment) in use at other existing mines in the vicinity and consists of the following:

1. Bulldozer and self-elevating scrapers are used to remove approximately 50cm topsoil.
2. The topsoil will be stockpiled (normally on the high side of the cleared area) in berms not exceeding 2m in height. The soil should not be stockpiled for an extended period of time as it may lead to large areas remaining exposed for extensive periods as well as the potential for topsoil to become "inert" (i.e., loss of seedbank and nutrient leaching). Therefore, Topsoil must be transported to previously mined out area as soon as possible and use in rehabilitation of that mined out area.
3. The actual mining of the Gypsum will be conducted using the Wirtgen continuous surface milling miner. The machine operates by cutting gypsum strips of 20x20 burden and spacing and a cutting depth of 2.0 m (i.e. 10 passes of the Wirtgen).
4. The Wirtgen cuts and crushes the Gypsum to a desired size, usually 20mm (or less).
5. The Wirtgen leaves the Gypsum material in windrows along each cut.
6. The windrows material is collected by self-elevating scrapers and taken to central stockpile, loaded on trucks, and dispatched to market.

It is important to note that, no electricity is required, and no water is used in this process.

However, some equipment that may be used on the site will require diesel fuel for operation, this includes the following:

-
- Bulldozer
 - Self-elevating scrapers
 - Wirtgen Miner
 - Wheel loaders
 - Transport / dispatch vehicles

A small workshop area may be erected at the site to service the machinery regularly. The workshop will be constructed in a such a way that oil spills and other hazardous hydrocarbons will not percolate into the soil.

All extracted material will be mined and sold local. The mining of gypsum produces no to minimal waste. Production rate has been estimated at an initial +/- 150 000 tons per annum. The reserve will be measured based on prospecting results. The reserves will be quantified by a geologist and mostly only the areas of high grade will be mined..

The expected market for sale of their product are in cement industries/factories where Gypsum sales directly to cement manufacturing companies as well as construction materials manufactures (Ceiling boards, etc.) and others.

ACCESS AND TRANSPORT

The location will be accessible through the C34, D1984, and C28 routes which are already existing roads, there will be no creation of tracks. Prior to any site visit, authorization from the parks department will be acquired. If the Proponent intends to continue with field-based activities, it is the Proponent's responsibility to negotiate access agreements with landowners and to ensure that all security measures to protect the land and the landowner's interests are always observed and as may be agreed upon with the landowners individually. Permission from landowners and appropriate authorities is required for any new tracks.

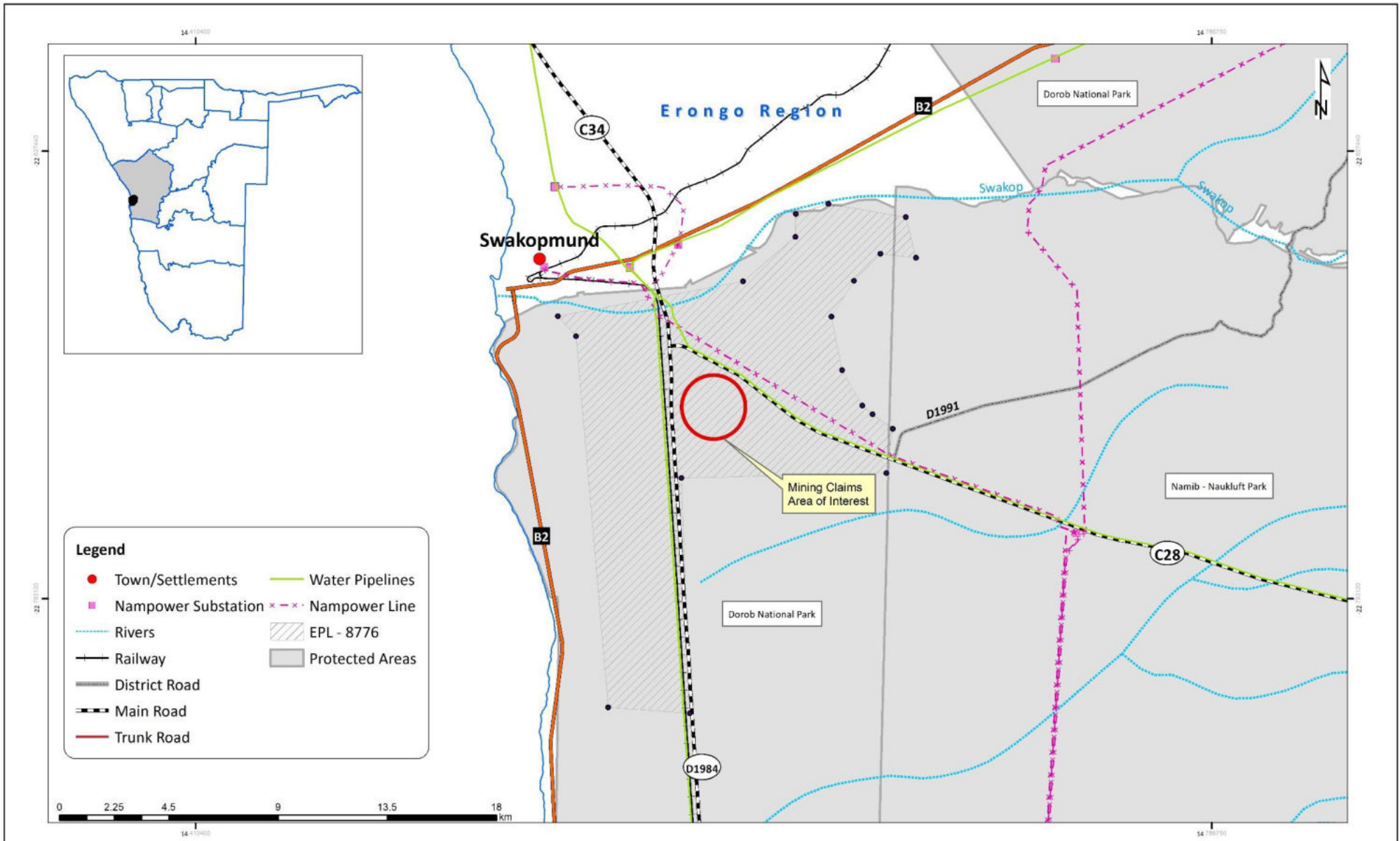
RESOURCES (WATER AND ELECTRICITY)

Exploration activities and the intended mining option will need a limited supply of water which will be brought to the site. A diesel-powered generator will be used as needed for exploration and mining equipment and lighting for the project. Water will mostly be needed for domestic purposes.

ACCOMMODATION, SUPPORTING INFRASTRUCTURE

The exploration team will be commuting daily from Swakopmund and the surrounding area. The exploration team is envisioned to consist of three (3) skilled workers whereas the mining activities will employ up to 15 (fifteen) or more skilled and non-skilled workers. Two portable toilets will be installed onsite and regularly serviced. Excavator, loader, screening plant, 1x bakkie will be used especially during the mining phase of the project. The proponent will use Wirtgen continuous surface mining method to extract gypsum minerals at a maximum depth of 2 meters coving an area of approximately 200m x 400m per year. The estimated production is +/- 150 000 tons per year. The mining method is described in Section 1.1.

Waste will be collected and deposited at the Swakopmund municipal dumpsite. Hydrocarbon tanks will be stored on-site i.e., petrol 100litres and diesel 1000Litres. All hydrocarbon tanks will be appropriately stored and banded to hold 110% of the capacity of the tanks and all relevant permits should be applied for by the proponent as may be required.



ENVIRONMENTAL IMPACT ASSESSMENT PROPOSAL	LOCALITY MAP EPL - 8776		
	Proponent: Mr. Karel Esterhuizen	Scale: 1:138,154	Rev: 01
Location of the project relative to the Erongo Region, Namibia	Consultant: Earth Environmental Services cc JV Alliance Environmental consultancy	Projection: WGS84	Date: 09.03.2022



Figure 1 – Locality map and infrastructure of the proposed project

2. PURPOSE OF THE REPORT

In terms of the Environmental Management Act No.7 of 2007 and the Environmental Impact Assessment (EIA) Regulations of 2012, the project triggers listed activities that cannot be undertaken without an Environmental Clearance Certificate (ECC). An environmental clearance application will be submitted to the Ministry of Mines and Energy (MME) as the competent authority and The Environmental, Forestry, and Tourism (MEFT) as the issuing authority of the decision made before the commencement of the anticipated project activities.

The provision of the listed activities are as follows:

MINING AND QUARRYING ACTIVITIES

3.1 The construction of facilities for any process or activities which requires a license, right, or other forms of authorization, and the renewal of a license, right, or any other form of authorization in terms of Minerals (Prospecting and Mining Act), 1992.

3.2 Other forms of mining or extraction of natural resources whether regulated by law or not.

3.3 Resource extraction, manipulation, conservation, and related activities.

HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE

9.1 The manufacturing, storage, handling, or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.

3. ENVIRONMENTAL CONSULTANTS

Earth Environmental Services CC **JV** Alliance Environmental Consultancy CC (AEC) (hereinafter referred to as consultant) are independent consultants developed to assist clients to meet environmental legislative requirements, relevant standards and uphold environmental safety throughout project developments and operation. We assess and monitor the social and environmental impacts of biomass, mining, energy, tourism, and other sectors. Our wide range of capabilities, disciplines, and services are fundamentally based on proactively delivering advice and solutions with the outlook of sustainability. This is done by awarding our clients the responsibility and opportunity to make unique differences in their industries. The detailed CVs of the team is presented in Appendix A.

4. LEGAL REQUIREMENTS

4.1. List of applicable laws and legislations

A list of legislation that is applicable to the proposed project is presented in Table 1.

Table 1: List of applicable laws and legislations

LAW	SUMMARY DESCRIPTION
Constitution of the Republic of Namibia, 1990	The Constitution is the supreme law in Namibia, providing for the establishment of the main organs of state (the Executive, the Legislature, and the Judiciary) as well as guaranteeing various fundamental rights and freedoms. Provisions relating to the environment are contained in Chapter 11, article 95, which is entitled "promotion of the Welfare of the People". This article states that the Republic of Namibia shall – "actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at; maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for all Namibians, both present and future. The Government shall provide measures against the dumping or recycling of foreign nuclear waste on Namibian territory."
Environmental Management Act (2007) - Ministry of Environment, Forestry and Tourism (MEFT)	The purpose of the Act is to give effect to Article 95(l) and 91(c) of the Namibian Constitution by establishing general principles for the management of the environment and natural resources. to promote the coordinated and integrated management of the environment to give statutory effect to Namibia's Environmental Assessment Policy. to enable the Minister of Environment and Tourism to give effect to Namibia's obligations under international conventions. In terms of the legislation, it will be possible to exercise control over certain listed development activities and activities within defined sensitive areas. The listed activities in sensitive areas require an Environmental Assessment to be completed before a decision to permit development can be taken. The legislation describes the circumstances requiring environmental assessments. Activities listed as per the provisions of the Act will require environmental assessment unless the Ministry of Environment, Forestry and Tourism, in consultation with the relevant Competent Authority, determines otherwise and approves the exception.

LAW	SUMMARY DESCRIPTION
<p>Water Act 54 of 1956</p> <p>Ministry of Agriculture, Water and Land reform (MAWLR)</p>	<p>This Act provides for the control, conservation and use of water for domestic, agricultural, urban, and industrial purposes. In terms of Section 6, there is no right of ownership in public water and its control and use is regulated and provided for in the Act. In accordance with the Act, the proposed project must ensure that mechanisms are implemented to prevent water pollution. water permits will also be required to abstract groundwater as well as for "water works".</p>
<p>Forest Act 12 of 2001 - Minister of Environment, Forestry and Tourism (MEFT)</p>	<p>The Act provide for the establishment of a Forestry Council and the appointment of certain officials. to consolidate the laws relating to the management and use of forests and forest produce. to provide for the protection of the environment and the control and management of forest fires.</p> <p>Under Part IV Protection of the environment, Section 22(1) of the Act, it is unlawful for any person to: cut, destroy, or remove:</p> <p>(a) any vegetation which is on a sand dune or drifting sand or in a gully unless the cutting, destruction or removal is done for the purpose of stabilising the sand or gully or</p> <p>(b) any living tree, bush or shrub growing within 100m of a river, stream, or watercourse.</p> <p>Should either of the above be unavoidable, it will be necessary to obtain a permit from the Ministry. Protected tree species as listed in the Regulations shall not be cut, destroyed, or removed.</p>
<p>Hazardous Substance Ordinance 14 of 1974</p> <p>Ministry of Health and Social Services (MoHSS)</p>	<p>Provisions for hazardous waste are amended in this act as it provides "for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances. to provide for the prohibition and control of the importation, sale, use, operation, application, modification, disposal or dumping of such substance and to provide for matters connected therewith"</p>
<p>Atmospheric Pollution Prevention</p>	<p>This regulation sets out principles for the prevention of the pollution of the atmosphere and for matters incidental thereto. Part III of the Act sets out</p>

LAW	SUMMARY DESCRIPTION
Ordinance 11 of 1976. Ministry of Health and Social Services (MoHSS)	regulations pertaining to atmospheric pollution by smoke. While preventative measures for dust atmospheric pollution are outlined in Part IV and Part V outlines provisions for Atmospheric pollution by gases emitted by vehicles.
The Nature Conservation Ordinance 4 of 1975, Ministry of Environment, Forestry and Tourism (MEFT)	Care must be taken to ensure that protected plant species and the eggs of protected, and game bird species are not disturbed or destroyed. If such destruction or disturbance is inevitable, a permit must be obtained in this regard from the Minister of Environment, Forestry and Tourism. Should the Proponent operate a nursery to propagate indigenous plant species for rehabilitation purposes, a permit will be required.
Soil Conservation Act, No. 76 of 1969 and the Soil Conservation Amendment Act, No. 38 of 1971	The act makes provision for the prevention and control of soil erosion and the protection, improvement and conservation of soil and vegetation
Labour Act, 1992, Act No. 6 of 1992 as amended in the Labour Act, 2007 (Act No. 11 of 2007 Ministry of Labour, Industrial Relations and Employment Creation (MLIREC)	The Labour Act gives effect to the constitutional commitment of Article 95 (11), to promote and maintain the welfare of the people. This Act is aimed at establishing a comprehensive labour law for all employees. to entrench fundamental labour rights and protections. to regulate basic terms and conditions of employment. To ensure the health, safety and welfare of employees under which provisions are made in chapter 4. Chapter 5 of the act improvises on the protection of employees from unfair labour practice.
	Any consumer installation as envisaged in this Act must be licensed. Appropriate consumer installation certificate will need to be obtained from the Ministry for each fuel installation. The construction of the installation must be designed in such a manner as to prevent environmental contamination.

LAW	SUMMARY DESCRIPTION
Petroleum Products and Energy Act 13 of 1990 Ministry of Mines and Energy (MME)	Any certificate holder or other person in control of activities related to any petroleum product is obliged to report any major petroleum product spill (defined as a spill of more than 200ℓ per spill) to the Minister. Such person is also obliged to take all steps as may be necessary in accordance with good petroleum industry practices to clean up the spill. Should this obligation not be met, the Minister is empowered to take steps to clean up the spill and to recover the costs thereof from the person.
National Heritage Act 27 of 2004 Ministry of Education, Arts and Culture (MEAC)	This Act provides provisions for the protection and conservation of places and objects of heritage significance and the registration of such places and objects. The proposed activities will ensure that if any archaeological or paleontological objects, as described in the Act, are found during the implementation of the activities, such a find shall be reported to the Ministry immediately. If necessary, the relevant permits must be obtained before disturbing or destroying any heritage

4.2. Key Regulators / Competent Authorities

The environmental regulatory authorities responsible for environmental protection and management in relation to the proposed project including their role in regulating environmental protection are listed in Table 2.

Table 2: Agencies regulating environmental protection in Namibia.

AGENCY	RESPONSIBILITY
Ministry of Environment, Forestry and Tourism (MEFT)	<p>Issue of Environmental Clearance Certificate (ECC) based on the review and approval of the Environmental Assessments (EA) reports comprising Environmental Scoping, Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) prepared in accordance with the Environmental Management Act (2007) and the Environmental Impact Assessment Regulations, 2012</p> <p>The National Botanical Research Institute's (NBRI) mandate is to study the flora and vegetation of Namibia, in order to promote the understanding, conservation and sustainable use of Namibia's plants for the benefit of all. The</p>

AGENCY	RESPONSIBILITY
	<p>Directorate of Forestry (DOF) is responsible for issuing of forestry permits with respect to harvest, transport, and export or market forest resources.</p> <p>Parks department which is responsible for reviewing projects that are conducted withing protected areas. The park is managed to prevent and minimise damage to important habitats while aiming for long-term health, productivity, sustainability, and climate change adaption. The basic objective of the National Park declaration is to implement conservation measures.</p>
Ministry of Agriculture, Water and Land Reform (MAWLR)	The Department of Water Affairs (DWA) within the Directorate of Water Resource Management at the MAWLR is responsible for management of surface and groundwater utilisation through the issuing of abstraction permits and wastewater disposal permits. DWA is also accountable for water quality monitoring and reporting.

4.3. Permits

Some permits related to exploration and mining activities are listed in Table 3.

Table 3: Other applicable permits to the proposed project

PERMITS/CERTIFICATES	ACTIVITY	VALIDITY
Consumer Installation Certificate	The new Petroleum Products Regulations prohibit a person to have in possession more than 200 litres of petrol or diesel in an urban area or more than 600 litres of petrol or diesel in a rural area.	Permit dependent
Parks Entry Permit	Entry of the park	3 months

5. PROJECT MOTIVATION/RATIONALE

Mining activities in Namibia is the biggest contributor to the country's revenue and one of the largest economic sectors in the country. Although during exploration activities there are limited social benefits associated with the project, the following are the possible benefits of the proposed project activities:

- Contributions to annual license fees to the government through the Ministry of Mines and Energy (MME).
- Payments of lease agreements and services rendered.
- Provisional contracting opportunity for companies interested in mineral explorations are carried out throughout the mineral prospecting phase, which might take several years.
- Provision of contractual employment opportunities.
- Increase in knowledge on the subsurface which then contributes to development, and geoscience research.
- Contribute to the socio-economic development of the local area and region, even more, should viable discoveries be made. Direct capital investment into the Erongo Region.
- Secure and reliable supply of Gypsum products for local industries.
- Expansion of trade and industrial activity in the region.
- Inducement of additional investments.
- Diversification of the regional and national economy.

