APP-001097
SAND MINING OPERATIONS IN THE SCHAAF RIVER, KHOMAS REGION

ENVIRONMENTAL ASSESSMENT SCOPING REPORT

Assessed by:

GEO Pollution Technologies Namibia

Assessed for:

Hermann Gerhard Romeis

September 2023

Project:	**SAND MINING OPERATIONS IN THE SCHAAF RIVER, KHOMAS REGION: ENVIRONMENTAL ASSESSMENT SCOPING REPORT**	
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Report Approval:	 **André Faul**	

I, Hermann Gerhard Romeis, hereby approve this report and confirm that the project description contained in herein is a true reflection of the information which the Proponent has provided to Geo Pollution Technologies. All material information in the possession of the Proponent that reasonably has or may have the potential of influencing any decision or the objectivity of this assessment is fairly represented in this report.

Signed at Windhoek on the 25 day of September 2023.

Hermann Gerhard Romeis

50071100369
ID Number

EXECUTIVE SUMMARY

Hermann Gerhard Romeis (the Proponent) conducts sand mining activities in the Schaaf River in the Windhoek District, Khomas Region. The operations provide sand for mainly the construction industry. The Proponent is now applying for an environmental clearance certificate from the Ministry of Environment Forestry and Tourism for the sand mining operations.

In support of an application for an environmental clearance certificate, an environmental scoping assessment of the operations, in relation to the biophysical and social features of the site is required. Geo Pollution Technologies (Pty) Ltd have therefore been appointed by the Proponent to conduct such an assessment in terms of the Environmental Management Act No. 7 of 2007 and its requirements. This scoping report presents the findings of the environmental assessment and was used as the primary reference for the compilation of an environmental management plan (which is attached and bound together with this report).

The environmental assessment is conducted to determine all environmental, safety, health and socio-economic impacts associated with the sand mining operations of the Proponent. Relevant environmental data has been compiled by making use of secondary data and from a reconnaissance site visit. Potential environmental impacts and associated social impacts were identified and are addressed in this report.

The project was announced to the public as per the press and site notices, while adjacent land owners were provided with documentation informing them about the application for an environmental clearance certificate. All registered interested and affected parties were given an opportunity to comment on the scoping report and environmental management plan. The proof of the public participation process, to date, is attached as Appendix B to this report.

It is the opinion of Geo Pollution Technologies that, should the Proponent be compliant with the mitigation measures which have been proposed in this report and related environmental management plan, the project will contribute to sustainable development of the region.

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LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
BMC	Basin Management Committees
BID	Background Information Document
CBD	Convention on Biological Diversity
CHIRPS	Climate Hazards Group Infra-Red Precipitation with Station data version
CITES	Convention on International Trade of Endangered Species
DEA	Department of Environmental Affairs
EA	Environmental Assessment
ECC	Environmental Clearance Certificate
EMA	Environmental Management Act, 2007 (Act no. 7 of 2007)
EMP	Environmental Management Plan
EMS	Environmental Management System
GIS	Geographic Information System
GPT	Geo Pollution Technologies (Pty) Ltd
HPP	Harambee Prosperity Plan
HIV	Human Immunodeficiency Virus
HMV	Heavy Motor Vehicle
NDP	National Development Plan
IAP	Interested and Affected Party
IUCN	International Union for Conservation of Nature
KWH	Kilowatt Hour
m/s	Meter per second
MAWLR	Ministry of Agriculture, Water and Land Reform
mbs	Meters below surface
MEFT	Ministry of Environment, Forestry and Tourism
mm/a	Millimetres per annum
MME	Ministry of Mines and Energy
MSDS	Material Safety Data Sheet
NASA	National Aeronautics and Space Administration
NGO	Non-Government Organisation
PPE	Personal Protective Equipment
SR	Scoping Report
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
WHO	World Health Organization

GLOSSARY OF TERMS

Active Channel - A short-term geomorphic feature formed by prevailing stream discharges, is narrower than the bankfull channel and is defined by a break in bank slope that also typically is the edge of permanent vegetation.

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.

Assessment - The process of collecting, organising, analysing, interpreting and communicating information relevant to decision making.

Bar - An elevated region of sediment (such as sand or gravel) that has been deposited by river flow. Types of bars include mid-channel bars (also called braid bars, and common in braided rivers), point bars (common in meandering rivers), and mouth bars (common in river deltas). Bars are typically found in the slowest moving, shallowest parts of rivers and streams, and are often parallel to the shore and occupy the area farthest from the thalweg.

Biodiversity - The variability among living organisms from all sources including, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part.

Competent Authority - Means a body or person empowered under the local authorities act or Environmental Management Act to enforce the rule of law.

Cumulative Impacts - In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

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) – Namibian terminology for a process of assessing the effects on the environment through either a scoping assessment or a combination of a scoping- and detailed assessment.

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.

Environmental Management System (EMS) - An Environment Management System, or EMS, is a comprehensive approach to managing environmental issues, integrating environment-oriented thinking into every aspect of business management. An EMS ensures environmental considerations are a priority, along with other concerns such as costs, product quality, investments, PR productivity and strategic planning. An EMS generally makes a positive impact on a company's bottom line. It increases efficiency and focuses on customer needs and marketplace conditions, improving both the company's financial and environmental performance. By using an EMS to convert environmental problems into commercial opportunities, companies usually become more competitive.

Evaluation – Means 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.

Graben - Elongate fault blocks of the earth's crust that have been lowered, relative to their surrounding areas, as a direct effect of faulting.

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 Forestry and 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.

River Morphology – Description of the shapes of river channels and how they change in shape and direction over time. The morphology of a river channel is a function of a number of processes and environmental conditions, including the composition and erodibility of the bed and banks (e.g., sand, clay, bedrock); erosion comes from the power and consistency of the current, and can affect the formation of the river's path.

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 - Means 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 (IAPs). The principle that environmental consultants and stakeholder engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders.

Sustainable Development - “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). “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 World Wide Fund for Nature (1991).

1 BACKGROUND & INTRODUCTION

Hermann Gerhard Romeis (the Proponent) conducts sand mining along a section of the Schaaf River (also called the Skaap River) in the Windhoek District, Khomas Region. Figure 1-1 depicts the location of the sand mining operations.

The mining area is located on Farm Neu Brack 454 (FMK/00454) (property owned by the Proponent). Notification regarding operational aspects have been communicated with City of Windhoek, adjacent land owners and related stakeholders. An environmental clearance certificate (ECC) for the current and proposed operations is however required as per the Environmental Management Act No. 7 of 2007 (EMA). As such, Geo Pollution Technologies (Pty) Ltd (GPT) was appointed by Hermann Gerhard Romeis to assist with this application. To achieve this, an impact assessment was undertaken to determine the potential impacts of the operational and decommissioning phases of the project on the environment, as documented in this report along with an environmental management plan (EMP).