The proposed project will therefore positively contribute to:

- ✓ **Employment:** It is estimated that approximately more than 25 jobs will be created. This will generally enhance the quality of life in mostly local people (Swakopmund) and the surrounding areas.
- ✓ **Skills development:** As the construction and operation of the development requires specialized work and skills it can be expected that experts will be training locals in certain skills during the project phases.
- ✓ **Contribution to economic development** (e.g., supply of materials and goods for construction purposes; new businesses, employment etc.).

6. ALTERNATIVES CONSIDERED

In terms of the Environmental Management Act, No. 7 of 2007 and EIA Regulations, alternatives considered should be analyzed. This is to ensure that during the design evolution and decision-making process, potential environmental impacts, costs, and technical feasibility have been considered, which leads to the best option(s) being identified.

6.1. Site/location

Minerals Occurrence Location: Several economic deposits are known to exist in various locations of Namibia, some of which have been explored by various companies throughout the years. As part of the license, the proponent proposes to explore / prospect for potential economic minerals occurrences in this specific EPL area. There are no alternative locations considered for explorations and mining.

6.2. Resources

Water - Within or close to the EPL area, regional water and energy supply infrastructure networks are accessible. However, the projected exploration activities programme would not require a large supply of water or energy. Therefore, a water tanker collecting water from the Swakopmund will be used to supply water for the proposed minerals exploration operations.

Energy - The proposed project will use diesels generator for day-to-day activities.

Waste - Domestic waste will be removed to the municipal landfill site by the proponent or an appointed contractor.

Access Roads – The Proponent will use the already existing external and internal road networks during the first phases of the project, should any new access be created, it will be done with the permission of landowners/Municipality and MEFT.

Equipment and infrastructure – The equipment and infrastructure options considered by the proponent are deemed sufficient at this stage of the project. However, in the world of revolving technology, the proponent may opt to employ other improved equipment/infrastructure in the future when deemed necessary in order to maximize the project output.

6.3. No go Alternatives

The “no action” alternative implies that the status quo remains, and nothing happens. Should the proposal to explore and mine be discontinued, none of the potential impacts (positive and negative) identified would occur. If the proposed project is to be discontinued, the current land use for the proposed site will remain unchanged.

This option was considered and a comparative assessment of the environmental and socio-economic impacts of the “no action” alternative was undertaken to establish what benefits might be lost if the project is not implemented. The key losses that may never be realized if the proposed project does not go ahead include:

- Lost opportunity for foreign direct investment.
- Employment for about 25 people for community members will not be realized.
- Loss of potential income to local and national government through land lease fees, license lease fees and various tax structures.
- Socio-economic benefits such as skills acquisition to local community members, borehole upgrades, etc would be not realized.

Considering the above losses, the “no-action/go” alternative was not considered a viable option in the interest of the directly affected community and the proponent.

The above-described project activities and their alternatives are governed by certain legislations and these need to be complied with throughout the project life cycle. The applicable/relevant legislations, policies and guidelines are presented in chapter 4.

7. TERMS OF REFERENCE

The scope of this assessment is to identify and evaluate potential environmental impacts emanating from the construction, operations, and possible decommissioning of the development. Data has been compiled by making use of literature, the information provided by the proponent, and from the project sites visit.

The Potential environmental and social impacts will be identified, and mitigation measures and recommendations provided for in the Environmental Management Plan.

The environmental scoping assessment report aims to address the following:

- i. Identification of potential positive and negative environmental impacts.
- ii. Evaluation of the nature and extent of potential environmental impacts
- iii. Identify a range of management actions that could mitigate the potential adverse impacts to required levels.
- iv. Consult relevant stakeholders regarding the proposed development.
- v. Provide sufficient information to the Ministry of Environment, Forestry and Tourism to make an informed decision regarding the proposed project.

8. EIA APPROACH AND METHODOLOGY

The EIA and EMP methodology applied for this project will take into account the provisions of the Environmental Impact Assessment (EIA) Regulations, 2012, and the Environmental Management Act (EMA) Act No. 7 of 2007. The process followed is detailed below and in Figure 2.

PHASE 1 – ENVIRONMENTAL SCREENING

Project initiation and registration with the Competent Authority

- This involves meeting with the client and discussing timeframes, logistics and project descriptions.
- Basic desktop site Baseline analysis and compilation of a Background Information Document (BID)
- Project registration with Department of Environmental Affairs (DEA) to be done on the EIA online portal system.
- After the project is registered, the environmental Commissioner will advise whether a full EIA or Scoping assessment is required for the project.

PHASE 2: ENVIRONMENTAL SCOPING ASSESSMENT INCLUDING PUBLIC PARTICIPATION PROCESS (PPP)

- An extensive desktop baseline study and review for the area will be undertaken using remote sensing to identify and describe potential sites that are likely to be impacted by the project before on ground site verification.
- The consultants will conduct a site visit during this stage to form a basis for the assessment and determine the real sensitivity of the surrounding biophysical and socio-economic environment.
- The information obtained during the site visit will be supplemented by a literature review and will be used by the environmental consultant to: (a) Determine the actual/real risks associated with the project activities, (b) Provide practical mitigation measures to minimize the risks; and (c) Make recommendations for further studies, should it be required.

Public Consultation Process and stakeholder engagement (21 Days)

- Public consultation is an important stage of the EIA process as it ensures full consultation and public involvement. The public consultation process begins with usually newspaper advertisement (Minimum two (2) local newspapers twice for two consecutive weeks), site notices to be placed and easily accessible places around the project area/town, radio announcements, when necessary, through respective constituency offices (especially in remote areas where newspapers might not reach on time) and then public meetings. This is done to provide the public a chance of getting involved in the process, provide their views and input regarding to the proposed activities in the area.
- During this stage, potential stakeholders (local governments, constituency offices, farmers etc.) are identified and made aware of the project. All Interested and Affected Parties (I&APs) contact details will be collected for future communications related to the project progress.
- The Background Information Document (BID) prepared in phase 1 will be shared with all identified and registered I&Aps during this period. The BID usually contains summarized project information such as the project description of activities, project motivation, potential impacts, and EIA process followed. This document will be shared via emails or delivered in hardcopy to the relevant/applicable parties Other social media platforms such as WhatsApp will also be utilized in this case.
- All comments, inputs, issues and/ or concerns raised by I&APs during the process will be recorded for consideration in the environmental assessment report and development of the EMP.

PHASE 3: ENVIRONMENTAL REPORTING – ENVIRONMENTAL SCOPING ASSESSMENT REPORT (ESAR) AND ENVIRONMENTAL MANAGEMENT PLAN (EMP)

- This stage will include data reduction and analysis using appropriate techniques to produce suitable project results for interpretation and discussion. This stage will entail consolidation of the findings in the form of a report that can be presented to the client for review and comments. An EMP will be drafted to mitigate and manage all impacts identified in the scoping report.

-
- After approval of the documents by the Client, the draft ESAR and EMP will be prepared for circulation to the public (I&APs) for comments over a period of 7 days.
 - All comments are consolidated and included in the reports and the ESAR and EMP are finalized for submission to the competent authority (Ministry of Mines and Energy) and issuing authority (MEFT).
 - The registered and identified I&APs will be informed that the final documents have been submitted to the authorities for decision making and that for any further comments, they can directly contact the DEA. Furthermore, the DEA provides another 14 days period for public participation on the online portal in this regard.

PHASE 4: FOLLOW-UP WITH THE COMPETENT AUTHORITY UNTIL FEEDBACK IS GRANTED

FIGURE 2: BELOW PROVIDES A SIMPLIFIED EIA PROCESS FLOWCHART

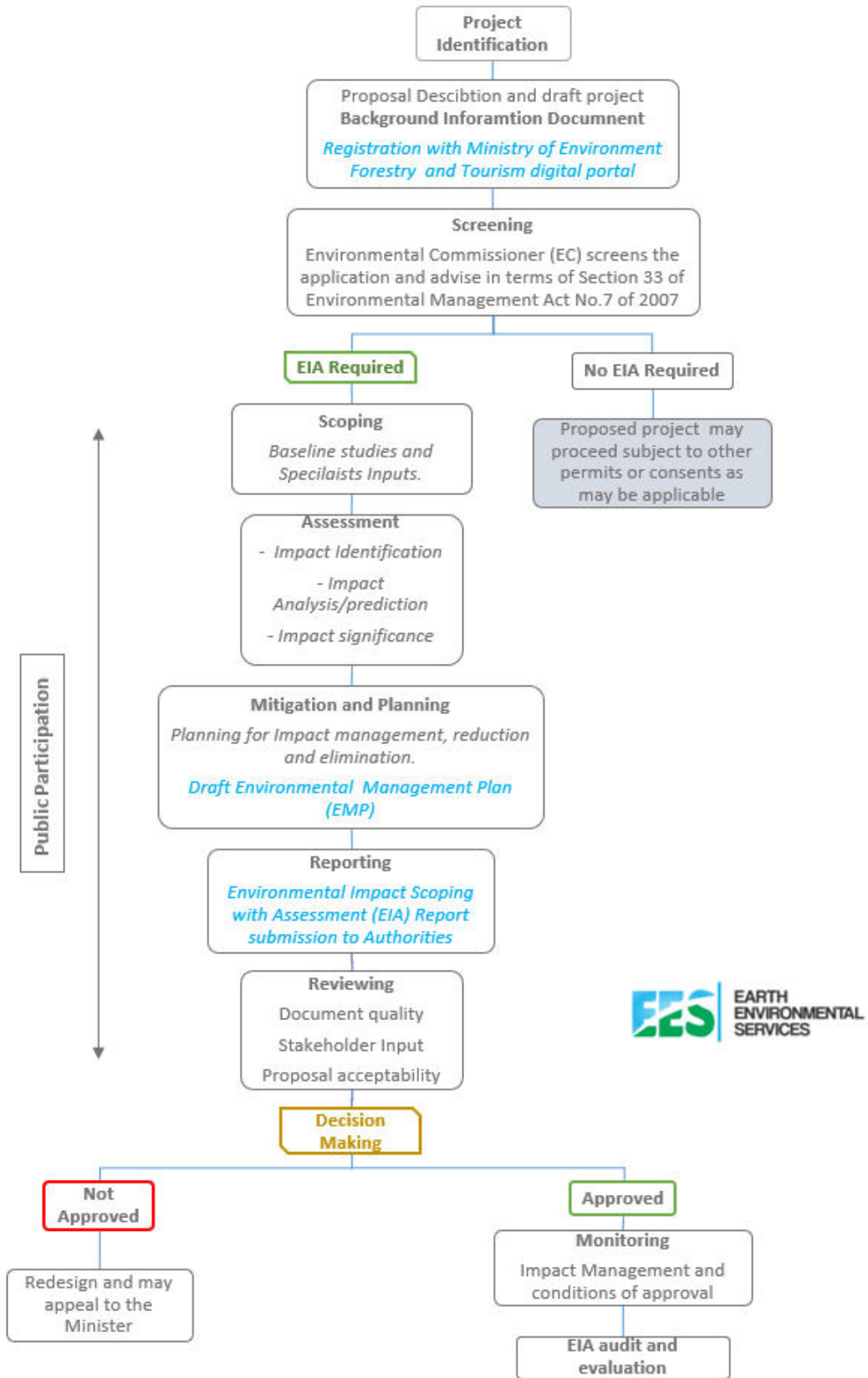


Figure 2 - EIA Flow Chart by EES

9. BASELINE ENVIRONMENT/ STUDY AREA

9.1. Biophysical Environment

9.1.1. Climate

Swakopmund is in the Erongo Region with a subtropical dry arid climate, which annually has temperatures varying from 14 to 21°C and barely above 25°C and below 13°C. The average cloud cover of this area causes seasonal variation throughout the year, there is a variation of four seasons, the clear (begins early March to mid-December), clearest (May), cloudy (begins mid-December to early March) and the cloudiest (January) (Spriggs & Amy, 2011).

The most form of precipitation in the region is rain being alone during February month. Rainfall in the western coast of Namibia is rarely common it stays with an average of (0 – 50 mm/a) where most rainfall is variable and localized and can be expected between the months of January through to April. It is also very common to successively experience years with no rainfall at all. Humidity level in this area does not typically vary, it remains steady at 5% throughout, the town also experiences a variation in wind speeds with an average of 14 km per hour in the windiest month July and the calmer month being March with an average of 11kmi per hour, mostly the wind blows from the south with a probability of 11 months (from February to January) reaching it highest peak of 55% (Spriggs & Amy, 2011).

There are four features that dominantly affect the coastal climate, these are the Benguela Upwelling System, the Great Escarpment, the Southern Atlantic Anticyclone and lastly the non-appearance of dominant geographical features on the 150-km wide plains which also makes it one of the most climatically stable areas (Swakopmund, 2011). The project area which is approximately 20km from Swakopmund lies within the Interior Foggy Zone (20-60km from the coast), this area is heavily precipitated by fog at night and evaporation exceeds rainfall. Table 4 provides an overview of the regional climate data.

Table 4 - Regional Climate Data

Average annual rainfall (mm/a)	0-50
Variation in annual rainfall (%)	> 100
Average annual evaporation (mm/a)	2800-3000
Water deficit (mm/a)	1901-2100

Average annual temperatures (°C)	16-17
Average daily sunlight hours	8 – 9
Average solar radiation per day	5.4 – 5.6 kWh/m ²
Foggy days per year	75- 100

9.1.2. Fauna

Plant and animal communities are highly dependable on various factors such as climate, soil type and habitats. Although there is few known fauna and flora associated to the saline flats in this country their habitats (with water, food etc.) play a vital role so is their adaptation level, both fauna and flora in this area highly depend on fog (water source) as it reaches 140km inland (Spiggs and Amy,2011). Generally coastal saline flats are frequently home for migratory birds. Some 75 species of birds' flock to this coast hence Birdlife International has included the park under the category of "Important Bird Area".

The Dorob National Park is home to the Damara tern (*Sternula balaenarum*) a breeding seabird which is endemic to Namibia hence considered a flagship species of the coastal area and this coastal ecosystem serves as its breeding grounds. During the site visit no animals were seen on the project area, however vertebrate animals are more common in spaces with such climatic conditions and sand texture. A possibility of unseen animals could be that most are in hibernation. Desert conditions are suitable habitats of some reptiles (geckos and snakes) and insects (beetles), the project area however has low richness in mammal species.

A desktop study conducted for the Kuiseb Delta and Dune Belt between 20 and 24 May 2011 on the vertebrate fauna (e.g., reptiles, amphibians, mammals and birds) expected to occur in the general area defined as the Kuiseb River delta and dune belt area between Walvis Bay and Swakopmund revealed that; the central coastal region and the Walvis Bay area in particular, is regarded as "relatively low" in overall (all terrestrial species) diversity (Mendelsohn et al. 2002). Overall terrestrial endemism in the area on the other hand is "moderate to high" (Mendelsohn et al. 2002).

The overall diversity and abundance of large herbivorous mammals (big game) is viewed as "low to medium" with 1-2 species while overall diversity of large carnivorous mammals (large

predators) is determined at 4 species with brown hyena being the most important with “medium” densities expected in the area (Mendelsohn et al. 2002).

It is estimated that at least 54 reptile, 7 amphibian, 42 mammal and 182 bird species (breeding residents) are known to or expected to occur in the general/immediate Walvis Bay/Swakopmund area of which a high proportion are endemics. **Appendix C** Provides a list of species that could potentially occur in the general area.

The high percentage of endemic reptile species (50%) known and/or expected to occur in the general Walvis Bay/Swakopmund area underscores the importance of this area for reptiles. Reptile species of concern are the 2 thread snakes (*Leptotyphlops occidentalis* and *L. labialis*) as well as the sand burrowing/dwelling species such as *Bitis peringueyi* as well as the high proportion (81%) of endemic gecko (e.g., *Pachydactylus* species) species of which very little is known about their ecological role and actual status in Namibia. The seemingly barren sandy dune and gravel plain areas around Walvis Bay/Swakopmund are host to a variety of reptile fauna not often expected and/or acknowledged.

Amphibians are generally not viewed as extremely important in saline coastal areas which are marginal habitat for most amphibians. Although 43% of the amphibians expected to occur in the general area are endemic to Namibia, they are expected to occur further inland – i.e. the Kuiseb and Swakop Rivers and rocky outcrops with temporary pools associated with these landforms. The endemic *Phrynomantis annectens* is probably the amphibian of greatest concern in the area although it occurs widespread throughout large parts of Namibia.

Endemic mammal species of concern include the mole *Eremitalpa granti* and the two bats *Laephotis namibensis* and *Cistugo seabrai* as well as the Hairy-footed Gerbils (*Gerbillurus* sp.). Both bats are very poorly known with only a few records from the general area making them particularly important. The predator of concern is *Hyaena brunnea* which is classified locally as Insufficiently Known, probably Vulnerable; with an international status of Vulnerable (SARDB 2004, IUCN 2010).

9.1.2.1. Birds

The high proportion of endemic birds of which 50% (7 of 14 species) are endemic to Namibia and which are known and/or expected to occur in the general Walvis Bay/Swakopmund area is important and should be taken into consideration regarding development in the area.