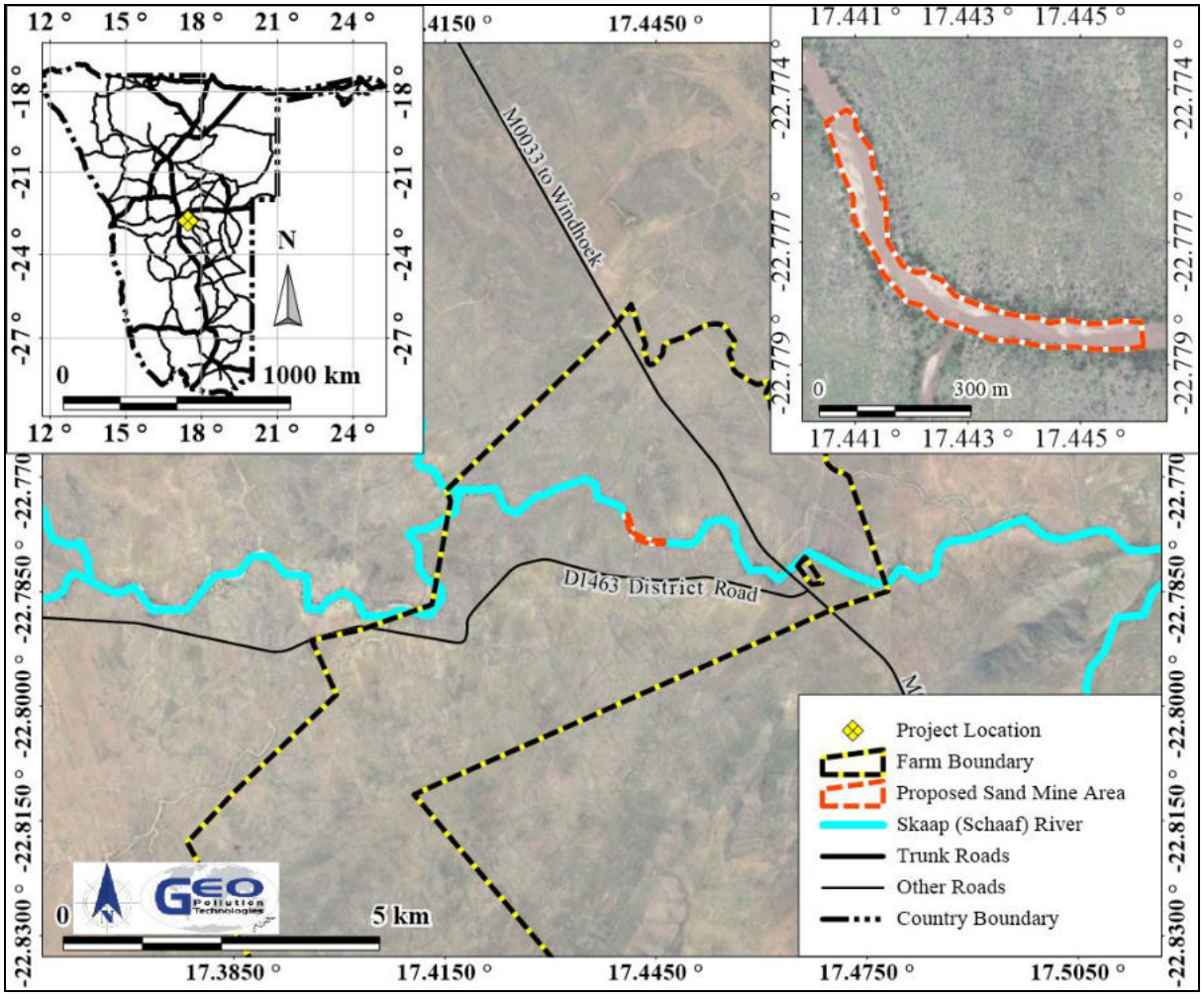


Figure 1-1 Project location

A risk assessment was undertaken to determine the potential impact of the operational and possible decommissioning phases associated with the project on the environment. The environment being defined in the Environmental Assessment Policy and Environmental Management Act as "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, paleontological or social values".

Project Justification - Sand is an essential resource in the construction industry. Windhoek is a fast growing city and sand is required in large volumes for cement works and brickmaking. The continued

sand mining operations of the Proponent will play an important role in the delivery of sand to the construction industry. Additional benefits and spinoffs of the operations are included in the list below.

- Reliable and secure supply of sand for the local construction industry,
- Employment,
- Economic growth and development of Windhoek,
- Increased economic resilience of direct employees,
- Sustaining of employment of secondary industries (brick making and construction).

2 SCOPE

The scope of the environmental assessment is to:

1. Determine the potential environmental impacts emanating from the sand mining activities.
2. Identify a range of management actions which could mitigate the potential adverse impacts to acceptable levels.
3. Comply with Namibia's Environmental Management Act (2007).
4. Provide sufficient information to the Ministry of Environment, Forestry and Tourism (MEFT) and related authorities to make an informed decision regarding the sand mining operations.

3 METHODOLOGY

The following methods were used to investigate the potential impacts on the social and natural environment due to the sand mining operations:

1. Baseline information about the site and its surroundings was obtained from existing secondary information as well as from primary information obtained during a reconnaissance site visit.
2. As part of the scoping process to determine potential environmental impacts, interested and affected parties (IAPs) were consulted about their views, comments and opinions and these are put forward in this report.
3. Based on gathered information and public and stakeholder consultation, an assessment of potential impacts was conducted and a management plan prepared

4 PROJECT DEVELOPMENT AND RELATED ACTIVITIES

All sand mining operations are focussed within the active river channel and no mining is proposed or being conducted on the floodplain and overbank areas. Active channel mining is also referred to as instream mining. Current mining operations is depicted in red in Figure 1-1. It is estimated that the current minable sand deposits in the river will sustain mining activities for 5 years when conducted at the current rate of mining.

Mining activities entails the excavation of sand using front-end loaders and stockpiling of the sand within the mining area in the river (Photo 4-1). During the rainy season, sand stockpiles are moved to outside of the river to prevent it from being washed away. This stockpile area is located next to an existing farm road and was established by the Proponent (Photo 4-2). From the stockpiles, sand is loaded with a front-end loader onto tipper trucks as depicted in Photo 4-3 and Photo 4-4. Tipper trucks then transport the sand to a depot near Windhoek for temporary storage, screening and distribution to clients. On average three trucks are used to transport sand from the mining area to the depot. Currently no screening or crushing are conducted at either the mining site or the stockpile area. All screening and crushing are conducted at the depot where sand is sorted and crushed according to the various products required which include stone, sand and aggregate.

At the sand mining site, big boulders and rocks that are not suitable for construction purposes, are removed from the sand deposits and temporarily stockpiled in the riverbed (Photo 4-5 and Photo 4-6).

Photo 4-1 Stockpile area inside the mining area

Photo 4-2 Stockpile area next to the mining area

Photo 4-3 Stockpiled sand being loaded onto a tipper truck

Photo 4-4 Fully loaded tipper truck

Photo 4-5 View of mining area

Photo 4-6 View of bolder heap within the mining area

A layer of approximately 1.5 m of sand is systematically stripped from the sand deposit. The depth of mining is clearly visible as per Photo 4-9. The current sand deposit being mined has some vegetation cover closer to the riverbanks with various large trees established on the fringes thereof. The vegetation cover is depicted in Photo 4-10. Vegetation is unlikely to be stripped from the riverbank as a large number of boulders are located along the riverbank, making it problematic to mine there.

Photo 4-7 Sand buffer between Schaaf River and active mining operation

Photo 4-8 Current mining operations

Photo 4-9 Eastern view from the mining area towards the riverbank

Photo 4-10 Vegetation on the eastern riverbank

The 30 ton trucks that are covered to prevent fly-off, travel a short distance on an existing private gravel road to the C23 road from where it travels towards Windhoek. Access onto the C23 road is at a stretch of road which is straight and level with ample visibility for oncoming traffic from both directions. The access onto the C23 road is documented in Photo 4-11 and Photo 4-12.

In summary operations are as follows:

- Active excavation and stockpiling of sand with front-end loaders at the sand deposit,
- Loading of sand onto 30 ton trucks for transportation to the depot,
- Levelling and shaping of remaining material as part of mined area rehabilitation,

Photo 4-11 View from the entrance onto the C23 towards Windhoek

Photo 4-12 View towards Dordabis on the C23 from the entrance

4.1 Future Resources

Mining at the current site is expected to continue for 5 years. Currently no other additional resources have been identified for future mining activities.

4.2 Mining Activities and Requirements

Table 4-1 below provides a list of the activities, labour and equipment requirements associated with the sand mining operations. Current operations entail one front end loader removing sand from the river area. One driver is employed to operate the front-end loader which loads sand from the stockpile area onto the 30 ton tipper trucks. After the front end loader filled the tipper truck, the front end loader is left on site and both drivers travel back to the depot. Employees do not overnight at the mining site and no work is conducted after sunset.

One chemical toilet is erected at the mining site (Photo 4-13) and no equipment is stored at the site except for the front-end loader and toilet (Photo 4-14). The front-end loader is also greased, refuelled and filled with oil on site. This is only performed when required and over the required drip trays.

Table 4-1 Mining activities

Activity	Operational Phase	Decommissioning Phase
Equipment requirements: removal of sand and levelling / shaping of remaining material	♦ 4x4 vehicle(s) ♦ Front-end loader(s) ♦ 30 Ton tipper trucks	♦ 4x4 vehicle(s) ♦ Front-end loader(s)
Site access	♦ Via existing roads / tracks Development of new tracks / roads should be kept to a minimum if required for future operations	♦ Rehabilitation of any and all roads created for the transportation of sand
Storage requirements	♦ 1000 m^2 in existing stockpile area	♦ No storage requirements
Transporting of sand	♦ 30 Ton tipper trucks	♦ None
Refuelling	♦ One frontend loader will be filled on site from a fuel bowser. ♦ 30 ton trucks will be filled at the depot	♦ Front end loader will be filled on site from a fuel bowser.
Onsite ablution	♦ A portable toilet will be used on site	♦ A portable toilet will be used on site

Photo 4-13 Chemical toilet on site

Photo 4-14 Front end loader on site

5 ALTERNATIVES

Project location alternatives are limited to where suitable sand resources are present. Due to the nature of the geology in the area, such resources are only present in riverbeds where the fine particles are washed out. Better fines / sand separation occur in the larger river channels. Smaller rivers tend to contain more fine materials. Since the mining activities takes place on the Proponent's, farm and only a part of the river goes through the farm, the most suitable area for mining was chosen.

Alternatives to the activity of sand mining are not within the scope of this report, however, alternatives within the ambit of the mining and related activities have been considered and detailed below. The main consideration refers to the mining method, minable resources within the mining area, and route determination for access to future operations. All alternatives are listed below in a comparison table, Table 5-1, which also indicates the preferred options.

Table 5-1 Alternative comparison table

Alternative Description	Advantages	Disadvantages	Preferred Alternative
Mining Method			
Systematic strip mining (outside river flow)	♦ Removal of all material ♦ Clear areas of any possible obstacles or areas which may facilitate future accumulation and increase the risk of breakwater* ♦ Accommodate surface flow	♦ Less cost effective ♦ Levelling of unwanted / unused material across the mined out area	♦ Mechanical, systematic strip removal (Bar-skimming) of sand deposits
Mechanical mining (using earthmoving equipment)	♦ Time and capacity effective	♦ Greater risk of hydrocarbon pollution (fuels etc.)	
Manual mining (labourers with shovels)	♦ Job creation ♦ Reduced noise and dust creation	♦ Time consuming ♦ Capacity constraints	

**Water that flows through a weakened area in the river bank*

The assessment of impacts is based on the use of the preferred alternatives as presented above. The preferred alternatives have further been incorporated into the EMP.

6 ADMINISTRATIVE LEGAL AND POLICY REQUIREMENTS

To protect the environment and achieve sustainable development, all projects, plans, programmes and policies deemed to have adverse impacts on the environment require an environmental assessment, as per the Namibian legislation. The legislation and standards provided in Table 6-1 and Table 6-3 govern the environmental assessment process in Namibia and/or are relevant to the sand mining.

Table 6-1 Namibian law applicable to the sand mine

Law	Key Aspects
The Namibian Constitution	♦ Promotes the welfare of people ♦ Incorporates a high level of environmental protection ♦ Incorporates international agreements as part of Namibian law
Environmental Management Act Act No. 7 of 2007, Government Notice No. 232 of 2007	♦ Defines the environment ♦ Promotes sustainable management of the environment and the use of natural resources ♦ Provides a process of assessment and control of activities with possible significant effects on the environment
Environmental Management Act Regulations Government Notice No. 28-30 of 2012	♦ Commencement of the Environmental Management Act ♦ Lists activities that requires an environmental clearance certificate ♦ Provides Environmental Impact Assessment Regulations
Water Resources Management Act Act No. 11 of 2013	♦ Provides for management, protection, development, use and conservation of water resources ♦ Prevention of water pollution and assignment of liability
Soil Conservation Act (Act. No. 76 of 1969)	♦ Law relating to the combating and prevention of soil erosion, the conservation, improvement and manner of use of the soil and vegetation and the protection of the water sources Namibia
Forest Act (Act 12 of 2001, Government Notice No. 248 of 2001)	♦ Makes provision for the protection of the environment and the control and management of forest fires ♦ Provides the licencing and permit conditions for the removal of woody and other vegetation as well as the disturbance and removal of soil from forested areas
Forest Regulations: Forest Act, 2001 Government Notice No. 170 of 2015	♦ Declares protected trees or plants ♦ Issuing of permits to remove protected tree and plant species
Local Authorities Act Act No. 23 of 1992, Government Notice No. 116 of 1992	♦ Defines the powers, duties and functions of local authority councils ♦ Regulates discharges into sewers
Public and Environmental Health Act Act No. 1 of 2015, Government Notice No. 86 of 2015	♦ Provides a framework for a structured more uniform public and environmental health system, and for incidental matters ♦ Deals with Integrated Waste Management including waste collection disposal and recycling; waste generation and storage; and sanitation.
Labour Act Act No 11 of 2007, Government Notice No. 236 of 2007	♦ Provides for Labour Law and the protection and safety of employees ♦ Labour Act, 1992: Regulations relating to the health and safety of employees at work (Government Notice No. 156 of 1997)