Species of greatest concern include all the endemics (e.g. Dune and Gray's Larks) as well as *Morus capensis* (Vulnerable – IUCN 2010), *Phalacrocorax capensis* (Near threatened – IUCN 2010), *Phalacrocorax neglectus* (Endangered – IUCN 2010), *Phalacrocorax coronatus* (Near threatened – IUCN 2010), *Phoenicopterus minor* (Endangered – IUCN 2010), *Haematopus moquini* (Near threatened – IUCN 2010), *Charadrius pallidus* (Near threatened – IUCN 2010) and *Sterna balaenarum* (Near threatened – IUCN 2010). Furthermore, the Damara Tern (*Sterna balaenarum*) which breeds in the gravel plain and sandy beach areas in the general area is the species possibly most threatened by development in the immediate Walvis Bay/Swakopmund area.

9.1.3. Flora

Vegetation type as well as land coverage changes inland, land coverage decreases between 1% to 5% depending on the distance from the coastal zone. Vegetation that occurs simultaneously on the coastal saline adapt to halophytic conditions such as semi-deserts, the Inland Foggy Zone which includes the project area, contains shrub communities (*Arthaerua leubnitiziae*) and lichen fields (*Caloplaca elegantissima-Xanthoparmelia walteri*), plants like Fensteralgen are more common under transparent stones such as quartz which also has a distinctive role in the fixation of minerals and soil formation (Cunningham, 2010). The vegetation in the area including the pencil bush, dollar bush, and shepherd's tree, along with some of the lichen fields, support the wildlife residing in the national park borders.

A thorough desktop research coupled with site visit investigation of the site by the consultant and an independent biodiversity specialist was carried out. The desktop overview borrows heavily from the work conducted by Mr. Peter Cunningham through the University of Namibia Central Consultancy Bureau (UCCB) in 2011 for the 2011 Kuiseb delta and dune belt area EIA. A Flora species list found in **Appendix D** was obtained from the National Botanical Research Institute (NBRI) of the Ministry of Environment, Forestry and Tourism.

The site falls within the desert biome, which is characterized by central and southern desert vegetation type (Figure 4). The Namib Desert Biome makes up a large proportion (32%) of the land area with parks in this biome making up 69% of the protected area network or 29.7% of the biome (Barnard, 1998). The vegetation in the Desert Biome is characterized by a

dominance of therophytes which persist in the form of seeds during unfavorable conditions (UCCB, 2011).

According to Mendelsohn et al. (2002) the dominant vegetation structure in the Southern Desert is grassland and dwarf shrubland. These Namib grasslands mainly annual species are very sparse, but nevertheless still dominate the little vegetation that grows around the area. The average plant production is low with 0-5% variation in green vegetation biomass. The overall plant diversity (all species) in the general Walvis Bay/Swakopmund area is estimated as <50 species (Mendelsohn et al. 2002). Burke (2003) estimates that over 400 species – 10% of the flora of Namibia occur in the central Namib and although it has not been identified as a center of endemism, it is dominated by endemics such as *Arthroa leubnitziae*. The greatest variants affecting the diversity of plants are habitat and climate. Plant endemism is viewed as “medium” with between 1-15 endemics expected from the general Walvis/Swakopmund area (Mendelsohn et al. 2002).

The figures below represent some of the species found in the project area and the surrounding.



Figure 3 - Left: *Zygophyllum simplex* (Hureim or simple-leaved bean cape). Right *Arthroa leubnitziae* (pencil bush (EES JV AEC, 2022).

Literature further reveals that, the eastern inland sections pro-Namib are dominated by *Stipagrostis obtusa* and *Stipagrostis ciliata* after rains while the plains closer towards the coast are dominated by *Mesembryanthemum cryptanthum* (Giess 1971). An interesting feature of the coastal areas is the extensive formation of gypsum crusts in the soil as a result of sulphur

releases during upwelling events in the ocean in the past. These substrates support the most diverse lichen fields in the world (Burke 2003). The lichen fields are the areas of concern and specific species e.g., endemics (*Arthraerua leubnitziae* etc.). The under protected *Welwitschia mirabilis* and economically important species such as *Acanthosicyos horridus* (Burke 2003).

All development has potential negative environmental consequences but identifying the most important flora species including high risk habitats beforehand, coupled with environmentally acceptable mitigating factors, lessens the overall impact of such development. In summary, no sensitive habitats have been identified on the area where the proposed activities may be conducted, the species observed occur in the larger area and not only within the EPL boundaries.

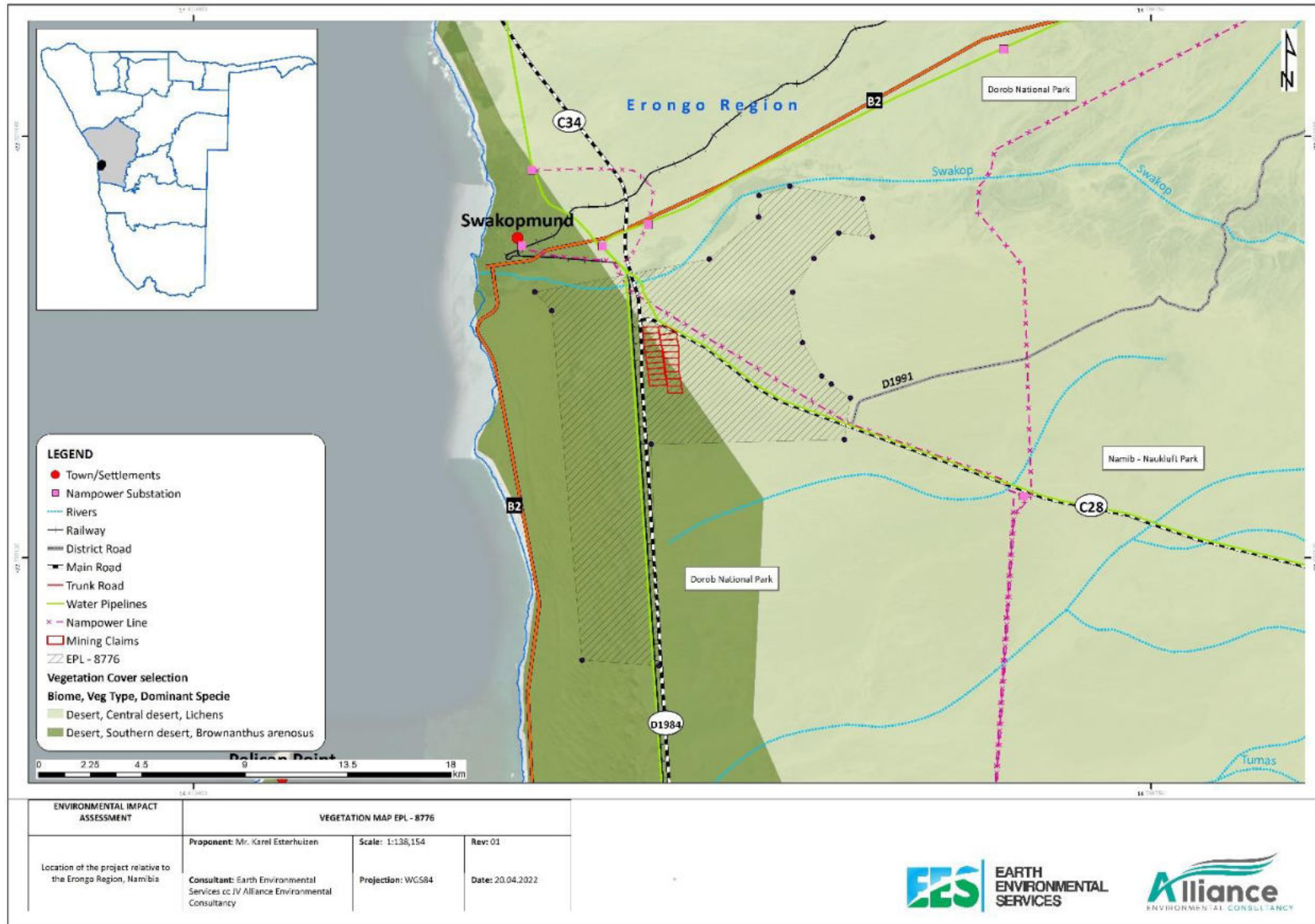


Figure 4: Vegetation type surrounding the proposed project area.

9.1.4. Hydrogeology and Geology

Namibia is a dry country with only two perennial rivers (one in the north and the other in the south). The rest of the country relies on surface water from rainfall in reservoirs and stored water in dams. The project area falls within the Erongo basin Figure 5 which covers most coastal towns like Swakopmund that are very reliant on groundwater. Ground water supplies the most water in the country from boreholes and springs. There are a vast number of piped water distribution schemes countrywide transferring both surface and groundwater to urban areas, pipelines are seen near the project area. Water for this project will mainly be used for dust control, and domestic use by employees.

The coastal area has poor and very low potentials of rock bodies meaning less or no aquifers as well as ground water, it is also one of the many areas in Namibia with poor/saline quality groundwater (Christelis and Struckmeier, 2001/2011). Treated wastewater is also a common source in Swakopmund and some other towns, at most times this water is not fit for human consumption, but it is rather used for irrigation and dust control projects.

According to Christelis et al, 2011 the Swakopmund area is known to be underlined by rocks of the Damara Sequence with deposits of Cenozoic superficial which is comprised by thin colluvial soils, fluvial-marine and alluvium deposits overlies the bedrock at varying depths. The project area is covered by the Damara Granite Intrusions and the Kalahari groups with dominant rock types of granite, sand, and calcrete Figure 6. Areas in the coast are highly linked with corrosion, the corrosive environment can be imputed to fog moisture, high humidity, chlorides, sulphates, and plenitude airborne salts. Swakopmund areas have high valuable construction materials especially in the Swakop riverbed this sand is used for manufacturing concrete bricks as well as in concrete.

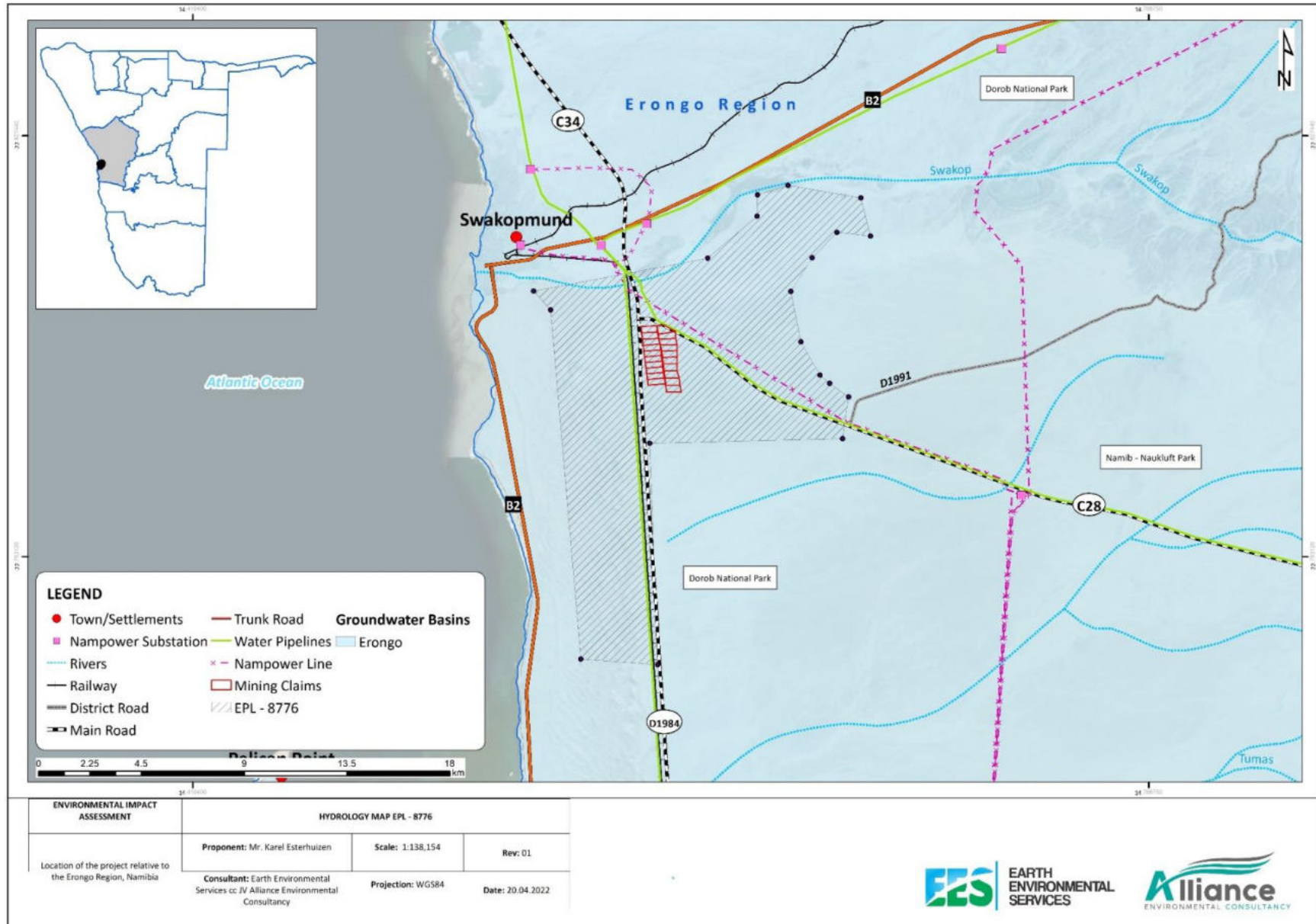


Figure 5 – Groundwater basin in the surrounding project area.

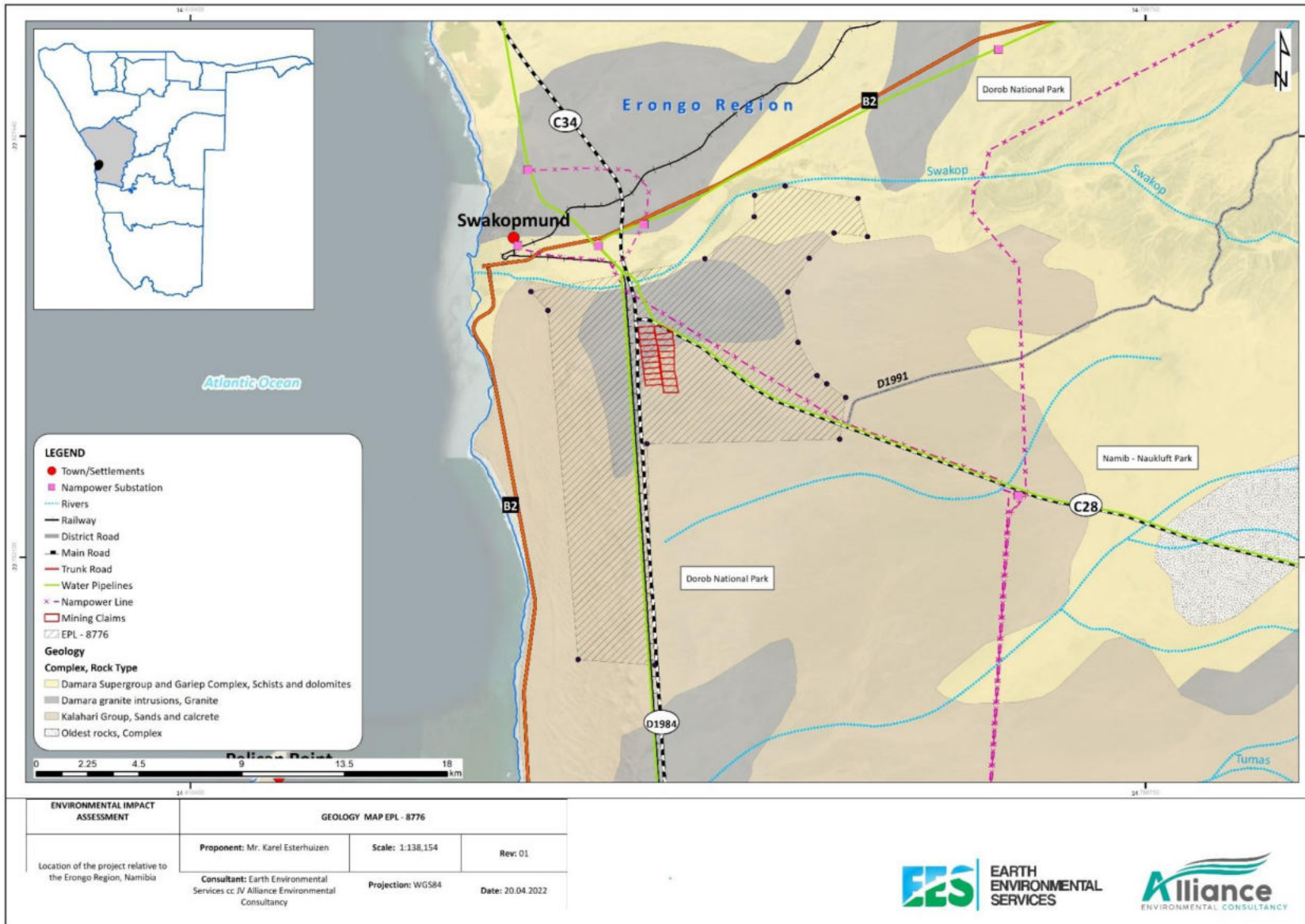


Figure 6 - Geology of the proposed area

9.1.5. Soil

The project area falls within the Gypsisols soil group with the dominant petric gypsisols and rock outcrops Figure 7. Soils in coastal areas have been noticed to have very low organic carbon content and macronutrients thus also resulting to a low vegetation growth. Low carbon-based content also results in unwell structured soils while low or lack of water in these areas have contributed to poor soil qualities due to very low clay content in the soil. Soil formation under harsh conditions is mainly influenced by exogenous physical methods such as transportation and physical weathering, chemical weathering has a less influence due to finite availability of water in the area.

However, fog also plays vital role in the weathering process since it comprises marine salts. The Namib area is partially rocky and partially covered with dunes. The type of sand in this area is characterized by low water retaining capacity. The project area is associated with the most common soil surrounding the Swakopmund area which is the gypsum/gravel, which is a hard/solid, tough brownish-white surface area which varies in thickness from 30-90 cm. Along the coastal Namib belt, gypsum is material cementing artificial sand and gravel, It is a product of Tertiary and Pleistocene calcretes consisting of Sulphur extracted from anaerobic zones in the Atlantic Ocean, 90% of gypsum-bearing sediments have been discovered within 50km radius of Swakopmund (Schreiber & Schneider, n.d).

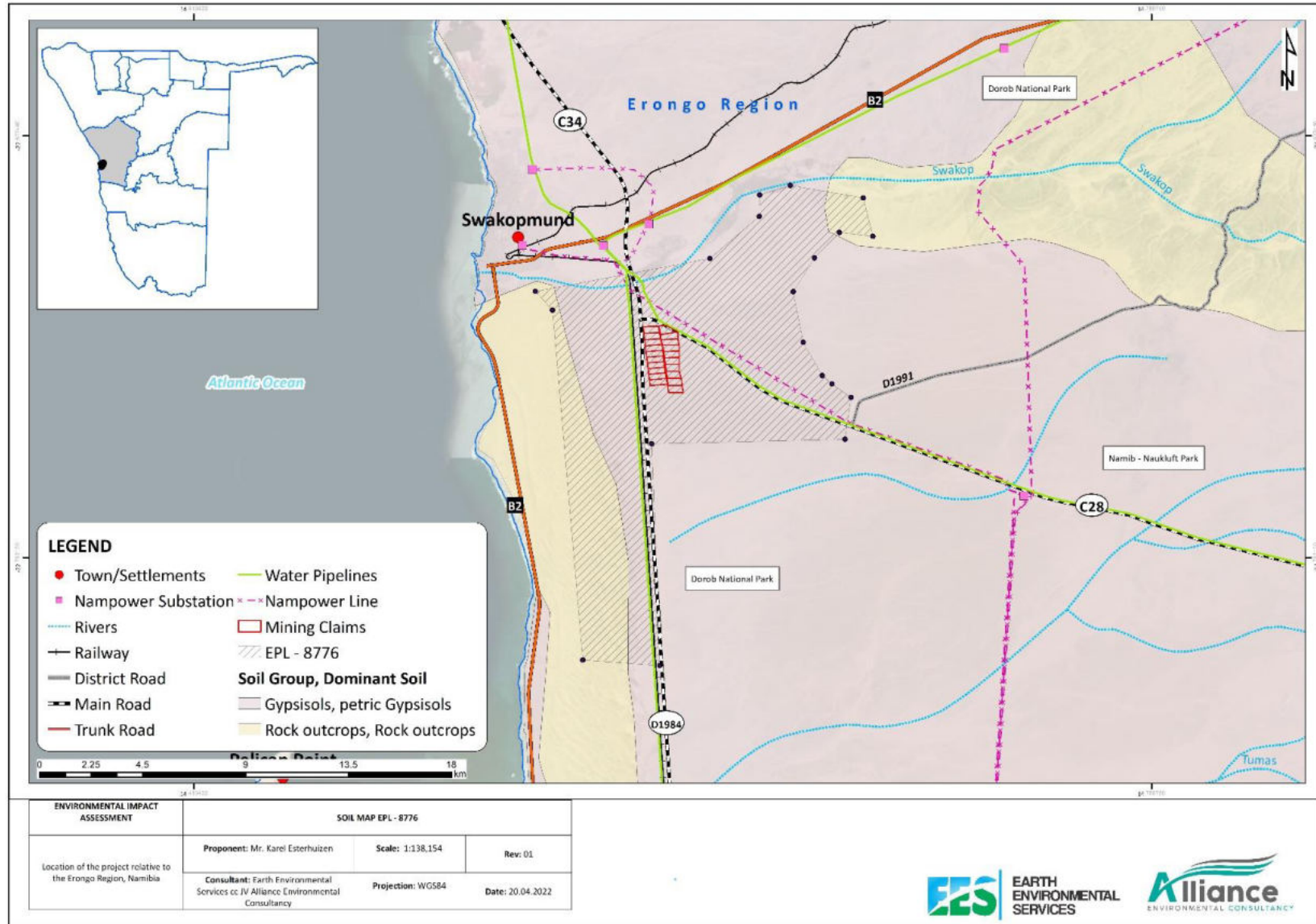


Figure 7 – Dominant soil type in the proposed project area

9.2. Socio-Economic setting

9.2.1. Regional Profile

Erongo Region is named after the Erongo mountains which is located about 140km from Swakopmund and 20km from Usakos this is the largest of the late –Mesozoic alkaline complexes in central-west of Namibia, it rises to 2319m and 40km diameter (Erongo Regional Council, 2015). The region is predominantly urban due to its unique nature regarding the landscape aspect that hinders agricultural activities, majority of its population is thus concentrated in urban areas (Swakopmund, Walvis Bay and other smaller towns like Usakos and Arandis).

Latest studies show that approximately 150, 809 people are inhabitants of the region (Erongo Regional Council, 2011). Erongo region is in its era of boosting the country's economy, accommodating the tourism, industrial (the Benguela current supports marine biodiversity, enabling rich fish population in the Atlantic Ocean) and mining sectors (the region is rich in uranium, diamonds and other mineral resources that are exported abroad). Exploration of both gas and oil have been done in this region too. It is also the center of trade via different modes of transport (harbors and roads) which enable regional, national, and international trade.

9.2.2. Locality Profile

Swakopmund is the largest coastal town in Namibia, it is famous for its unique historic colonial architectural it is also the biggest holiday resorts in the country. This town is the fourth most populated in Namibia with about 45000 people with a total of 23700 females and 21300 men (Erongo Regional Council, 2021/2022). According to Erongo Regional Council (2011) it covers approximately 196 square kilometers. it is also Erongo regions capital and situated in the Namib desert, the city is surrounded by the Namib desert on the side and the one side by the Atlantic Ocean. The city is located on the western coast of Namibia and accessible from the city via the B2 main road, Trans Namib Railway from Windhoek and served by the Swakopmund airport.

Fishing is the major attraction followed by recreational activities such as beach relaxation, camel riding, quad biking and historical building inclusive of the aquarium and the museum. Swakop rossing uranium is the world's largest opencast uranium which led to the formation of Arandis town (Erongo Regional Council, 2021/2022).

Only 0.4% of households in the Erongo Region spend more than 80% of their income on food while 5.3% of households spend 60 – 79% of their income on food. The adjusted per capita income (adjusted for household composition) in the Khomas Region is the highest in the country and set at N\$ 25 427 per annum, while Erongo has the second highest per capita income of N\$ 16 819 per annum. Therefore, Erongo is one of most affluent regions in Namibia (NSA, 2011).

Walvis Bay is located within the web of coastal transportation, communication and utility systems and networks. Walvis Bay and Swakopmund are some of the few towns in Namibia that enjoys world class telecommunications system, with telephone and internet connections widely available, thanks to recent substantial investment in the telecommunications infrastructure including the installation of optical fiber cable networks and broadband systems. There is a 66 kV power line linking Walvis Bay and Swakopmund. NamPower which has restructured and repositioned itself to address the challenges of a restructured Namibian electricity supply industry is actively pursuing all avenues for increasing electricity generation capacity in the country.

A review of the National Heritage Council and the environmental information services database was conducted, and no known heritage sites were identified in the project area. In cases where heritage sites are discovered, the chance finds procedure will be used where appropriate measures will be undertaken upon discovering sites of archaeological importance. All archaeological remains are protected under the National Heritage Act (2004) and will not be destroyed, disturbed, or removed.

The area of the proposed site has some areas already disturbed by unknown. The evidence of this footprints is presented in the images below:



10. STAKEHOLDER ENGAGEMENT

10.1. Public participation

Public participation is the cornerstone of the Environmental Impact Assessment process. These include the ongoing provision of sufficient information (in a transparent manner) to Interested and Affected Parties (I&APs). During the public participation process, I&APs will be given the opportunity to comment on the findings of the reports, during the specified comment periods.

Good consultation helps foster genuine and positive relationships with mutual respect, shared concerns and objectives between the company pursuing the development and the community. The public participation facilitator's role is to facilitate that process of dialogue to ensure there is transparency and accountability in decision-making and public confidence in the proposed project and its management.

10.1.1. Adverts

Public notices were placed in the following newspapers for two consecutive weeks on the (30 March 2022 – 04 April 2022): **Appendix B** provides Tear sheets of the adverts.

- The Republikein newspaper on the 30 March 2022 and 04 April 2022
- The Namibian sun newspaper on the 30 March 2022 and 04 April 2022
- The Allgemine Zitung newspaper on the 30 March 2022 and 04 April 2022

10.1.2. Site notice and visit

Site notices were also place on the following locations also presented in Appendix B:

- Swakopmund Municipality notice board
- Erongo Regional Council Notice Board

The site visit was conducted on 16th of April 2022.

10.1.3. Stakeholder participation and recommendation

No input / comments have been received during this consultation period.

In the event that, the ECC is granted the proponent shall ensure ongoing consultation with all relevant affected parties for access to land and other resources.

11. EVALUATION OF IMPACTS

11.1. Assessment procedure

The purpose of this section is to assess and identify the most pertinent environmental impacts by describing certain quantifiable aspects of these impacts and to provide possible mitigation measures to minimize the magnitude of the impacts that are possibly deriving from the various activities that constitute the proposed industrial minerals exploration activities on Exclusive Prospecting License (EPL)8776 by the proponent.

The identification of potential impacts included impacts that may occur during the construction, operational and decommissioning phases of the project. The assessment of impacts includes direct, indirect as well as cumulative impacts. In order to identify potential impacts (both positive and negative) it is important that the nature of the proposed projects is well understood so that the impacts associated with the projects can be assessed.

The process of identification and assessment of impacts includes:

- Determining the current environmental conditions in sufficient detail to establish a baseline against which impacts can be identified and measured.
- Determining future changes to the environment that will occur in a case where the activity does not proceed.
- Develop an understanding of the activity in detail to understand its consequences; and
- The identification of significant impacts which are likely to occur if the activity is undertaken.

The following potential impacts on the environment during construction and operation activities have been identified:

- **Dust & Noise**
Due to the increase movement of vehicles, trucks, and other operational machineries.
- **Health & Safety**
from the handling of equipment and use of machinery as well as potentially contracting diseases linked to exposure to dust.
- **Visual**

Changes to the aesthetic appeal of the area due to presence of people, vehicles and machinery. Visible changes to habitats due to human activities.

– **Waste**

Resulting from maintenance work performed on the machinery as well as littering in the area include packaging from food or other products and consumables.

Soil pollution including petrochemical spills from vehicles (bakkies), water trucks, diesel operated generator as well as the trailer mounted diesel tank for fuel storage.

– **Ecological**

Potential removal of minimal vegetation to allow project activities and erect temporary site shade structures and prefabricated container office onsite during field work and mining operations. Habitat disturbance due to drilling, excavation & mining, and increased flow of traffic.

– **Groundwater and surface water**

Due to inadequate management of waste, discharge and infiltration of non-contained wastewater as well as potential spillages of drill fluid, lubrication or drilling that penetrates the ground water table. This may also be influenced by site operations such as maintenance activities or accidental fuel spills.

– **Topography**

Although insignificant, Impact on topography will arise through the mining and removal of Gypsum to an average depth of 2m.

– **Heritage & Socio-Economic**

Potential disturbance and damage to unforeseen archaeological or heritage sites during drilling and excavation activities and movements in the area.

– **Impact of poor communication**

Miscommunication may lead to negative insolerance in the community towards the project. Increased movement in the surrounding area and inadequate deliverable of notice for mining and or operational activities in the community may result in conflicts with landowners and the affected community.

The following methodology is applied to the predication and assessment of impacts and risks. Potential impacts and risks have been rated in terms of the direct, indirect, and cumulative where:

Status	Whether the impact/risk on the overall environment will be
	<ul style="list-style-type: none"> • Positive - Environment overall will benefit from the impact/risk; • Negative - Environment overall will be adversely affected by the impact/risk; • Neutral - Environment overall not be affected.

Direct impacts	Impacts are directly caused by the activity and usually occur at the same time and place of the activity. These impacts are often related to the construction, operation or maintenance of an operation and are often obvious and quantifiable.
Indirect impacts	These types of impacts include all the potential impacts that are not evident immediately when the activity is carried out, or which occur at a different place due to the activity.
Cumulative impacts	Impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present, or reasonably foreseeable future activities.

In addition to the above, the impact assessment methodology includes the following aspects:

Spatial Extent	The size of the area that will be affected by the impact:
	<ul style="list-style-type: none"> Site specific - Only within the site boundaries Local - limited to within 15 km of the area Regional - limited to ~100 km radius National - limited to within the borders of Namibia International - extending beyond Namibia's borders

Consequence	The anticipated consequence of the impact:
	<ul style="list-style-type: none"> • Extreme - Environmental functions and processes are altered such that they permanently cease); • Severe - Environmental functions and processes are altered such that they temporarily or permanently cease); • Substantial - environmental functions and processes are altered such that they temporarily or permanently cease); • Moderate - Environment continues to function but in a modified manner); or • Slight - No natural systems/environmental functions, patterns, or processes are affected.

Duration	The timeframe during which the impact/risk will be experienced
	<ul style="list-style-type: none"> • Very short term - instantaneous; • Short term - less than 1 year; • Medium term - 1 to 10 years; • Long term - The impact will occur for the project duration • Permanent - The impact will occur beyond the project decommissioning.

Reversibility of the Impacts	The extent to which the impacts/risks are reversible assuming that the project has reached the end of its life cycle (decommissioning phase)
	<ul style="list-style-type: none"> • Yes - High reversibility of impacts (impact is highly reversible at end of project life); • Partially - Moderate reversibility of impacts; or • No - Impacts are non-reversible (impact is permanent).

Using the criteria above, the impacts will further be assessed in terms of the following:

Probability	The probability of the impact/risk occurring
	<ul style="list-style-type: none"> • Very likely; • Likely; • Unlikely; • Very unlikely; and • Extremely unlikely.

To determine the significance of the identified impact/risk, the consequence is multiplied by probability. This approach incorporates internationally recognized methods from the IPCC (2014) assessment of the effects of climate change and is based on an interpretation of existing information in relation to the proposed activity. The significance is then rated qualitatively as follows against a predefined set of criteria (i.e., probability and consequence) as indicated below:

		IMPACT = CONSEQUENCE X PROBABILITY				
PROBABILITY	Very Likely					Very High Impact
	Likely				High Impact	
	Unlikely			Moderate Impact		
	Very Unlikely		Low Impact			
	Extremely Unlikely	Very Low Impact				
			Slight	Moderate	Substantial	Severe

Where:

Significance	Will the impact cause a notable alteration of the environment?
	<ul style="list-style-type: none"> • Very low (5) - The risk/impact may result in very minor alterations of the environment and can be easily avoided by implementing appropriate mitigation measures and will not have an influence on decision-making. • Low (4) - The risk/impact may result in minor alterations of the environment and can be easily avoided by implementing appropriate mitigation measures, and will not have an influence on decision making; • Moderate (3) - The risk/impact will result in moderate alteration of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated; • High (2) - The risk/impact will result in major alteration to the environment even with the implementation on the appropriate mitigation measures and will have an influence on decision making); and • Very high (1) - The risk/impact will result in very major alteration to the environment even with the implementation on the appropriate mitigation measures and will have an influence on decision making.

Confidence	The degree of confidence in predictions based on available information and specialist knowledge
	<ul style="list-style-type: none">• Low - Based on the availability of specialist knowledge and other information• Medium - Based on the availability of specialist knowledge and other information• High - Based on the availability of specialist knowledge and other information

Impacts are evaluated for the construction and operation phases of the development. The assessment of impacts for the decommissioning phase is not presented in detail this document, as there is limited understanding at this stage of what this might entail. Impacts have been evaluated with and without mitigation in order to determine the effectiveness of mitigation measures on reducing the significance of a particular impact. The Assessment is presented in the following section and further in the Environmental Management Plan (EMP).