Law	Key Aspects
Atmospheric Pollution Prevention Ordinance Ordinance No. 11 of 1976	♦ Governs the control of noxious or offensive gases ♦ Prohibits scheduled process without a registration certificate in a controlled area ♦ Requires best practical means for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process
Hazardous Substances Ordinance Ordinance No. 14 of 1974	♦ Applies to the manufacture, sale, use, disposal and dumping of hazardous substances as well as their import and export ♦ Aims to prevent hazardous substances from causing injury, ill-health or the death of human beings
Pollution Control and Waste Management Bill (draft document)	♦ Not in force yet ♦ Provides for prevention and control of pollution and waste ♦ Provides for procedures to be followed for licence applications
Road Traffic and Transport Act Act No. 52 of 1999 Government Notice No 282 of 1999	♦ Provides for the control of traffic on public roads and the regulations pertaining to road transport
Road Traffic and Transport Regulations Government Notice No 53 of 2001	♦ Prohibits the transport of goods which are not safely contained within the body of the vehicle; or securely fastened to that vehicle, and which are not properly protected from being dislodged or spilled from that vehicle

Table 6-2 Municipal by-laws, guidelines and regulations

Municipal By-laws, Guidelines or Regulations	Key Aspects
Groundwater Protection Regulations	♦ Provides for the protection of groundwater, landscape and vegetation sensitivity ♦ Requires an EIA and EMP for projects that may potentially impact on groundwater ♦ Identifies three groundwater control zones: medium, high and very high
Windhoek Environmental Structure Plan and Environmental Policy	♦ Integrates spatial planning decision-making, environmental planning and environmental impact management
Town Planning Scheme	♦ Enables the comprehensive management of all property and related public sector functions across the city ♦ Provides for the protection of groundwater and the environment
City of Windhoek's Policy Towards Sustainable Sand Mining	♦ Regulates sand mining activities and procedures and promote sustainable practices ♦ Provides guidelines for the application and renewal of ECC's ♦ Allows for monitoring plans to be set in place, to evaluate long term effects of sand mining

Table 6-3 Relevant multilateral environmental agreements for Namibia related to sand mining

Agreement	Key Aspects
Stockholm Declaration on the Human Environment, Stockholm 1972.	♦ Recognizes the need for a common outlook and common principles to inspire and guide the people of the world in the preservation and enhancement of the human environment
1985 Vienna Convention for the Protection of the Ozone Layer	♦ Aims to protect human health and the environment against adverse effects from modification of the Ozone Layer are considered ♦ Adopted to regulate levels of greenhouse gas concentration in the atmosphere
United Nations Framework Convention on Climate Change (UNFCCC)	♦ The Convention recognises that developing countries should be accorded appropriate assistance to enable them to fulfil the terms of the Convention
Convention on Biological Diversity, Rio de Janeiro, 1992	♦ Under article 14 of The Convention, EIAs must be conducted for projects that may negatively affect biological diversity

Quarrying and related activities that are listed as activities requiring an environmental clearance certificate are (Government Notice No. 29 of 2012):

Mining and Quarrying Activities

3.2. Other forms of mining or extraction of any natural resource whether regulated by a law or not – Sand is considered a natural resource.

3.3. Resource extraction, manipulation, conservation and related activities. – Sand is being extracted/mined.

To protect the environment and achieve sustainable development, all projects, plans and programmes deemed to have adverse impacts on the environment require an ECC, as per the Namibian legislation (which lists specific activities which need to apply for an ECC).

- National Development Plans
- Harambee Prosperity Plan

The Harambee Prosperity Plan (HPP) is a targeted action plan to accelerate development in clearly defined priority areas, which lay the basis for attaining prosperity in Namibia. The plan does not replace, but complements the long-term goals of the various National Development Plans (NDPs) and Vision 2030. The rationale behind the HPP is to introduce an element of flexibility in the Namibian planning system by fast tracking development in areas where progress is insufficient. It also incorporates new development opportunities and aims to address challenges that have emerged after the formulation of NDPs. As such the proposed operations create opportunities to contribute to the Plan's economic advancement and its fourth target as per economic transformation which aims at creating new jobs for the construction and the manufacturing sectors.

The project is in line with Vision 2030 which sees the Development of Namibia towards an industrialised country. Regulated sand mining, being conducted as per a certified environmental management plan, will contribute to the building and construction industry which is responsible for not only further infrastructure development and housing within Namibia, but sustains various jobs. Such possible advantages should however be underpinned by integrated and sustainable management of sand resources and the environment.

7 ENVIRONMENTAL CHARACTERISTICS

This section lists the most important environmental characteristics of the study area and provides a statement on the potential environmental impacts on each.

7.1 Locality and Surrounding Land Use

Sand mining activities will be in the Schaaf River, located on Farm Neu Brack FMK 00454 (22. 77764 °S 17.442211 °E) situated between Windhoek and Dordabis on the C23. The farm falls within the municipal boundaries of the City of Windhoek. The closest minable resource is located approximately 2.46 km upstream of the bridge at the C23 road. Adjacent properties are farms largely associated with agriculture activities. The adjacent farms are listed in Table 7-1.

Table 7-1 Adjacent farms

Farm Number	Direction from Neu Brack FMK 00454	Farm Name and Number
1	North	Brack FMK/00083/00004
2	North	Waldburg FMK/00082
3	North East	Elisenhohe FMK/00088
4	South East	Rietfontein FMK/00415
5	South West	Binsenheim DMK/00453

Implications and Impacts

The mine is situated on commercial, privately owned farmland. The owner of the farm will be the operator of the sand mine.

30 Ton tipper trucks may impact the road surface of the C23 road, specifically at the junction to this road. No mining activities are allowed within 200 m of any bridge structure. Impacts on groundwater which supply surrounding and downstream users will be discussed as per the geology and hydrogeology description.

7.2 Climate

According to the Köppen-Geiger Climate Classification system the project is located in a hot semi-arid climate (BSh) (http://koeppen-geiger.vu-wien.ac.at/present.htm). This means that the area receives precipitation below potential evapotranspiration, but not as low as a desert climate, and, has a mean annual temperature of at least 18°C. Average rainfall received is 300-350 mm/a with a variation of 30-40%. Monthly rainfall usually peaks in February. The potential evapotranspiration rate is 2,500 – 2,600 mm/a. By dividing the mean annual potential evapotranspiration into the mean annual precipitation, an aridity index value for the area was computed as 0.12, which indicates the area to be arid. The average annual minimum temperature is 4-6 °C, while the average annual maximum temperature is 30-32 °C, with an average annual temperature range of 26-28 °C. An average diurnal temperature (difference between daily minimum and maximum temperature) for this area is around 16-18 °C. Direct normal solar irradiance for the area is 7.753 kWh/m²/day. Figure 7-1 indicates wind data that has been generated via satellite data and has not been generated on site. Localised conditions may see wind patterns being slightly altered by localised topography, especially in the Schaaf River. Wind is generally blowing from North-North-West (NNW) and from the North (N).