12. IMPACTS ASSESSMENT

12.1. Construction Phase


Impact Pathway	Nature of impact	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility	Mitigation Measures	Significance of Impact = Consequence x Probability		Ranking of Impact	Confidence Level
									Without Mitigation	With Mitigation		
CONSTRUCTION PHASE												
Land Preparation	Loss of Habitat and Species	Negative	Local	Long term	Substantial	Very Likely	Partially	<ul style="list-style-type: none"> - Undertake Plant and animal Search and Rescue prior to the commencement of construction (refer to the fauna and flora species list in appendix C&D for the species found in the area and which should be avoided - Habitat loss for fauna and flora species should be kept to a minimum with footprint areas being restricted to the direct construction and operational areas only - In addition, where possible, construction and operational activities are to be aligned along previously disturbed areas. - Habitats surrounding the washes (rivers) host sensitive plant species which require permits for removal to avoid destruction. 	Moderate (3)	Low (4)	3	Medium

								- No wandering around the site, collecting of plant species or hunting should be allowed.				
Exposure to soil erosion on exposed surfaces	Negative	Local	Medium term	Moderate	Likely	Yes	- Implement an Erosion Management Plan throughout the construction Phase	Moderate (3)	Low (4)	4	High	

Impact Pathway	Nature of impact	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility	Mitigation Measures	Significance of Impact = Consequence x Probability		Ranking of Impact	Confidence Level
									Without Mitigation	With Mitigation		
CONSTRUCTION PHASE												
Noise cause by construction activities (Machineries and vehicular movements)	Hearing problems to operators if noise generation is prolonged and not managed	Negative	Local	Permanent	Severe	Very likely	Partially	<ul style="list-style-type: none"> - Machineries and vehicles (moving and stationed) should be serviced regularly. - A noise management standard operating procedure (SOP) for the activities happening on-site should be developed - Avoid generating unnecessary noise by making sure that equipment that are not in used are always turned off and by avoiding operations during odd hours - Any complaints regarding noise should be recorded in the bi-annual reports/grievance form. 	Very high (1)	Moderate (3)	2	Medium

Impact Pathway	Nature of impact	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility	Mitigation Measures	Significance of Impact = Consequence x Probability		Ranking of Impact	Confidence Level
									Without Mitigation	With Mitigation		
CONSTRUCTION PHASE												
Dust generation during construction activities (e.g., vehicular movement)	Tempering of the ambient air quality in the surrounding	Negative	Local	Medium term	Substantial	Likely	Partially	<ul style="list-style-type: none"> - Dust suppression techniques should be employed if the specific construction activity is likely to create dusty atmospheric conditions in excess of the periodic extremes. - Avoid activities that create excessive dust on extremely windy days. - Personnel are required to wear personal protection equipment if excessive dust is created for prolonged working periods. - Employees should be made aware of negative effects of dust inhalation. 	Moderate (3)	Low (4)	3	Medium

Impact Pathway	Nature of impact	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility	Mitigation Measures	Significance of Impact = Consequence x Probability		Ranking of Impact	Confidence Level
									Without Mitigation	With Mitigation		
CONSTRUCTION PHASE												
Generation of waste during construction activities	Domestic waste and waste from maintenance work performed on the machinery can potentially cause unpleasant odor, sight for the people in the surrounding as well as disturbance to surface water	Negative	Local	Short term	Moderate	Likely	Partially	<ul style="list-style-type: none"> - The domestic waste, which is separated from all paper and organic materials, is taken to the nearest official dumpsite. - Oil from the servicing of the vehicles and machines is collected in drums and is taken together with all other industrial waste that is generated on site to the nearest hazardous waste site. - A certificate of disposal needs to be kept on file. - Groundwater is a scarce and valuable resource in Namibia and must be protected at all costs. Although groundwater is not used for human consumption in the vicinity of the prosed Mining Licence Area it must still be protected from pollutants since it can act as a conduit for the transfer of pollutants to secondary receptors such as the ocean. Additional boreholes are to be drilled to generate data about the 	Moderate (3)	Very low (5)	4	Medium

								<ul style="list-style-type: none">groundwater quality and quantity.- Good housekeepingTraining and awareness to contractors.Practice reusing, recycling of products.			
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Impact Pathway	Nature of impact	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility	Mitigation Measures	Significance of Impact = Consequence x Probability		Ranking of Impact	Confidence Level
									Without Mitigation	With Mitigation		
CONSTRUCTION PHASE												
Construction activities related to the project	Employment creation	Positive	National	Long term	Slight	Very likely	Yes	<ul style="list-style-type: none"> - Where possible, local persons should be employed depending on the level of skills they have. - Employment will result should the project be permitted. - Promote local procurement of goods and services. 	Low + (4)	Very low + (5)	5	Medium

Impact Pathway	Nature of impact	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility	Mitigation Measures	Significance of Impact = Consequence x Probability		Ranking of Impact	Confidence Level
									Without Mitigation	With Mitigation		
CONSTRUCTION PHASE												
Heritage sites destruction during construction activities	Possible destruction to heritage sites	Neutral	Local	Long term	Substantial	Very unlikely	Partially	- A 'chance find' of any potential heritage site should be communicated to the police and the National Heritage Council of Namibia. If activities occur at the location where a 'chance find' has been made, then the activities should cease until the necessary authorities have visited the site and provided the go ahead to proceed with activities.	Moderate (3)	Low (4)	4	Medium

12.2. Operation Phase

Impact Pathway	Nature of impact	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility	Mitigation Measures	Significance of Impact = Consequence x Probability		Ranking of Impact	Confidence Level
									Without Mitigation	With Mitigation		
OPERATION PHASE												
Exploration and Mining activities	Loss of Habitat and Species	Negative	Local	Long term	Substantial	Very Likely	Partially	<ul style="list-style-type: none"> - Undertake Plant and animal Search and Rescue prior to the commencement of construction (refer to the fauna and flora species list in appendix C & D for the species found in the area and which should be avoided - Habitat loss for fauna and flora species should be kept to a minimum with footprint areas being restricted to the direct construction and operational areas only - Immediately transported to mined out area and spread over such area for natural revegetation to take place. - In addition, where possible, construction and operational activities are to be aligned along previously disturbed areas. - Habitats surrounding the washes (rivers) host sensitive plant species 	Moderate (3)	Low (4)	3	Medium

								<ul style="list-style-type: none"> which require permits for removal to avoid destruction. - There is a vast expanse of similar habitat type around the proposed activity area and it is unlikely that any impact on animal life will occur from the proposed activities. - No wandering around the site, collecting of plant species or hunting should be allowed. 				
Exposure to soil erosion on exposed surfaces	Negative	Local	Medium term (until respreading over mined out area)	Moderate	Likely	Yes	<ul style="list-style-type: none"> - Implement an Erosion Management Plan throughout the construction Phase - It is once again stressed that proper topsoil handling is probably the most important factor in ensuring rehabilitation of the site and all attempts must be made to ensure that topsoil is replaced as soon as feasible. - Ensure that clay is not exposed on surface as this will not allow revegetation to take place. 	Moderate (3)	Low (4)	4	High	

Impact Pathway	Nature of impact	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility	Mitigation Measures	Significance of Impact = Consequence x Probability		Ranking of Impact	Confidence Level
									Without Mitigation	With Mitigation		
OPERATION PHASE												
Noise and visual impact caused by operation activities (gypsum mining, exploration drilling, machineries and vehicular movements)	Hearing problems to operators if noise generation is prolonged and not managed	Negative	Local	Permanent	Severe	Likely	Partially	<ul style="list-style-type: none"> - Machineries and vehicles (moving and stationed) should be serviced regularly. - Avoid creating unnecessary noise by making sure that equipment that are not in used are always turned off and by avoiding operations during odd hours. - Noise levels will not exceed the current levels. Impact is negligible given the isolation of the site. - Fit sound mufflers on all machinery where applicable. - Equip employees with proper PPE (noise reduction earmuffs) - Ensure that the principle of strip mining (with continuous rehabilitation) takes place. The proposal is that as soon as mining has been completed over an area that the topsoil from the area 	High (1)	Moderate (3)	2	Medium

							<ul style="list-style-type: none">- Employees should be made aware of negative effects of dust inhalation.- It is critical that for dust reduction to be maximised, that mined out areas be rehabilitated as soon as they are mined out and backfilled.					
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Impact Pathway	Nature of impact	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility	Mitigation Measures	Significance of Impact = Consequence x Probability		Ranking of Impact	Confidence Level
									Without Mitigation	With Mitigation		
OPERATION PHASE												
Generation of waste during operation activities	Domestic waste and waste from maintenance work performed on the machinery can potentially cause unpleasant odor, sight for the people in the surrounding as well as contamination to surface and ground water from hazardous waste	Negative	Local	Long term	Severe	Likely	Partially	<ul style="list-style-type: none"> - The domestic waste, which is separated from all paper and organic materials, is taken to the nearest official dumpsite. - Oil from the servicing of the vehicles and machines is collected in drums and is taken together with all other industrial waste that is generated on site to the nearest hazardous waste site. - A certificate of disposal needs to be kept on file. - Storage areas that contain hazardous substances must be bunded with an approved impermeable liner. 	High (2)	Low (4)	2	Medium

Impact Pathway	Nature of impact	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility	Mitigation Measures	Significance of Impact = Consequence x Probability		Ranking of Impact	Confidence Level
									Without Mitigation	With Mitigation		
OPERATION PHASE												
Alteration of the topography is the area	Impact on topography will arise through the mining and removal of Gypsum to an average depth of 2m.	Negative	Local	Long term	Severe	Very Likely	Partially	<ul style="list-style-type: none"> – Fortunately, the Wirtgen machine and the self-elevating scrapers work in such a way as to ensure a fairly level surface after mining and replacement of topsoil. So the resultant topography will closely mimic natural contours and not contain any heaps or residual “bumps”. – The side slopes of the 2m deep excavation must be sloped to no steeper than 1:3 and all sharp edges are to be rounded prior to topsoil replacement. 	High (2)	Low (4)	2	Medium

Impact Pathway	Nature of impact	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility	Mitigation Measures	Significance of Impact = Consequence x Probability		Ranking of Impact	Confidence Level
									Without Mitigation	With Mitigation		
OPERATION PHASE												
Heritage sites destruction during construction activities	Possible destruction to heritage sites	Neutral	Local	Long term	Substantial	Very unlikely	Partially	<ul style="list-style-type: none"> - In addition, where possible, construction and operational activities are to be aligned along previously disturbed areas. Habitats surrounding the washes (rivers) host sensitive plant species which require permits for removal to avoid destruction. No wandering around the site, collecting of plant species or hunting should be allowed. - A 'chance find' of any potential heritage site should be communicated to the police and the National Heritage Council of Namibia. - If activities occur at the location where a 'chance find' has been made, then the activities should cease until the necessary authorities 	Moderate (3)	Low (4)	4	Medium

								have visited the site and provided the go ahead to proceed with activities			
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Impact Pathway	Nature of impact	Status	Spatial Extent	Duration	Consequence	Probability	Reversibility	Mitigation Measures	Significance of Impact = Consequence x Probability		Ranking of Impact	Confidence Level
									Without Mitigation	With Mitigation		
OPERATION PHASE												
Operational activities related to the project	Employment creation	Positive	National	Long term	Slight	Very likely	Yes	<ul style="list-style-type: none"> - Where possible, local persons should be employed depending on the level of skills they have. - Employment opportunities should the project be permitted. - Promote local procurement of goods and services. 	Low + (4)	Very low + (5)	5	Medium

13. REHABILITATION

Disturbance of the earth's surface by any form of mining will result in complete removal of existing vegetation and ecosystems within the disturbed area. The impacts are significant, but localized to the disturbed area, and the overall extent of the impact is determined by the concentration of mining and the sensitivity of the disturbed ecosystems. During the operational phase of a quarry's life, the impact on the environment can be lessened by planning with future closure in mind.

The objectives of the closure and decommissioning are to:

- Provide a safe and stable landform compatible with the intended final use;
- Comply with relevant regulatory requirements and attain regulatory consensus on the successful closure and rehabilitation of the Project area;
- Complete the closure, decommissioning and rehabilitation works as quickly and cost effectively as possible whilst achieving primary objectives
- Produce a final “walk away” landform that is stable and that blends aesthetically into the surrounding landforms, yet as far as possible does not limit possible future land uses

13.1. Site Rehabilitation

Proponent should keep the disturbed areas to a minimum, plants should not be removed unless necessary; selective mining should be adopted so that the entire site is not cleared and affected at once; backfilling the topsoil should be done as soon as the gypsum from one site is mined, therefore topsoil should not be piled up for a long time.

13.2. Planning for Rehabilitation

The proposed post mining land-use will also influence the procedure and the plant species used for rehabilitation (Allan, 1998).

The following are the basic rehabilitation practices as summarized after the Minerals Council of Australia (1998), which with appropriate modifications, will apply to most disturbed areas.

1. Making Safe: After planning for rehabilitation, the first step is to clean up and make the area to be rehabilitated, safe. This involves the following:

-
- Removal of infrastructure and unused or unwanted equipment. No facilities or equipment should remain on site unless with the written approval of the landowner or relevant authority.
 - Removal of rubbish for disposal at approved sites. Care is required with residual toxic or hazardous materials including contaminated packaging and containers
2. Erosion Control: Progressive rehabilitation will be undertaken to stabilize disturbed areas as quickly as practical and to limit erosion.
- Restrict clearing to areas essential for the works
 - Windrow vegetation debris along the contour
 - Minimize length of time soil is exposed
 - Divert run-off from undisturbed areas away from the works
3. Topsoil Management: The mine rehabilitation strategy may include the following measures which are designed to minimize the loss of topsoil material respread on rehabilitated areas and promote successful vegetation establishment.
- Minimize the length of time that topsoil material is to be stockpiled.
 - Respread topsoil material in even layers at a thickness appropriate for the landform and land capability of the area to be rehabilitated.
 - Topsoil stockpiles are located in areas away from drainage lines or windy areas in order to minimise the risk of soil and wind erosion;
 - Rehabilitation areas of returned topsoil will be ripped, with care taken not to bring subsurface materials to the surface (e.g., large rocks). Ripping should only be sufficient to allow equipment to work efficiently. Ripping along slopes should be along contour.

14. CONCLUSION AND RECOMMENDATION

The aim of this environmental scoping assessment was to identify the potential impacts associated with the proposed exploration activities on the EPL, assess their significance and recommend practical mitigation measures. The public and all directly affected stakeholders were consulted as required by the EMA and its 2012 EIA Regulations (Section 21 to 24). The public was informed via the three newspapers advertisement used for this assessment; site/public notices placed in the project site area, relevant local and regional offices notice boards. No one-on-one interaction (public meeting) was held for this project and there was no registration received.

Due to the limited scope of the proposed activities and the use of a step-by-step approach in advancing construction and operations, the overall severity of potential environmental impacts of the proposed project activities on the receiving environment will be of medium magnitude, temporally duration, localized extent, and high probability of occurrence.

All impacts are provided with mitigation measures, minimized, or avoided to acceptable degrees provided that the measures are put into consideration

Based on the conclusions of this EIA Report, it is thus recommended that an Environmental Clearance Certificate be provided for the planned project activities (ECC). When implementing the proposed program, the Proponent shall consider the following critical requirements:

- If applicable, the Proponent will negotiate Access Agreements with landowners.
- The Proponent is responsible for obtaining all additional permits that may be required.
- In accordance with all applicable national rules, the Proponent shall comply with all terms of the EMP and conditions of the Access Agreement to be signed into between the Proponent and the landowner/s.
- In cases where baseline information, national or international guidelines, or mitigation measures have not been supplied or do not adequately address the site-specific project effect, the Proponent must use the precautionary approach/principles.

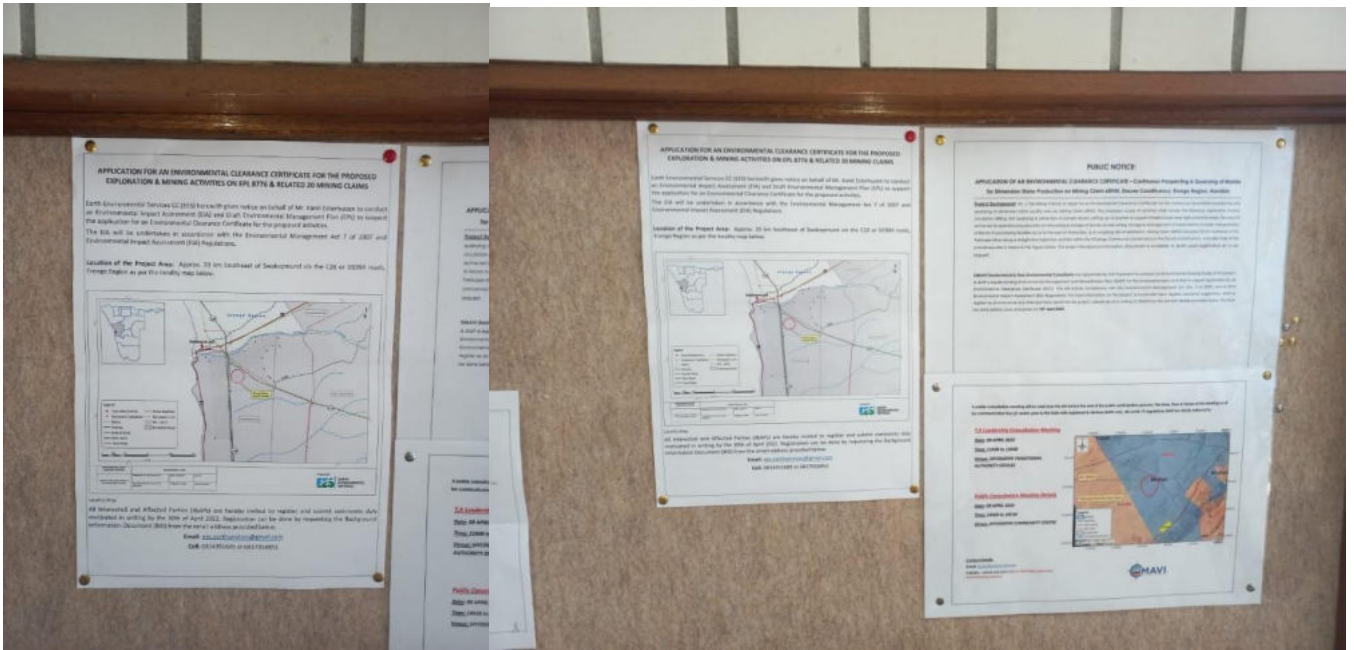
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APPENDIX A – ENVIRONMENTAL CONSULTANTS CV

APPENDIX B – SITE NOTICES AND ADVERTS



Notices at the Erongo Regional Council Notice board

Little aid in sight Rising hunger looms in Sudan

Aid groups say it will be difficult to raise more money for Sudan as they battle other crises in Ukraine, Afghanistan, Yemen, and the Horn of Africa.

Millions more Sudanese are at risk to go hungry this year as economic turmoil and erratic rains reduce harvests, a problem compounded by a halt to foreign assistance and the war in Ukraine, aid groups say.

The rising levels of hunger forecast by United Nations agencies threaten to further destabilise a country that bestrides a volatile region and faces growing conflict and poverty following a military takeover last year.

Sudan has been mired in an economic crisis since before the overthrow of Omar al-Bashir in an uprising in 2019. A transitional government attracted billions of US dollars in international support that was suspended after the

coup, placing Sudan on the brink of economic collapse. Currency devaluations and subsidy reforms have driven up prices, and inflation is running at more than 250%.