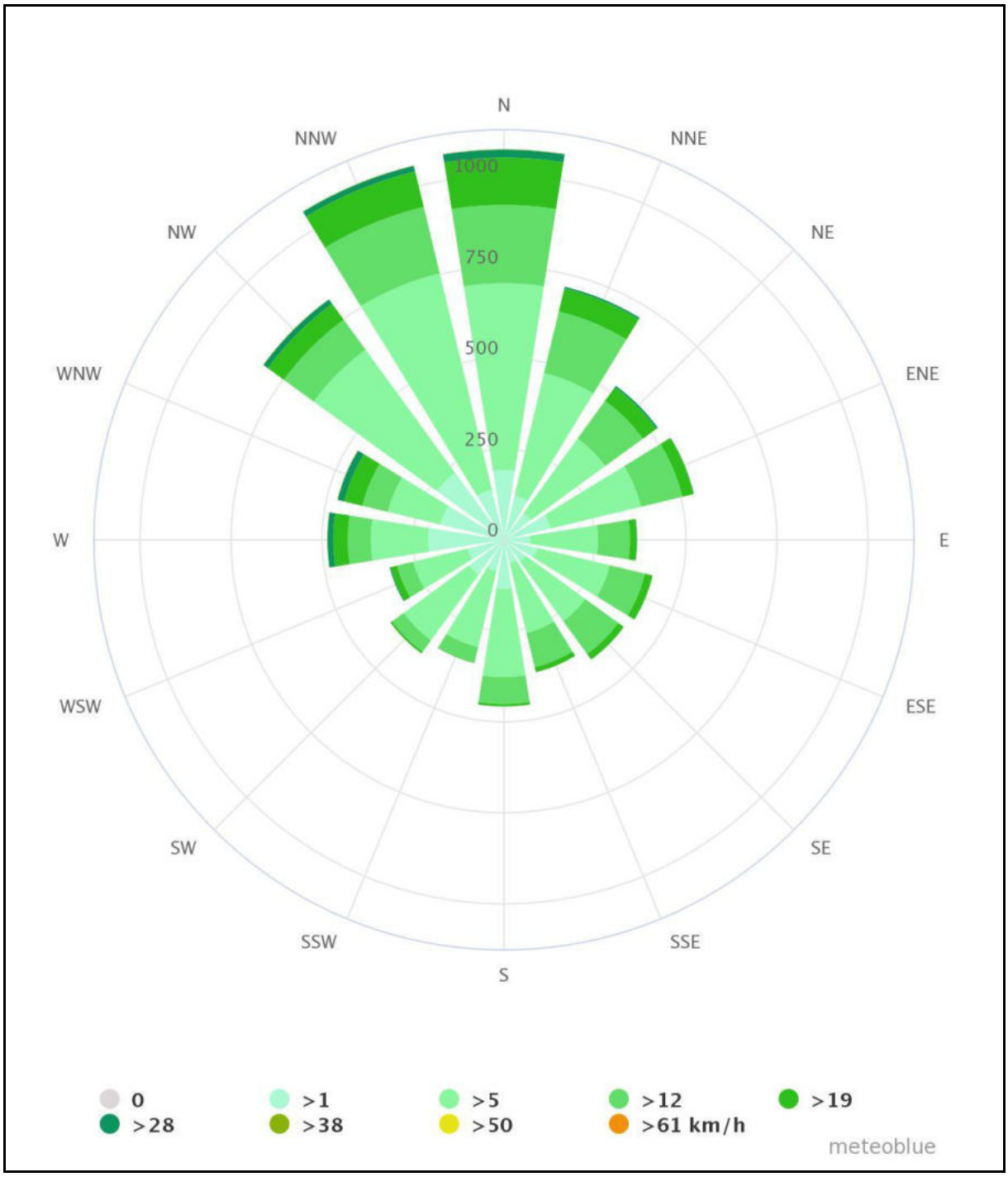


Figure 7-1 Average wind speed and direction (https://www.meteoblue.com)

Long term precipitation data was obtained from the CHIRPS-2 database (Funk et al., 2015). The CHIRPS-2 dataset (Climate Hazards Group Infra-Red Precipitation with Station data version 2) consist of long term rainfall data (1981 to near-present) obtained from satellite imagery and in-situ station data and therefore represents more recent data. Data is averaged over an area of roughly 5 km by 5 km. This averaging effect should be kept in mind during data analyses as high rainfall from single thunder storm cells would be averaged out, thereby providing a reduced daily maximum rainfall value. The average annual precipitation for the last 41 years was calculated as 319 mm/a, with a coefficient of variance of 35%. Heavier precipitation (single day events) occur between January and February, with a single event of 63 mm in January (last 41 years data) being the highest total. Daily and seasonal precipitation data (Funk et al., 2015) is presented in Table 7-2 Rainfall statistics based on CHIRPS-2 data (Funk et al., 2015)Table 7-2 and in Figure 7-2. Seasonal (July to June) total precipitation, centred on the average line for

the last 41 years, is presented, with the daily total precipitation and the seasonal cumulative precipitation. From Figure 7-2 it is clear that 7 out of the last 10 seasons were below average.

Monthly temperature data was retrieved from the Modern-Era Retrospective analysis for Research and Applications version 2 (MERRA-2) data set for a height of 2 m above surface (Ronald Gelaro, et al., 2017). This data set is a NASA atmospheric reanalysis, incorporating satellite data integration and aims at historical climate analyses at 0.5° x 0.625° spatial resolution. Table 7-3 presents statistics of daily data abstracted from the data set for the last 41 years. Lowest temperature (-5.86 °C) over the data period was recorded in July, with on average three days in July being below freezing point. A maximum temperature of the data period of 39.19 °C was measured in January.

Table 7-2 Rainfall statistics based on CHIRPS-2 data (Funk et al., 2015)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Minimum (mm)	8	14	9	9	0	0	0	0	0	0	6	6
Maximum (mm)	226	223	149	177	8	3	0	1	7	40	72	102
Average (mm)	69	82	60	42	1	0	0	0	1	9	22	33
Variability (%)	72	63	55	86	195	305	379	338	174	101	70	70
Daily maximum (mm)	63	49	43	50	7	3	0	1	5	16	21	21
Average rain days	7	8	5	3	0	0	0	0	1	2	4	5

Season July - June average: 319 mm | Season coefficient of variation: 35 %
Date range: 1981-July-1 to 2022-June-30 | Lat: 22.77764°S; Long: 17.44221°E

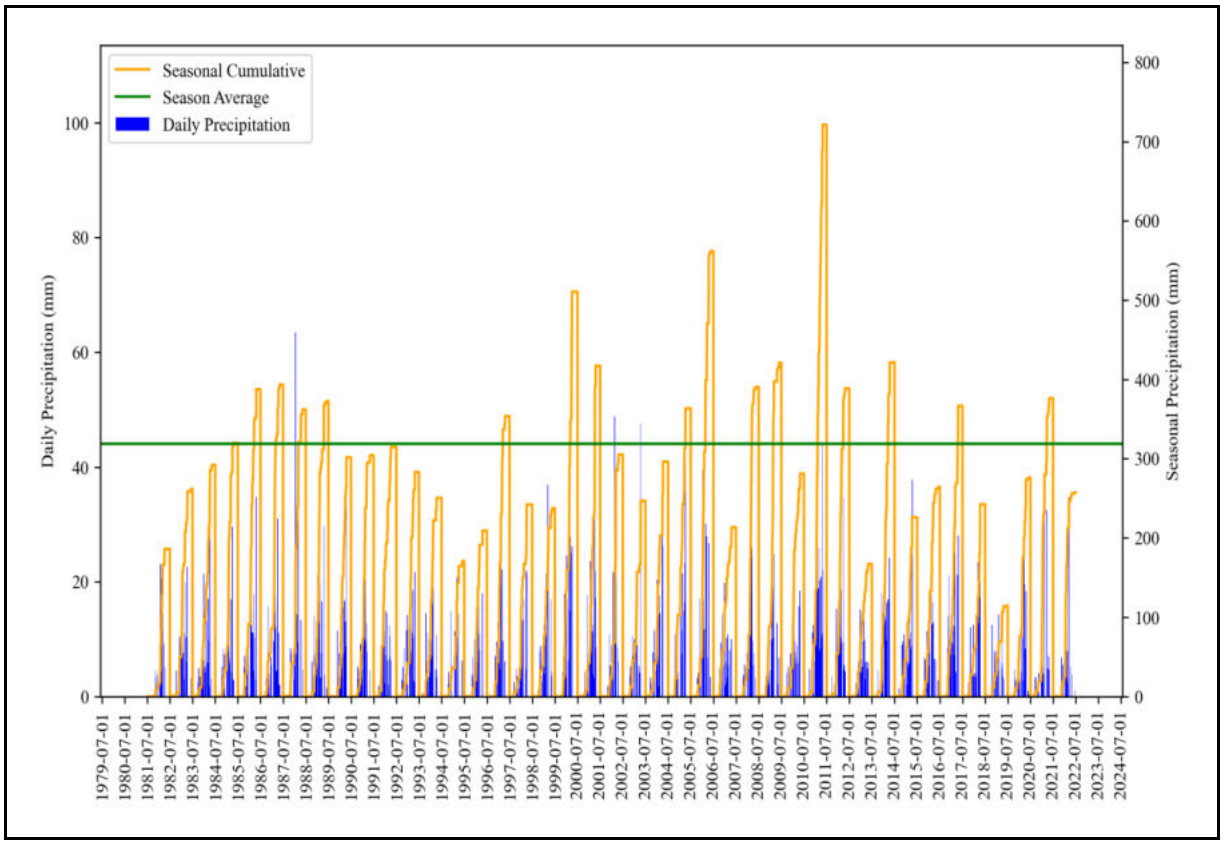


Figure 7-2 Daily and seasonal rainfall from CHIRPS-2 data (Funk et al., 2015)

Table 7-3 Temperature statistics based on Merra-2 data (Ronald Gelaro, et al., 2017)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Minimum (°C)	6	9	4	2	-2	-4	-6	-4	-1	1	3	8
Maximum (°C)	39	39	38	34	32	28	29	32	36	38	38	39
Average (°C)	25	24	23	20	17	14	14	16	20	23	24	25
Diurnal (°C)	15	14	15	15	16	17	17	19	19	18	18	17
Average days < 0°C)	0	0	0	0	0	2	3	1	0	0	0	0

Implications and Impacts

Rainfall events are typically thunderstorms with heavy rainfall that can occur in short periods of time (cloud bursts). High intensity and erratic rainfall events may influence river flow and related channel shaping processes such as erosion and deposition. All personnel should be made aware of this risk and trained to deal with such an eventuality. Rainfall events may result in the leaching of pollutants or hazardous substances into groundwater. Soil and water pollution should be prevented. Mining operations to be conducted mainly during the dry season when the river is not flowing. Should mining be conducted during low flow periods a buffer area should be maintained between the water and operational areas. Additional stockpiled material should be maintained before the rainy season as to supply sand during periods when the river may not be accessible.

Wind may carry dust and noise to nearby receptors however the probability is very low that any receptors will be impacted since the sand mine is located more than 2 km from any adjacent properties. Dust and noise could impact employees while preforming duties at the sand mine.

7.3 Topography and Drainage

The project falls within the Khomas Hochland Plateau region, which is defined by a ridge of rolling hills and deep valleys, the weathering product of a mountain chain that formed as a result of the collision of continents.

The site is located in the lower reaches of the Schaaf River an ephemeral river draining in the eastern direction with a dendritic drainage pattern (Figure 7-3) and falls with the Auob River Catchment. Although the local Schaaf River falls within the Auob River it does not contribute to the flow of the Auob River. The upstream parts of the Schaaf River are considered to be particularly active. However, the entire river disappears between a series of pans between Kalkrand and Hoachanas as they join the arid Kalahari. Ground surface elevation falls between 1,600-1,700 m above sea level.

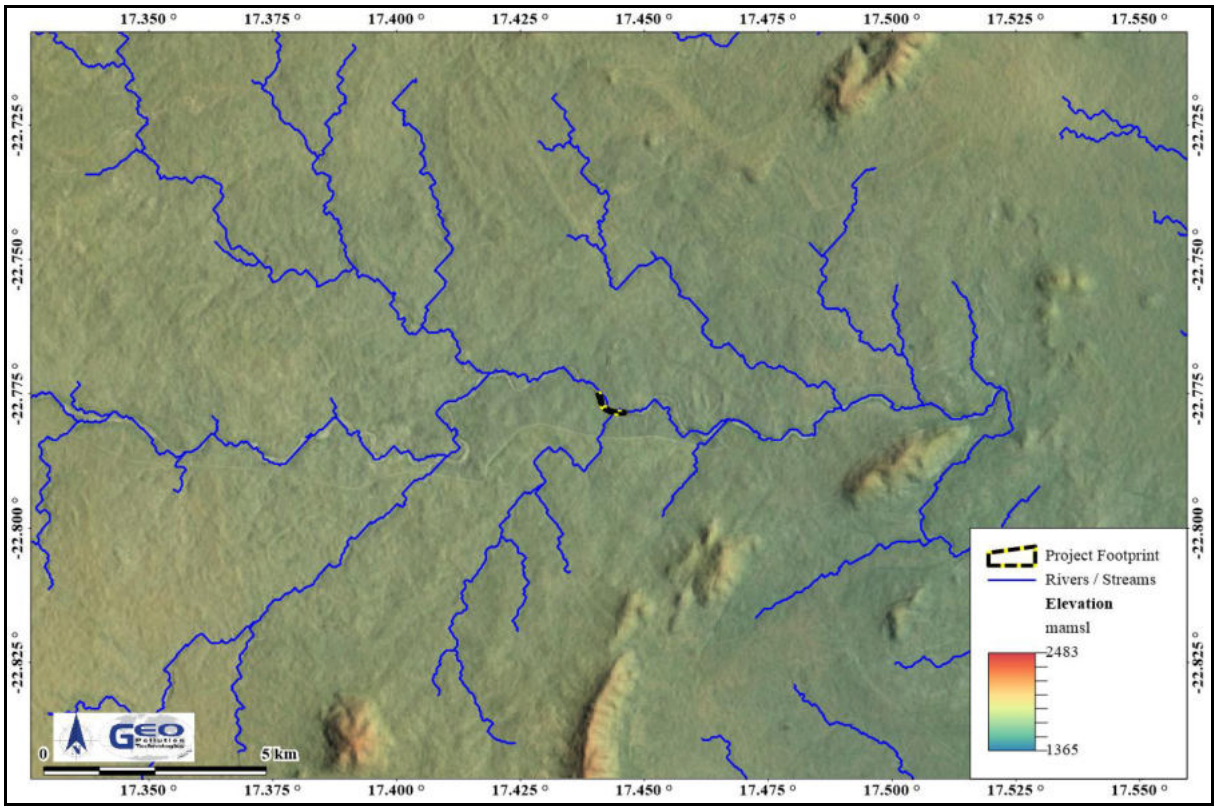


Figure 7-3 Surface drainage area for the sand mine.