If this measly piece of bread is 50 pounds, what kind of life can we have?

Haj Ahmed Sudan

In Khartoum, the cost of a now smaller loaf of bread has risen from 2 pounds two years ago to about 50 pounds today.

"If this measly piece of bread is 50 pounds, what kind of life can we have?" said Haj Ahmed, an elderly



Children wait to buy vegetables in a residential area in Khartoum North, Sudan. PHOTO REUTERS

man standing in front of a vegetable stall in Alhalfaya, on the outskirts of the capital.

The World Food Programme estimated that the number of people experiencing levels of hunger that will force them to sell essential assets, or who will have nothing more to sell, will double by September to 18 million, more than 40% of the population.

Aid agencies have long worked to help the rural poor and people displaced by war in Sudan.

RIISING PRICES

As prices rise, farmers have been unable to afford key inputs including

seeds, fertilizers, and fuel, experts say. They are also confronting increased unrest in some key farming regions and shifting weather patterns. Rainfall has been scarce in some places and too heavy in others.

Sudan lacks the foreign reserves to finance imports as global wheat prices soar, a problem that analysts say has become more acute since the coup. Some 87% of imported wheat came from Russia and Ukraine, according to FAO data, where exports are disrupted by war and sanctions.

In the past, Sudanese families could have supplemented wheat, consumed mainly in urban centres, with sorghum, but prices have doubled in

the last four months, a trader said. That is partly due to the war-driven spike in oil prices, causing Sudanese fuel prices, liberalised only last year, to increase rapidly.

Aid groups say it will be difficult to raise more money for Sudan as they battle other crises in Ukraine, Afghanistan, Yemen, and the Horn of Africa. The WFP says its food stocks in Sudan will run out in May without new funding.

"People used to be ashamed to say they were hungry, but now it's clear they are," said Ghareeballah Dafallah, an agricultural engineer in Alhalfaya who is struggling to afford food and electricity.

- Fin24

Oil posts biggest weekly drop in more than 10 years

Oil posted its biggest weekly loss in more than 10 years after the Biden administration ordered an unprecedented release of United States strategic reserves to tame rampant prices.

West Texas Intermediate dropped 1% on Friday and over US\$14 last week, the most since 2011. The US plans to release 1 million barrels a day for six months.

International Energy

Agency (IEA) nations also agreed to release another round of crude stockpiles, with volumes to be decided later. President Joe Biden expects allies to release an additional 30 million to 50 million barrels.

Citigroup said the US appeared to have taken steps to ensure that it could deliver the promised volumes, despite having never drawn down that much oil from the reserve stockpile. Goldman Sachs cut its price forecasts for this year but boosted the estimate for 2023, arguing that the move won't fix a longer-term supply crisis.

Releasing 1 million barrels a day from the US Strategic Petroleum Reserve "can easily be accomplished," said Andy Lipow, president of Lipow Oil in Houston.

TUMULTUOUS TRADING

Biden's decision follows rocketing gasoline prices in America and concerns

about supply shortages following Russia's invasion of Ukraine. The war has roiled global commodity markets and driven up the price of everything from fuels to food. It has also led to tumultuous trading in oil, with massive intraday swings throughout March. West Texas Intermediate (WTI) traded in almost a US\$37 range last month.

The US already tapped its reserves twice in the past six months, but that's done little to cool prices. As much as 180 million

barrels may be released this time.

"The market is short about 2 million barrels a day, if not more, from Russian supplies into the global market," Amos Hochstein, the US State Department's senior energy security adviser, said in an interview on Bloomberg Television.

The Biden administration's giant oil release contrasts sharply with the Organisation of the Petroleum Exporting Countries (OPEC+), which on Thursday ratified a

planned, modest production increase of about 430 000 barrels a day.

The cartel is struggling to keep up with production, having roughly added a third of the volume planned in March, according to a Bloomberg survey.

CHINA

The market also came under some technical pressure Friday as WTI fell below its 50-day moving average for the first time since early January. Brent also slipped toward that level before rallying away from it.

Also contributing to this week's slide were concerns about Chinese demand as the world's biggest oil importer implements a series of lockdowns to curb a resurgence of Covid-19. Those curbs are starting to affect the economy, with manufacturing activity contracting in March.

Shell has difficulty paying for Russian gas supplies this month because the Kremlin wants payments transferred through United Kingdom-sanctioned Gazprombank JSC, according to two people familiar with discussions in Russia.

OPEC struggled to deliver even a modest scheduled increase in oil supplies last month, when major consumers were urging the cartel to fill in the gap left by Russia.

A seller of Russian crude gave Chinese buyers the flexibility to pay in yuan, as the energy giant attempts to keep its few remaining export channels flowing smoothly.

- Fin24/Bloomberg



Goldman Sachs cut its price forecasts for this year but boosted the estimate for 2023. PHOTO REUTERS

PUBLIC NOTICE

APPLICATION FOR AN ENVIRONMENTAL CLEARANCE CERTIFICATE FOR THE PROPOSED EXPLORATION & MINING ACTIVITIES ON EPL 8776 & RELATED 20 MINING CLAIMS

Earth Environmental Services CC (EES) herewith gives notice in terms of the Environmental Management Act, of 7 of 2007 and Environmental Impact Assessment (EIA) Regulations for the proposed industrial minerals exploration and mining activities on EPL 8776 & related 20 mining claims.

Proponent: Karel A Esterhuizen 5nr

Location of the project area: Near Swakopmund, Erongo Region

The proponent has appointed EES to conduct an Environmental Impact Assessment and Draft Environmental Management Plan to support the application for an Environmental Clearance Certificate for the proposed activities.

All Interested and Affected Parties (I&APs) are hereby invited to register and submit comments duly motivated in writing by the 20th of April 2022. Registration can be done by requesting the Background Information Document (BID) from the email address provided below.

Email: ees.earthservices@gmail.com
Cell: 0814351689 or 0817016851

Namib Mills (Pty) Ltd, an equal opportunity employer invites interested and qualified candidates looking for an exiting career in the FMCG industry to apply for the following position:

Driver: Heavy Vehicle X9 (Logistics, Windhoek)
Subject line for applications must be: Driver HV: WHK LOGISTICS

Please visit <http://www.namibmills.com/> or <https://nieis.namibiaatwork.gov.na/> for a detailed outline of the relevant advertisement. A detailed CV with supporting documents should be forwarded to hr@NamibMills.com.na (not larger than 2MB). Only shortlisted candidates will be contacted.

LOSING DATE FOR APPLICATCIIONS: 15 April 2022

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FEEDING THE NATION

Little aid in sight Rising hunger looms in Sudan

Aid groups say it will be difficult to raise more money for Sudan as they battle other crises in Ukraine, Afghanistan, Yemen, and the Horn of Africa.

Millions more Sudanese are at risk to go hungry this year as economic turmoil and erratic rains reduce harvests, a problem compounded by a halt to foreign assistance and the war in Ukraine, aid groups say.

The rising levels of hunger forecast by United Nations agencies threaten to further destabilise a country that bestrides a volatile region and faces growing conflict and poverty following a military takeover last year.

Sudan has been mired in an economic crisis since before the overthrow of Omar al-Bashir in an uprising in 2019. A transitional government attracted billions of US dollars in international support that was suspended after the

coup, placing Sudan on the brink of economic collapse. Currency devaluations and subsidy reforms have driven up prices, and inflation is running at more than 250%.



If this measly piece of bread is 50 pounds, what kind of life can we have?

Haj Ahmed Sudan

In Khartoum, the cost of a now smaller loaf of bread has risen from 2 pounds two years ago to about 50 pounds today.

"If this measly piece of bread is 50 pounds, what kind of life can we have?" said Haj Ahmed, an elderly



Children wait to buy vegetables in a residential area in Khartoum North, Sudan. PHOTO REUTERS

man standing in front of a vegetable stall in Alhalfaya, on the outskirts of the capital.

The World Food Programme estimated that the number of people experiencing levels of hunger that will force them to sell essential assets, or who will have nothing more to sell, will double by September to 18 million, more than 40% of the population.

Aid agencies have long worked to help the rural poor and people displaced by war in Sudan.

RIISING PRICES

As prices rise, farmers have been unable to afford key inputs including

seeds, fertilizers, and fuel, experts say. They are also confronting increased unrest in some key farming regions and shifting weather patterns. Rainfall has been scarce in some places and too heavy in others.

Sudan lacks the foreign reserves to finance imports as global wheat prices soar, a problem that analysts say has become more acute since the coup. Some 87% of imported wheat came from Russia and Ukraine, according to FAO data, where exports are disrupted by war and sanctions.

In the past, Sudanese families could have supplemented wheat, consumed mainly in urban centres, with sorghum, but prices have doubled in

the last four months, a trader said. That is partly due to the war-driven spike in oil prices, causing Sudanese fuel prices, liberalised only last year, to increase rapidly.

Aid groups say it will be difficult to raise more money for Sudan as they battle other crises in Ukraine, Afghanistan, Yemen, and the Horn of Africa. The WFP says its food stocks in Sudan will run out in May without new funding.

"People used to be ashamed to say they were hungry, but now it's clear they are," said Ghareeballah Dafallah, an agricultural engineer in Alhalfaya who is struggling to afford food and electricity.

- Fin24

Oil posts biggest weekly drop in more than 10 years

Oil posted its biggest weekly loss in more than 10 years after the Biden administration ordered an unprecedented release of United States strategic reserves to tame rampant prices.

West Texas Intermediate dropped 1% on Friday and over US\$14 last week, the most since 2011. The US plans to release 1 million barrels a day for six months.

International Energy

Agency (IEA) nations also agreed to release another round of crude stockpiles, with volumes to be decided later. President Joe Biden expects allies to release an additional 30 million to 50 million barrels.

Citigroup said the US appeared to have taken steps to ensure that it could deliver the promised volumes, despite having never drawn down that much oil from the reserve stockpile. Goldman Sachs cut its price forecasts for this year but boosted the estimate for 2023, arguing that the move won't fix a longer-term supply crisis.

Releasing 1 million barrels a day from the US Strategic Petroleum Reserve "can easily be accomplished," said Andy Lipow, president of Lipow Oil in Houston.

TUMULTUOUS TRADING

Biden's decision follows rocketing gasoline prices in America and concerns

about supply shortages following Russia's invasion of Ukraine. The war has roiled global commodity markets and driven up the price of everything from fuels to food. It has also led to tumultuous trading in oil, with massive intraday swings throughout March. West Texas Intermediate (WTI) traded in almost a US\$37 range last month.

The US already tapped its reserves twice in the past six months, but that's done little to cool prices. As much as 180 million

barrels may be released this time.

"The market is short about 2 million barrels a day, if not more, from Russian supplies into the global market," Amos Hochstein, the US State Department's senior energy security adviser, said in an interview on Bloomberg Television.

The Biden administration's giant oil release contrasts sharply with the Organisation of the Petroleum Exporting Countries (OPEC+), which on Thursday ratified a

planned, modest production increase of about 430 000 barrels a day.

The cartel is struggling to keep up with production, having roughly added a third of the volume planned in March, according to a Bloomberg survey.

CHINA

The market also came under some technical pressure Friday as WTI fell below its 50-day moving average for the first time since early January. Brent also slipped toward that level before rallying away from it.

Also contributing to this week's slide were concerns about Chinese demand as the world's biggest oil importer implements a series of lockdowns to curb a resurgence of Covid-19. Those curbs are starting to affect the economy, with manufacturing activity contracting in March.

Shell has difficulty paying for Russian gas supplies this month because the Kremlin wants payments transferred through United Kingdom-sanctioned Gazprombank JSC, according to two people familiar with discussions in Russia.

OPEC struggled to deliver even a modest scheduled increase in oil supplies last month, when major consumers were urging the cartel to fill in the gap left by Russia. A seller of Russian crude gave Chinese buyers the flexibility to pay in yuan, as the energy giant attempts to keep its few remaining export channels flowing smoothly.

- Fin24/Bloomberg



Goldman Sachs cut its price forecasts for this year but boosted the estimate for 2023. PHOTO REUTERS

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APPENDIX C – FAUNA SPECIES LIST

Reptile diversity known and/or expected to occur in the general Kuiseb delta and dune belt area – i.e., Walvis Bay and Swakopmund areas.

Species: Scientific name	Species: Common name	Namibian conservation and legal status	International status
TURTLES AND TERRAPINS			
<i>Pelomedusa subrufa</i>	Marsh/Helmeted Terrapin	Secure	
SNAKES			
Thread Snakes			
<i>Leptotyphlops occidentalis</i>	Western Thread Snake	Endemic ;Secure	SARDB Peripheral
<i>Leptotyphlops labialis</i>	Damara Thread Snake	Endemic ;Secure	
Burrowing Snakes			
<i>Xenocalamus bicolor bicolor</i>	Bicoloured Quill-snouted Snake	Secure	
Typical Snakes			
<i>Lamprophis fuliginosus</i>	Brown House Snake	Secure	
<i>Lycophidion capense</i>	Cape Wolf Snake	Secure	
<i>Pseudaspis cana</i>	Mole Snake	Secure	
<i>Dipsina multimaculata</i>	Dwarf Beaked Snake	Endemic ;Secure	
<i>Psammophis trigrammus</i>	Western Sand Snake	Endemic ;Secure	
<i>Psammophis notostictus</i>	Karoo Sand Snake	Secure	
<i>Psammophis leightoni namibensis</i>	Namib Sand Snake	Secure	
<i>Dasypeltis scabra</i>	Common/Rhombic Egg Eater	Secure	
<i>Aspidelaps lubricus infuscatus</i>	Coral Snake	Secure	
<i>Aspidelaps scutatus</i>	Shield-nose Snake	Secure	
<i>Naya nigricincta</i>	Black-necked Spitting Cobra	Endemic ;Secure	
<i>Bitis arietans</i>	Puff Adder	Secure	
<i>Bitis caudalis</i>	Horned Adder	Secure	
<i>Bitis peringueyi</i>	Péringuey's Adder	Endemic ;Secure	
LIZARDS			
Skinks			
<i>Typhlosaurus braini</i>	Brains's Blind Legless Skink	Endemic ;Secure	
<i>Typhlacontias brevipes</i>	FitzSimmons' Burrowing Skink	Endemic ;Secure	
<i>Trachylepis occidentalis</i>	Western Three-striped Skink	Secure	
<i>Trachylepis striata wahlbergi</i>	Striped Skink	Secure	
<i>Trachylepis sulcata</i>	Western Rock Skink	Secure	
<i>Trachylepis variegata variegata</i>	Variegated Skink	Secure	

Old World Lizards			
<i>Heliobolus lugubris</i>	Bushveld Lizard	Secure	
<i>Meroles anchietae</i>	Shovel-snouted Lizard	Secure	
<i>Meroles cuneirostris</i>	Wedge-snouted Desert Lizard	Endemic ;Secure	
<i>Meroles micropholidotus</i>	Small-scaled Desert Lizard	Endemic ;Rare?	
<i>Meroles reticulatus</i>	Reticulated Desert Lizard	Endemic ;Secure	
<i>Meroles suborbitalis</i>	Spotted Desert Lizard	Secure	
<i>Pedioplanis breviceps</i>	Short-headed Sand Lizard	Endemic ;Secure	
<i>Pedioplanis namaquensis</i>	Namaqua Sand Lizard	Secure	
<i>Pedioplanis inornata</i>	Plain Sand Lizard	Endemic ;Secure	
Plated Lizards			
<i>Cordylus subtaeniatus</i>	Dwarf Plated Lizard	Endemic ;Secure	
Monitors			
<i>Varanus albigularis</i>	Rock Monitor	Vulnerable; Peripheral Protected Game	CITES Appendix II Safe to Vulnerable
Agama			
<i>Agama planiceps</i>	Namibian Rock Agama	Secure	
Chameleons			
<i>Bradypodion pumilum</i>	Cape Dwarf Chameleon	Introduced alien Secure	CITES Appendix II
<i>Chamaeleo namaquensis</i>	Namaqua Chameleon	Secure	CITES Appendix II
Geckos			
<i>Afroedura africana</i>	African Flat Gecko	Endemic ;Rare?	
<i>Chondrodactylus angulifer namibensis</i>	Giant Ground Gecko	Secure	
<i>Narudasia festiva</i>	Festive Gecko	Endemic ;Secure	
<i>Pachydactylus bicolor</i>	Velvety Thick-toed Gecko	Endemic ;Secure	
<i>Pachydactylus kockii</i>	Koch's Thick-toed Gecko	Endemic ;Secure	
<i>Pachydactylus turneri</i>	Turner's Thick-toed Gecko	Secure	
<i>Pachydactylus scherzi</i>	Schertz's Thick-toed Gecko	Endemic ;Secure	
<i>Pachydactylus rugosus rugosus</i>	Rough Thick-toed Gecko	Endemic ;Secure	
<i>Pachydactylus weberi weneri</i>	Weber's Thick-toed Gecko	Endemic ;Secure	
<i>Palmatogekko rangei</i>	Wed-footed Gecko	Endemic ;Secure	
<i>Ptenopus carpi</i>	Carp's Barking Gecko	Endemic ;Secure	
<i>Ptenopus garrulus maculatus</i>	Common Barking Gecko	Secure	
<i>Ptenopus kocki</i>	Kock's Barking Gecko	Endemic ;Secure	
<i>Rhoptropus afer</i>	Common Namib Day Gecko	Endemic ;Secure	

<i>Rhoptropus boultoni</i>	Boulton's Namib Day Gecko	Endemic ;Secure	
<i>Rhoptropus bradfieldi</i>	Bradfield's Namib Day Gecko	Endemic ;Secure	

Amphibian diversity known and/or expected to occur in the general Kuseb delta and dune belt area – i.e. Walvis Bay and Swakopmund areas.