Implications and Impacts

Removing large sand deposits within the river may influence the river geometry and result in an altered sand deposition pattern. Change may further impact the flow pattern and floodplain of the river.

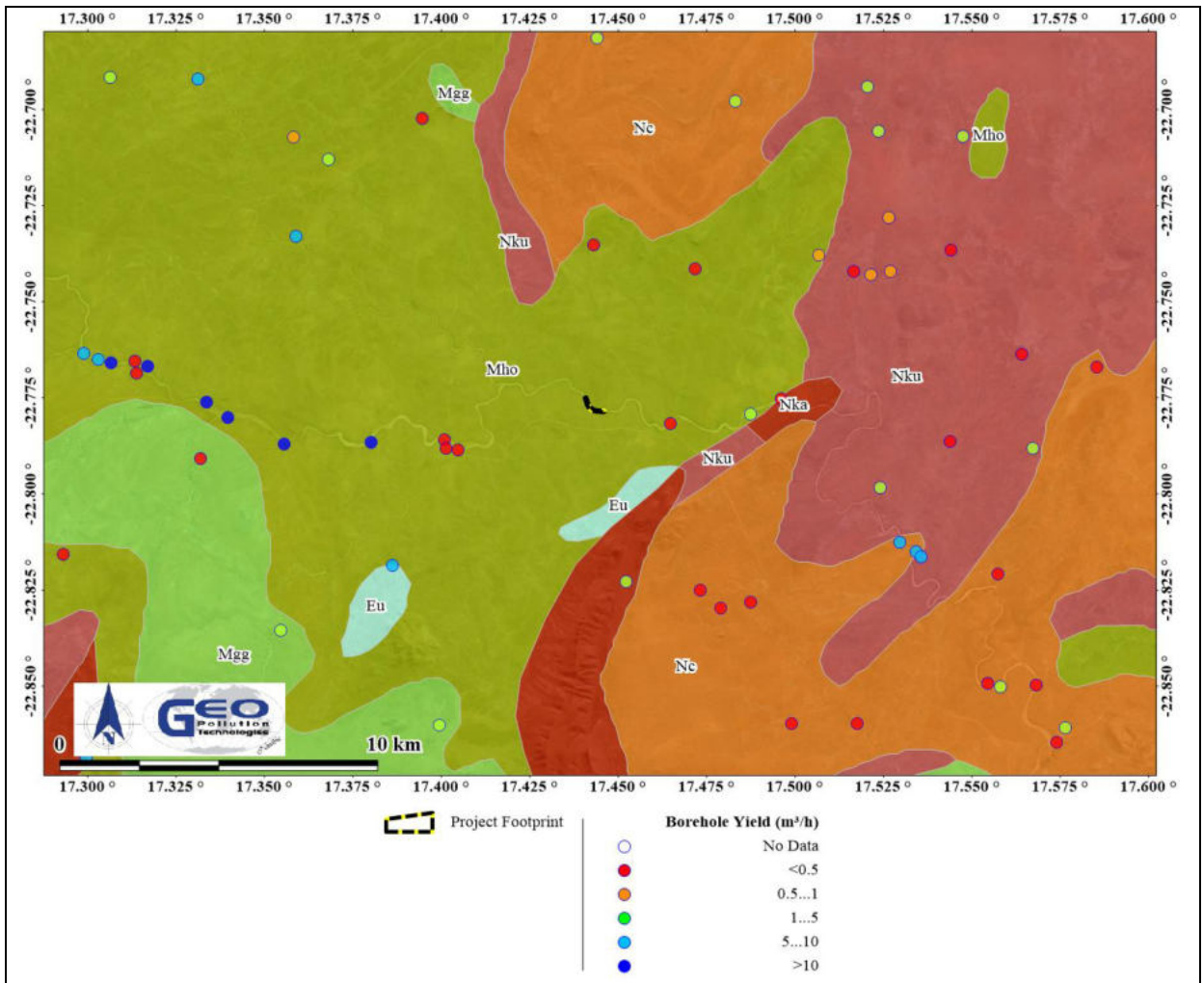
Surface water runoff can act as a transport medium for pollutants or hazardous substances to receptors downstream of the mine. Servicing of vehicles may not occur at the sand mine. Any pollutants or contaminated soil must be removed from site and disposed of in an appropriate manner.

7.4 Geology and Hydrogeology

The dominant soil type for this area is Eutric Cambisol which refers to the young soil group that shows the first signs of differentiating into distinct horizons. These soils typically form in newly exposed or deposited colluvial, alluvial and aelion materials, or where aridity has slowed down soil formation. The geology of the area mainly consist of rocks and deposits from the Mokolian Age. The Mokolian Age geology of the area comprise of the Hohewarte complex. Lithology include para-/orthogneiss, metasedimentary rocks, granite and metabasite dykes (see Figure 7-4).

Table 7-4 presents groundwater statistics for 7 boreholes in a 5 km radius around the project. The groundwater information was obtained from Department of Water Affairs (DWA) borehole database. This database is generally outdated and more boreholes may be present. The average water level as indicated in Table 7-4 is 69 m below surface. This value is skewed due to the presence of shallow groundwater in the Schaaf River. At the project site groundwater is expected to be encountered about 2 m below surface.

According to the Ministry of Agriculture, Water and Forestry (MAWF, 2006) the project is located inside the Windhoek-Gobabis Subterranean Water Control Area (Extension). This is set forth in the Government Notice 47 of 26 March 1976.