Species: Scientific name	Species: Common name	Status
Toads		
<i>Poyntonophrynus dombensis</i>	Dombe Toad	Endemic
<i>Poyntonophrynus hoeschi</i>	Hoesch's Toad	Endemic
<i>Amietophrynus poweri</i>	Power's Toad or Western Olive Toad	
Rain Frogs		
<i>Breviceps adspersus</i>	Common/Bushveld Rain Frog	
Rubber Frog		
<i>Phrynomantis annectens</i>	Marbled Rubber Frog	Endemic
Bull and Sand Frogs		
<i>Tomopterna tandyi</i>	Tandy's Sand Frog	
Platannas		
<i>Xenopus laevis</i>	Common Platanna	

Mammal diversity known and/or expected to occur in the general Kuseb delta and dune belt area – i.e. Walvis Bay and Swakopmund areas.

Species: Scientific name	Species: Common name	Namibian conservation	Species: Scientific name
Moles			
<i>Eremitalpa granti</i>	Grant's Golden Mole	Endemic; Secure	¹ Vulnerable
Elephant Shrews			
<i>Macroscelides proboscideus flavicaudatus</i>	Round-eared Elephant-shrew	Endemic; Secure	
Bats			
<i>Lissonycteris angolensis</i>	*Angolan Soft-furred Fruit Bat	Not listed	
<i>Tadarida aegyptiaca</i>	Egyptian Free-tailed Bat	Secure	
<i>Cistugo seabrai</i>	Namibian Wing-gland Bat	Endemic; Rare	¹ Vulnerable; ² Near Threatened
<i>Laephotis namibensis</i>	Namib Long-eared Bat	Endemic; Insufficiently known	
<i>Nycteris thebaica</i>	Common Slit-faced Bat	Secure	
<i>Rhinolophus clivosus</i>	Geoffroy's Horseshoe Bat	Secure	¹ Near Threatened
<i>Rhinolophus darling</i>	Darling's Horseshoe Bat	Secure	¹ Near Threatened
<i>Rhinolophus capensis</i>	*Cape Horseshoe Bat	Secure	¹ Near Threatened; ² Near Threatened
<i>Taphozous mauritianus</i>	*Mauritanian Tomb Bat	Secure	
<i>Chaerephon ansorgei</i>	*Ansorge's Free-tailed Bat	Not listed	
<i>Sauromys petrophilus</i>	Roberts's Flat-headed Bat	Secure	
<i>Miniopterus natalensis</i>	Natal Long-fingered Bat	Secure	¹ Near Threatened

<i>Eptesicus hottentotus</i>	Long-tailed Serotine	Secure	
<i>Neoromicia zuluensis</i>	*Zulu Serotine	Secure	
<i>Pipistrellus rueppellii</i>	*Rüppell's Pipistrelle	Insufficiently known; Peripheral	
Hares and Rabbits			
<i>Lepus capensis</i>	Cape Hare	Secure	
Rodents			
Rats and Mice			
<i>Parotomys littledalei namibensis</i>	Littledale's Whistling Rat	Endemic; Secure	¹ Near Threatened
<i>Rhabdomys pumilio</i>	Striped Mouse	Secure	
<i>Mus musculus</i>	House Mouse	Invasive alien	
<i>Aethomys chrysophilus</i>	Red Veld Rat	Secure	
<i>Micaelamys (Aethomys) namaquensis</i>	Namaqua Rock Mouse	Secure	
<i>Rattus</i>	House Rat	Invasive alien	
<i>Rattus norvegicus</i>	Brown Rat	Invasive alien	
<i>Desmodillus auricularis</i>	Short-tailed Gerbil	Secure	
<i>Gerbillurus paebe infernus</i>	Hairy-footed Gerbil	Endemic; Insufficiently known	
<i>Gerbillurus tytonis</i>	Dune Hairy-footed Gerbil	Endemic; Secure	
<i>Gerbillurus setzeri</i>	Setzer's Hairy-footed Gerbil or Namib Brush-tailed Gerbil	Endemic	
<i>Petromyscus collinus</i>	Pygmy Rock Mouse	Endemic; Secure	
<i>Mastomys coucha</i>	Southern Multimammate Mouse	Secure	
<i>Petromys typicus</i>	Dassie Rat	Endemic; Secure	¹ Near Threatened
Carnivores			
<i>Hyaena brunnea</i>	Brown Hyena	Insufficiently known; Vulnerable?	¹ Near Threatened
Peripheral	² Near Threatened		
<i>Crocuta</i>	Spotted Hyena	Secure? Peripheral	¹ Near Threatened
<i>Felis silvestris</i>	African Wild Cat	Vulnerable	CITES Appendix II
<i>Vulpes chama</i>	Cape Fox	Vulnerable?	
<i>Canis mesomelas</i>	Black-backed Jackal	Secure; Problem animal	
<i>Ictonyx striatus</i>	Striped Polecat	Secure	
<i>Suricata suricatta marjoriae</i>	Suricate	Endemic; Secure	
Antelopes			
<i>Sylvicapra grimmia</i>	Common Duiker	Secure	
<i>Antidorcas marsupialis</i>	Springbok	Secure; Hunttable game	

Bird diversity known and/or expected to occur in the general Kuiseb delta and dune belt area – i.e. Walvis Bay and Swakopmund areas.

Species: Scientific name	Species: Common name	Status: Namibia	Status: Southern Africa
<i>Struthio camelus</i>	Common Ostrich		
<i>Podiceps cristatus</i>	Great Crested Grebe		
<i>Tachybaptus ruficollis</i>	Little Grebe		
<i>Podiceps nigricollis</i>	Black-necked Grebe		
<i>Pelecanus onocrotalus</i>	Great White Pelican		
<i>Pelecanus rufescens</i>	Pink-backed Pelican		
<i>Phalacrocorax lucidus</i>	White-breasted Cormorant		
<i>Morus capensis</i>	Cape Gannet	Speciall y protecte d	Vulnerable; Breeding endemic
<i>Phalacrocorax capensis</i>	Cape Cormorant		Near-threatened; Breeding endemic
<i>Phalacrocorax neglectus</i>	Bank Cormorant	Speciall y protecte d	Endemic; Endangered
<i>Phalacrocorax africanus</i>	Reed Cormorant		
<i>Phalacrocorax coronatus</i>	Crowned Cormorant		Endemic; Near-threatened
<i>Anhinga melanogaster</i>	Darter		
<i>Ardea cinerea</i>	Grey Heron		
<i>Ardea melanocephala</i>	Black-headed Heron		
<i>Ardea purpurea</i>	Purple Heron		
<i>Egretta garzetta</i>	Little Egret		
<i>Egretta intermedia</i>	Yellow-billed Egret		
<i>Egretta alba</i>	Great Egret		
<i>Egretta ardesiaca</i>	Black Egret		
<i>Bubulcus ibis</i>	Cattle Egret		
<i>Ardeola ralloides</i>	Squacco Heron		
<i>Ixobrychus minutus</i>	Little Bittern		
<i>Scopus umbretta</i>	Hamerkop		
<i>Ciconia nigra</i>	Black Stork		
<i>Phoenicopterus ruber</i>	Greater Flamingo	Vulnerabl e	
<i>Phoenicopterus minor</i>	Lesser Flamingo	Vulnerabl e	Near-threatened
<i>Dendrocygna viduata</i>	Whitefaced Duck		
<i>Alopochen aegyptiacus</i>	Egyptian Goose		
<i>Anas capensis</i>	Cape Teal		
<i>Anas hottentota</i>	Hottentot Teal		
<i>Anas erythrorhyncha</i>	Redbiled Teal		
<i>Anas smithii</i>	Cape Shoveller		
<i>Netta erythrophthalma</i>	Southern Pochard		
<i>Sagittarius serpentarius</i>	Secretarybird		
<i>Gyps africanus</i>	White-backed Vulture		

<i>Aegypius tracheliotus</i>	Lappet-faced Vulture		
<i>Circaetus pectoralis</i>	Black-chested Snake-Eagle		
<i>Elanus caeruleus</i>	Black-shouldered Kite		
<i>Aquila verreauxii</i>	Verreaux's Eagle		
<i>Aquila rapax</i>	Tawny Eagle		
<i>Polemaetus bellicosus</i>	Martial Eagle		
<i>Buteo augur</i>	Augur Buzzard		
<i>Melierax canorus</i>	Southern Pale Chanting Goshawk		Near endemic
<i>Falco peregrines</i>	Peregrine Falcon		
<i>Falco biarmicus</i>	Lanner Falcon		
<i>Falco chicquera</i>	Red-necked Falcon		
<i>Falco rupicolus</i>	Rock Kestrel		
<i>Falco rupicoloides</i>	Greater Kestrel		
<i>Francolinus adspersus</i>	Red-billed Francolin		
<i>Trunix sylvatica</i>	Kurrichane Buttonquail		
<i>Porphyrio</i>	African Purple Swamphen		
<i>Gallinula chloropus</i>	Common Moorhen		
<i>Fulica cristata</i>	Red-knobbed Coot		
<i>Ardeotis kori</i>	Kori Bustard		
<i>Neotis ludwigii</i>	Ludwig's Bustard		Endangered; Near endemic
<i>Eupodotis rueppellii</i>	Rüppell's Korhaan	Endemic	Near endemic
<i>Eupodotis afra</i>	Black Korhaan		
<i>Actophilornis africanus</i>	African Jacana		
<i>Rostratula benghalensis</i>	Painted Snipe		
<i>Haematopus moquini</i>	African Black Oystercatcher	Vulnerable	Near threatened; Endemic
<i>Charadrius marginatus</i>	White-fronted Plover		
<i>Charadrius pallidus</i>	Chestnut-banded Plover		Near threatened
<i>Charadrius pecuarius</i>	Kittlitz's Plover		
<i>Charadrius tricollaris</i>	Three-banded Plover		
<i>Vanellus armatus</i>	Blacksmith Lapwing		
<i>Recurvirostra avosetta</i>	Pied Avocet		
<i>Himantopus</i>	Black-winged Stilt		
<i>Burhinus capensis</i>	Spotted Thick-knee		
<i>Cursorius rufus</i>	Burchell's Courser		
<i>Rhinoptilus africanus</i>	Double-banded Courser		
<i>Larus dominicanus</i>	Kelp Gull		
<i>Larus cirrocephalus</i>	Grey-headed Gull		
<i>Larus hartlaubii</i>	Hartlaub's Gull		Endemic
<i>Sterna bergii</i>	Swift Tern		
<i>Sterna balaenarum</i>	Damara Tern	Endemic; Endangered	Near threatened; Breeding endemic
<i>Chlidonias hybridus</i>	Whiskered Tern		
<i>Pterocles namaqua</i>	Namaqua Sandgrouse		Near endemic

<i>Pterocles bicinctus</i>	Double-banded Sandgrouse		Near endemic
<i>Columba guinea</i>	Speckled Pigeon		
<i>Columba livea</i>	Rock Dove		
<i>Streptopelia capicola</i>	Cape Turtle Dove		
<i>Streptopelia senegalensis</i>	Laughing Dove		
<i>Streptopelia capicola</i>	Cape Turtle-Dove		
<i>Oena capensis</i>	Namaqua Dove		
<i>Agapornis roseicollis</i>	Rosy-faced Lovebird	Endemic	Near endemic
<i>Corythaixoides concolor</i>	Grey Go-away-bird		
<i>Tyto alba</i>	Barn Owl		
<i>Otus leucotis</i>	Southern White-faced Scops-Owl		

<i>Glaucidium perlatum</i>	Pearl-spotted Owlet		
<i>Bubo africanus</i>	Spotted Eagle Owl		
<i>Bubo lacteus</i>	Giant Eagle Owl		
<i>Caprimulgus tristigma</i>	Freckled Nightjar		
<i>Apus bradfieldi</i>	Bradfield's Swift		Near endemic
<i>Colius</i>	White-backed Mousebird		Endemic
<i>Urocolius indicus</i>	Red-faced Mousebird		
<i>Ceryle rudis</i>	Pied Kingfisher		
<i>Merops hirundineus</i>	Swallow-tailed Bee-eater		
<i>Upupa epops</i>	Hoopoe		
<i>Phoeniculus cyanomelas</i>	Scimitar-billed Woodhoopoe		
<i>Tockus monteiri</i>	Monteiro's Hornbill	Endemic	
<i>Tockus nasutus</i>	African Grey Hornbill		
<i>Lybius leucomelas</i>	Pied Barbet		
<i>Dendropicos fuscescens</i>	Cardinal Woodpecker		
<i>Mirafraba sabota</i>	Sabota Lark		
<i>Mirafraba curvirostris</i>	Long-billed Lark		
<i>Calendulauda erythrochlamys</i>	Dune Lark	Endemic	Endemic
<i>Chersomanes albofasciata</i>	Spike-heeled Lark		Near endemic
<i>Calandrella cinerea</i>	Red-capped Lark		
<i>Alauda starki</i>	Stark's Lark		Endemic
<i>Ammomanopsis grayi</i>	Gray's Lark	Endemic	Near endemic
<i>Certhilauda subcoronata</i>	Karoo Long-billed Lark		Endemic
<i>Eremopterix verticalis</i>	Grey-backed Sparrowlark		Near endemic
<i>Hirundo fuligula</i>	Rock Martin		
<i>Riparia paludicola</i>	Brown-throated Martin		
<i>Dicrurus adsimilis</i>	Fork-tailed Drongo		
<i>Corvus capensis</i>	Cape Crow		
<i>Corvus albus</i>	Pied Crow		
<i>Parus cinerascens</i>	Ashy Tit		Near endemic
<i>Anthoscopus minutes</i>	Cape Penduline Tit		Near endemic
<i>Turdoides bicolor</i>	Pied Babbler		
<i>Pycnonotus nigricans</i>	African Red-eyed Bulbul		Near endemic
<i>Monticola brevipes</i>	Short-toed Rock Thrush		

<i>Namibornis herero</i>	Herero Chat	Endemic	Near endemic
<i>Oenanthe monticola</i>	Mountain Wheatear		Near endemic
<i>Cercomela familiaris</i>	Familiar Chat		
<i>Cercomela traetrac</i>	Tractrac Chat		Near endemic
<i>Cercomela schlegelii</i>	Karoo Chat		Near endemic
<i>Myrmecocichla formicivora</i>	Ant-eating Chat		Endemic
<i>Erythropygia paena</i>	Kalahari Robin		
<i>Parisoma subcaeruleum</i>	Chestnut-vented Tit-Babbler		Near endemic
<i>Parisoma layardi</i>	Layard's Tit-Babbler		Endemic
<i>Zosterops pallidus</i>	Orange River White-eye		Endemic
<i>Sylvietta rufescens</i>	Long-billed Crombec		
<i>Eremomela icteropygialis</i>	Yellow-bellied Eremomela		
<i>Eremomela gregalis</i>	Karoo Eremomela		
<i>Acrocephalus baeticatus</i>	African Reed-Warbler		
<i>Acrocephalus gracilirostris</i>	Lesser Swamp-Warbler		
<i>Cisticola aridulus</i>	Desert Cisticola		
<i>Cisticola subruficapilla</i>	Grey-backed Cisticola		Near endemic
<i>Cisticola juncidis</i>	Zitting Cisticola		
<i>Prinia flavicans</i>	Black-chested Prinia		
<i>Melaenornis mariquensis</i>	Marico Flycatcher		Near endemic
<i>Bradornis infuscatus</i>	Chat Flycatcher		Near endemic
<i>Muscicapa striata</i>	Spotted Flycatcher		
<i>Batis pririt</i>	Pirit Batis		Near endemic
<i>Motacilla capensis</i>	Cape Wagtail		
<i>Anthus navaeseelandiae</i>	Richard's Pipit		
<i>Anthus similes</i>	Long-billed Pipit		
<i>Anthus vaalensis</i>	Buffy Pipit		
<i>Tchagra australis</i>	Brown-crowned Tchagra		
<i>Lanius collaris</i>	Common Fiscal		
<i>Laniarius atrococcineus</i>	Crimson-breasted Shrike		Near endemic
<i>Nilaus afer</i>	Brubru		
<i>Telophorus zeylonus</i>	Bokmakierie		Near endemic
<i>Creatophora cinerea</i>	Wattled Starling		
<i>Lamprotornis nitens</i>	Cape Glossy Starling		
<i>Onychognathus nabouroup</i>	Pale-winged Starling		Near endemic
<i>Chalcomitra senegalensis</i>	Scarlet-chested Sunbird		
<i>Nectarinia mariquensis</i>	Marico Sunbird		
<i>Nectarinia fusca</i>	Dusky Sunbird		Near endemic
<i>Passer domesticus</i>	House Sparrow		
<i>Passer motitensis</i>	Great Sparrow		Near endemic
<i>Passer melanurus</i>	Cape Sparrow		Near endemic
<i>Passer griseus</i>	Southern Grey-headed Sparrow		
<i>Sporopipes squamifrons</i>	Scaly-feathered Finch		Near endemic
<i>Plocepasser mahali</i>	White-browed Sparrow-Weaver		
<i>Philetairus socius</i>	Sociable Weaver		Endemic

<i>Ploceus velatus</i>	Southern Masked Weaver		
<i>Quelea</i>	Red-billed Quelea		
<i>Euplectes orix</i>	Southern Red Bishop		
<i>Estrilda erythronotos</i>	Black-faced Waxbill		
<i>Estrilda astrild</i>	Common Waxbill		
<i>Amadina erythrocephala</i>	Red-headed Finch		Near endemic
<i>Vidua regia</i>	Shaft-tailed Whydah		
<i>Serinus alario</i>	Black-headed Canary		
<i>Serinus flaviventris</i>	Yellow Canary		Near endemic
<i>Crithagra atrogularis</i>	Black-throated Canary		
<i>Serinus albogularis</i>	White-throated Canary		Near endemic
<i>Emberiza capensis</i>	Cape Bunting		Near endemic
<i>Emberiza tahapisi</i>	Cinnamon-breasted Bunting		
<i>Emberiza impetuani</i>	Lark-like Bunting		Near endemic

APPENDIX D – FLORA SPECIES LIST

SPECIES	ENDEMISM	PROTECTED	IUCN2
<i>Abutilon pycnodon</i> Hochr.			
<i>Acacia reficiens</i> Wawra subsp. <i>reficiens</i>			
<i>Acanthopsis hoffmannseggiana</i> (Nees) C.B.Clarke			
<i>Acrotome fleckii</i> (Gürke) Launert	Endemic		
<i>Adenolobus garipensis</i> (E.Mey.) Torre & Hillc.			
<i>Adenolobus pechuelii</i> (Kuntze) Torre & Hillc. subsp. <i>pechuelii</i>			
<i>Aizoanthemum dinteri</i> (Schinz) Friedrich	Endemic		
<i>Aizoanthemum galenioides</i> (Fenzl ex Sond.) Friedrich	Endemic		
<i>Aloe asperifolia</i> A.Berger	Endemic	Protected	
<i>Anticharis ebracteata</i> Schinz	Endemic		
<i>Anticharis imbricata</i> Schinz	Endemic		
<i>Arctotis venusta</i> Norl.			
<i>Aristida parvula</i> (Nees) De Winter			
<i>Arthraerua leubnitziae</i> (Kuntze) Schinz	Endemic		
<i>Atriplex lindleyi</i> Moq. subsp. <i>inflata</i> (F.Muell.) Paul G.Wilson			
<i>Atriplex semibaccata</i> R.Br. var. <i>appendiculata</i> Aellen			
<i>Blepharis grossa</i> (Nees) T.Anderson	Near Endemic		
<i>Blepharis obmitrata</i> C.B.Clarke			
<i>Boscia albitrunca</i> (Burch.) Gilg & Gilg-Ben.		Forestry Protected	
<i>Brachiaria glomerata</i> (Hack.) A.Camus			
<i>Brownanthus kuntzei</i> (Schinz) Ihlenf. & Bittrich			
<i>Calostephane marlothiana</i> O.Hoffm.	Endemic		
<i>Camptoloma rotundifolium</i> Benth.			
<i>Capparis hereroensis</i> Schinz	Endemic		
<i>Centropodia glauca</i> (Nees) Cope			
<i>Chascanum garipense</i> E.Mey.			
<i>Chenopodium murale</i> L. var. <i>acutidentatum</i> Aellen			
<i>Chenopodium murale</i> L. var. <i>murale</i>			

SPECIES	ENDEMISM	PROTECTED	IUCN2
<i>Citrullus ecirrhosus</i> Cogn.	Near Endemic		
<i>Cladoraphis spinosa</i> (L.f.) S.M.Phillips			
<i>Cleome elegantissima</i> Briq.			
<i>Cleome foliosa</i> Hook.f. var. <i>lutea</i> (Sond.) Codd & Kers			
<i>Cleome gynandra</i> L.			
<i>Cleome semitetrandra</i> Sond.			
<i>Cleome suffruticosa</i> Schinz	Endemic		
<i>Codon royenii</i> L.			
<i>Commiphora oblanceolata</i> Schinz	Near Endemic		
<i>Commiphora saxicola</i> Engl.	Endemic		
<i>Commiphora wildii</i> Merxm.			
<i>Cordia</i> sp. C			
<i>Cotula anthemoides</i> L.			
<i>Cotula coronopifolia</i> L.			
<i>Cotyledon orbiculata</i> L. var. <i>orbiculata</i>			
<i>Crassothonna protecta</i> (Dinter) B.Nord.			
<i>Crotalaria colorata</i> Schinz subsp. <i>colorata</i>	Endemic		
<i>Crotalaria colorata</i> Schinz subsp. <i>erecta</i> (Schinz) Polhill	Endemic		
<i>Cucumis africanus</i> L.f.			
<i>Cullen tomentosum</i> (Thunb.) J.W.Grimes			
<i>Cyamopsis serrata</i> Schinz			
<i>Cynodon dactylon</i> (L.) Pers.			
<i>Cyperus laevigatus</i> L.			
<i>Cyperus marginatus</i> Thunb.			
<i>Datura innoxia</i> Mill.			
<i>Dauresia alliariifolia</i> (O.Hoffm.) B.Nord. & Pelsler			
<i>Deverra denudata</i> (Viv.) Pfisterer & Podlech subsp. <i>aphylla</i> (Cham. & Schltdl.) Pfisterer & Podlech			
<i>Dichrostachys cinerea</i> (L.) Wight & Arn. subsp. <i>africana</i> Brenan & Brummitt var. <i>africana</i>			
<i>Dinteracanthus kaokoanus</i> (E.Tripp & K.G.Dexter) E.Tripp & I.Darbysh.	Endemic		
<i>Dipcadi platyphyllum</i> Baker			
<i>Doellia cafra</i> (DC.) Anderb.			

SPECIES	ENDEMISM	PROTECTED	IUCN2
<i>Drimia fasciata</i> (B.Nord.) J.C.Manning & Goldblatt			
<i>Dyerophytum africanum</i> (Lam.) Kuntze			
<i>Eleocharis seydeliana</i> Podlech			
<i>Engleria africana</i> O.Hoffm.			
<i>Enneapogon desvauxii</i> P.Beauv.			
<i>Entoplocamia aristulata</i> (Hack. & Rendle) Stapf			
<i>Eragrostis annulata</i> Rendle ex Scott- Elliot			
<i>Eragrostis omahekensis</i> De Winter	Endemic		
<i>Eriocephalus pinnatus</i> O.Hoffm.	Endemic		
<i>Euclea pseudebenus</i> E.Mey. ex A.DC.			
<i>Euphorbia giessii</i> L.C.Leach	Endemic		
<i>Euphorbia glanduligera</i> Pax			
<i>Euphorbia lignosa</i> Marloth	Near Endemic		
<i>Euphorbia phylloclada</i> Boiss.			
<i>Fagonia minutistipula</i> Engl.			
<i>Faidherbia albida</i> (Delile) A.Chev.		Forestry Protected	
<i>Felicia anthemidodes</i> (Hiern) Mendonça			
<i>Felicia smaragdina</i> (S.Moore) Merxm.	Endemic		
<i>Ficus cordata</i> Thunb. subsp. <i>cordata</i>		Forestry Protected	
<i>Flaveria bidentis</i> (L.) Kuntze			
<i>Forsskaolea hereroensis</i> Schinz	Near Endemic		
<i>Frankenia pulverulenta</i> L.			
<i>Galenia africana</i> L.			
<i>Galenia papulosa</i> (Eckl. & Zeyh.) Sond.			
<i>Galenia papulosa</i> (Eckl. & Zeyh.) Sond. var. <i>microphylla</i> Adamson			
<i>Gazania jurineifolia</i> DC. subsp. <i>scabra</i> (DC.) Roessler	Near Endemic		
<i>Geigeria ornativa</i> O.Hoffm.			
<i>Geigeria rigida</i> O.Hoffm.	Endemic		
<i>Gisekia africana</i> (Lour.) Kuntze var. <i>africana</i>			
<i>Glinus lotoides</i> L. var. <i>lotoides</i>			

SPECIES	ENDEMISM	PROTECTED	IUCN2
<i>Gomphocarpus filiformis</i> (E.Mey.) Dietr.			
<i>Gossypium herbaceum</i> L. subsp. <i>africanum</i> (Watt) Vollesen			
<i>Helichrysum argyrosphaerum</i> DC.			
<i>Helichrysum candolleanum</i> H.Buek			
<i>Helichrysum herniarioides</i> DC.			
<i>Helichrysum obtusum</i> (S.Moore) Moeser			
<i>Helichrysum roseo-niveum</i> Marloth & O.Hoffm.			
<i>Heliotropium albiflorum</i> Engl.	Endemic		
<i>Heliotropium curassavicum</i> L.			
<i>Heliotropium ovalifolium</i> Forssk.			
<i>Heliotropium tubulosum</i> E.Mey. ex DC.			
<i>Hermannia affinis</i> K.Schum.			
<i>Hermannia amabilis</i> Marloth ex K.Schum.	Endemic		
<i>Hermannia helianthemum</i> K.Schum.			
<i>Hermannia solaniflora</i> K.Schum.	Near Endemic		
<i>Hermbstaedia spathulifolia</i> (Engl.) Baker	Endemic		
<i>Hexacyrtis dickiana</i> Dinter	Near Endemic		
<i>Hibiscus elliotiae</i> Harv.			
<i>Hirpicium gazanioides</i> (Harv.) Roessler			
<i>Hoodia currorii</i> (Hook.) Decne. subsp. <i>currorii</i>		Protected	
<i>Hoodia gordonii</i> (Masson) Sweet ex Decne.		Protected	Near Threatened
<i>Hypertelis cerviana</i> (L.) Thulin			
<i>Hypertelis salsoloides</i> (Burch.) Adamson var. <i>salsoloides</i>			
<i>Indigastrium argyroides</i> (E.Mey.) Schrire			
<i>Indigofera auricoma</i> E.Mey.			
<i>Indigofera heterotricha</i> DC. subsp. <i>heterotricha</i>			
<i>Jamesbrittenia barbata</i> Hilliard	Endemic		
<i>Jamesbrittenia canescens</i> (Benth.) Hilliard var. <i>canescens</i>			

SPECIES	ENDEMISM	PROTECTED	IUCN2
<i>Jamesbrittenia hereroensis</i> (Engl.) Hilliard	Endemic		
<i>Jamesbrittenia maxii</i> (Hiern) Hilliard			
<i>Juncus rigidus</i> Desf.			
<i>Kissenia capensis</i> Endl.			
<i>Kleinia longiflora</i> DC.			
<i>Kohautia caespitosa</i> Schnizl. subsp. <i>brachyloba</i> (Sond.) D.Mantell			
<i>Kohautia ramosissima</i> Bremek.			
<i>Launaea intybacea</i> (Jacq.) P.Beauv.			
<i>Leobordea platycarpa</i> (Viv.) B.-E. van Wyk & Boatwr. [2]			
<i>Lepidium englerianum</i> (Muschl.) Al-Shehbaz			
<i>Limeum argute-carinatum</i> Wawra ex Wawra & Peyr. var. <i>argute-carinatum</i>			
<i>Limeum myosotis</i> H.Walter var. <i>confusum</i> Friedrich			
<i>Lobelia thermalis</i> Thunb.			
<i>Lolium rigidum</i> Gaudich.			
<i>Lophiocarpus polystachyus</i> Turcz.			
<i>Lycium oxycarpum</i> Dunal			
<i>Lycium tetrandrum</i> Thunb.			
<i>Maerua schinzii</i> Pax		Forestry Protected	
<i>Mesembryanthemum cryptanthum</i> Hook.f.			
<i>Mesembryanthemum guerichianum</i> Pax			
<i>Microcharis disjuncta</i> (J.B.Gillett) Schrire var. <i>disjuncta</i>			
<i>Monechma cleomoides</i> (S.Moore) C.B.Clarke			
<i>Monechma desertorum</i> (Engl.) C.B.Clarke	Endemic		
<i>Monechma divaricatum</i> (Nees) C.B.Clarke			
<i>Myxopappus hereroensis</i> (O.Hoffm.) Källersjö	Endemic		
<i>Nesaea luederitzii</i> Koehne var. <i>luederitzii</i>			
<i>Nidorella resedifolia</i> DC. subsp. <i>resedifolia</i>			
<i>Odysea paucinervis</i> (Nees) Stapf			

SPECIES	ENDEMISM	PROTECTED	IUCN2
<i>Ondetia linearis</i> Benth.	Endemic		
<i>Ophioglossum polyphyllum</i> A.Braun			
<i>Ornithogalum rautanenii</i> Schinz	Endemic		
<i>Ornithogalum stapffii</i> Schinz	Endemic		
<i>Ornithoglossum vulgare</i> B.Nord.			
<i>Orthanthera albida</i> Schinz			
<i>Osteospermum microcarpum</i> (Harv.) Norl. subsp. <i>microcarpum</i>			
<i>Panicum repens</i> L.			
<i>Parkinsonia africana</i> Sond.			
<i>Paspalum vaginatum</i> Sw.			
<i>Pechuel-loeschea leubnitziae</i> (Kuntze) O.Hoffm.			
<i>Pelargonium otaviense</i> R.Knuth			
<i>Pergularia daemia</i> (Forssk.) Chiov. var. <i>daemia</i>			
<i>Petalidium canescens</i> (Engl.) C.B.Clarke	Endemic		
<i>Petalidium variabile</i> (Engl.) C.B.Clarke var. <i>spectabile</i> Mildbr.	Endemic		
<i>Phragmites australis</i> (Cav.) Steud.			
<i>Poa annua</i> L.			
<i>Polygala guerichiana</i> Engl.			
<i>Polygonum plebeium</i> R.Br.			
<i>Polypogon monspeliensis</i> (L.) Desf.			
<i>Polypogon viridis</i> (Gouan) Breistr.			
<i>Potamogeton pectinatus</i> L.			
<i>Psilocaulon kuntzei</i> (Schinz) Dinter & Schwantes			
<i>Psilocaulon salicornioides</i> (Pax) Schwantes	Near Endemic		
<i>Raphionacme haeneliae</i> Venter & Verhoeven	Endemic		
<i>Rhus marlothii</i> Engl.			
<i>Ruellia marlothii</i> Engl.			
<i>Ruppia maritima</i> L.			
<i>Salsola aphylla</i> L.f.			
<i>Salsola arborea</i> C.A.Sm. ex Aellen			
<i>Salsola gemmifera</i> Botsch.			
<i>Salsola kali</i> L.			
<i>Salsola swakopmundi</i> Botsch.	Endemic		
<i>Salvadora persica</i> L. var. <i>persica</i>			

SPECIES	ENDEMISM	PROTECTED	IUCN2
<i>Salvia garipensis</i> E.Mey. ex Benth.	Near Endemic		
<i>Sarcocaulon mossamedense</i> (Welw. ex Oliv.) Hiern	Near Endemic		
<i>Sarcocornia natalensis</i> (Bunge ex Ung.-Sternb.) A.J.Scott var. <i>affinis</i> (Moss) O'Callaghan			
<i>Senecio engleranus</i> O.Hoffm.	Endemic		
<i>Senecio flavus</i> (Decne.) Sch.Bip.			
<i>Sesamum marlothii</i> Engl.	Endemic		
<i>Sesbania pachycarpa</i> DC. subsp. <i>dinterana</i> J.B.Gillett	Near Endemic		
<i>Sesuvium sesuvioides</i> (Fenzl) Verdc.			
<i>Sonchus oleraceus</i> L.			
<i>Spergularia media</i> (L.) C.Presl			
<i>Sporobolus consimilis</i> Fresen.			
<i>Sporobolus nebulosus</i> Hack.	Near Endemic		
<i>Sporobolus virginicus</i> (L.) Kunth			
<i>Stapelia kwebensis</i> N.E.Br.		Protected	
<i>Stipagrostis ciliata</i> (Desf.) De Winter var. <i>capensis</i> (Trin. & Rupr.) De Winter			
<i>Stipagrostis damarensis</i> (Mez) De Winter	Near Endemic		
<i>Stipagrostis dinteri</i> (Hack.) De Winter			
<i>Stipagrostis giessii</i> Kers			
<i>Stipagrostis hermannii</i> (Mez) De Winter	Near Endemic		
<i>Stipagrostis hochstetteriana</i> (Beck ex Hack.) De Winter var. <i>hochstetteriana</i>			
<i>Stipagrostis hochstetteriana</i> (Beck ex Hack.) De Winter var. <i>secalina</i> (Henrard) De Winter			
<i>Stipagrostis namaquensis</i> (Nees) De Winter			
<i>Stipagrostis obtusa</i> (Delile) Nees			
<i>Stipagrostis schaeferi</i> (Mez) De Winter			
<i>Stipagrostis subacaulis</i> (Nees) De Winter			
<i>Suaeda merxmuelleri</i> Aellen			
<i>Suaeda plumosa</i> Aellen			
<i>Tamarix ramosissima</i> Ledeb.			
<i>Tamarix usneoides</i> E.Mey. ex Bunge			

SPECIES	ENDEMISM	PROTECTED	IUCN2
<i>Tapinanthus oleifolius</i> (J.C.Wendl.) Danser			
<i>Tephrosia dregeana</i> E.Mey. var. <i>dregeana</i>	Near Endemic		
<i>Tetraena clavata</i> (Schltr. & Diels) Beier & Thulin	Near Endemic		
<i>Tetragonia decumbens</i> Mill.			
<i>Tetragonia reduplicata</i> Welw. ex Oliv.			
<i>Trianthes hereroensis</i> Schinz	Endemic		
<i>Tribulus excrucians</i> Wawra			
<i>Tribulus zeyheri</i> Sond. subsp. <i>zeyheri</i>			
<i>Trichodesma africanum</i> (L.) Lehm.			
<i>Tripteris microcarpa</i> Harv. subsp. <i>microcarpa</i>			
<i>Tripteris microcarpa</i> Harv. subsp. <i>septentrionalis</i> (Norl.) B.Nord.			
<i>Tripteris nervosa</i> Hutch.	Endemic		
<i>Triraphis pumilio</i> R.Br.			
<i>Vahlia capensis</i> (L.f.) Thunb. subsp. <i>vulgaris</i> Bridson var. <i>vulgaris</i>			
<i>Verbesina encelioides</i> (Cav.) Benth. & Hook.f. ex A.Gray var. <i>encelioides</i>			
<i>Welwitschia mirabilis</i> Hook.f.	Near Endemic	Protected	
<i>Xanthium strumarium</i> L.			
<i>Zannichellia palustris</i> L.			
<i>Zygophyllum simplex</i> L.			
<i>Zygophyllum spongiosum</i> Van Zyl			
<i>Zygophyllum stapffii</i> Schinz	Endemic		