LITHCODE	AGE	SEQUENCE	GROUP	SUBGROUP	FORMATION	COMPLEX	SUITE	ROCKTYPES
Eu	Cambrian							Serpentinite, chlorite schist, talc schist
Mgg	Mokolian						Gamsberg	Granite
Mho	Mokolian					Hohewarte		Para-/orthogneiss, metasedimentary rocks, granite, metabasite dykes
Nc	Namibian	Damara	Swakop/Otavi	Khomas/Tsumeb	Chuos			Mixtite, minor schist, shale, quartzite, iron-formation, ortho-amphibolite, graphitic schist
Nka	Namibian	Damara	Nosib		Kamtsas			Quartzite, conglomerate, schist, marble
Nku	Namibian	Damara	Swakop	Kudis				Marble, schist, quartzite, graphitic schist

Figure 7-4 Geology

Table 7-4 Groundwater statistics

	Depth (m)	Yield (m^3/h)	Waterlevel (m)	Waterstrike (m)	TDS (ppm)	SO_4 (ppm)	NO_3 (ppm)	F (ppm)
Datapoints	3	2	1	7	4	4	2	4
Minimum	3	0	15	0	175	9	0.6	0.2
Average	69	2	15	0	284	14.0	4.0	0.4
Maximum	130	3	15	0	543	21	7.4	0.9
Group A	***0-50***	***>10***	***0-10***	***0-10***	***0-1000***	***0-200***	***0-10***	***0-1.5***
	1	0	0	7	4	4	2	4
Group B	***50-100***	***5-10***	***10-50***	***10-50***	***1000-1500***	***200-600***	***10-20***	***1.5-2.0***
	1	0	1	0	0	0	0	0
Group C	***100-200***	***0.5-5***	***50-100***	***50-100***	***1500-2000***	***600-1200***	***20-40***	***2.0-3.0***
	1	1	0	0	0	0	0	0
Group D	***>200***	***0-0.5***	***>100***	***>100***	***>2000***	***>1200***	***>40***	***>3***
	0	1	0	0	0	0	0	0

7 boreholes in a 5.0 km radius from 22.77764°S 17.44221°E

Statistical grouping of parameters is for ease of interpretation, except for the grouping used for sulphate, nitrate and fluoride, which follow the Namibian guidelines for the evaluation of drinking-water quality for human consumption, with regard to chemical, physical and bacteriological quality. In this case the groupings has the following meaning:

Group A: Water with an excellent quality
Group B: Water with acceptable quality
Group C: Water with low health risk
Group D: Water with a high health risk, or water unsuitable for human consumption.

Implications and Impacts

Groundwater is utilised in the area and such users would be at risk if pollution of the groundwater takes place. Permeable soil and shallow groundwater levels makes the groundwater vulnerable to pollution.

Exposure of groundwater will increase the evaporation of water, resulting in a build-up of salt in the soil and subsequent salinization of the groundwater.

7.5 Public Water Supply

Water supply of surrounding properties is supplied from boreholes operated by the respective property owners in the area. No formal bulk groundwater abstraction scheme is present nearby.

Implications and Impacts

Public water supply may be impacted if groundwater contamination takes place. Special care must be taken during the operations of the sand mine to prevent such contamination or salinization of the groundwater.

7.6 Fauna and Flora

This region is located in the Acacia Savanna biome. The riverine vegetation surrounding the mining area are typically characterized by *Schmidtia kalahariensis* (Bushman grass) *Acaciaerioloba* (Camel-thorn) The Acacia Savanna biome hosts up to 257 plant species with 25-30 % of the area being covered by woody plants and with bushes and shrubs being the main vegetation that covers the surrounding area.

Kudu, water buck, warthog, baboon, jackal, and leopard are some of the large species that can be found close to the project site. Additionally present in the area are hares, aardvarks, pangolins, porcupines, honey badgers, mongooses, rock hyraxes, ground squirrels and small antelope like duiker, klipspringer, or steenbok, as well as smaller cats like caracal. A number of bird and reptile species occur in the surrounding areas. Animals present in the area will mostly be found outside of the riverbed in vegetated areas where they have shelter and food.

Implications and Impacts

A zone of protection based on consultation with various ecology specialists and the Directory of Forestry was developed for mining areas. These areas, typically surrounding sensitive or vulnerable vegetation should not be infringed on through sand mining activities. Vegetation being removed is mainly limited to some annual grasses and small herbaceous plants. If trees have to be removed it must be ascertained that they are not protected by forestry legislation and if they are, all necessary permits from the Ministry of Agriculture, Water and Forestry must be obtained.

No breeding sites for any significant fauna species could be detected on the various sand deposit areas during the site visit. Caution should be taken when employees lift engine caps for e.g. snakes seeking warmth in the engine caps during colder days.

7.7 Demographic Characteristics

The project is located within the Khomas Region, falls under the Windhoek Rural Constituency The total population for this constituency is 22,254 of which 12,087 are male and 10,167 are female. The constituency has a density of 0.6 people/km² and a literacy rate of 88% with an employment rate of 59%. (National Planning Commission, 2012).

Implications and Impacts

Unemployment and poverty in the Khomas Regions is relatively high. The sand mine plays a role in providing employment to people from the area and sustains the construction industry in the region which provides employment to thousands of people.

8 PUBLIC CONSULTATION

Consultation with the public forms an integral component of an environmental assessment investigation and enables interested and affected parties (IAPs) e.g. neighbouring landowners, local authorities, environmental groups, civic associations and communities, to comment on the potential environmental impacts associated with project and to identify additional issues which they feel should be addressed in the environmental assessment.

Public participation notices were advertised for two weeks in two national newspapers namely the Republikein and Namibian Sun on the 16 and 23 August 2023. A site notice was placed at the entrance to the sand mine from C23. Interested and affected parties were identified and notified of the project. Notification letters were emailed to neighbours. See Appendix A for proof of the public participation processes. No concerns regarding the project were raised during the public consultation phase.

9 MAJOR IDENTIFIED IMPACTS

Various impacts are associated with sand mining activities and the majority of these have been listed in Table 9-1. Impacts which are of the greatest concern relate to the possible change in the Schaaf River morphology and possible vegetation / habitat and groundwater compromises.

Although no pits have been created by current mining operations, sand mining can transform the riverbed to have large and deep pits (when conducted in a haphazard manner); resulting in turbulent flow around these areas, potentially eroding surrounding features. These areas may form pits which further pose a health and incident (drowning) risk to surrounding communities.

Figure 9-1 provides a simplified schematic representation of how turbidity may be caused by impeding piles.

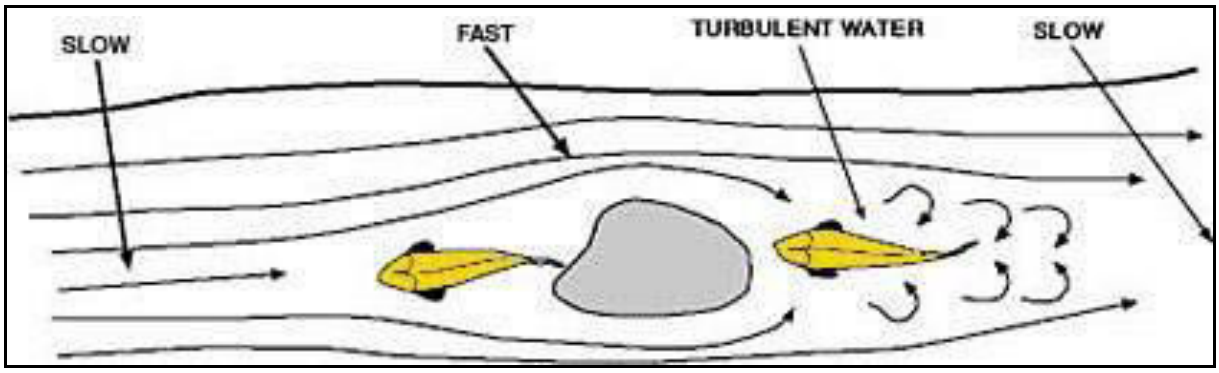
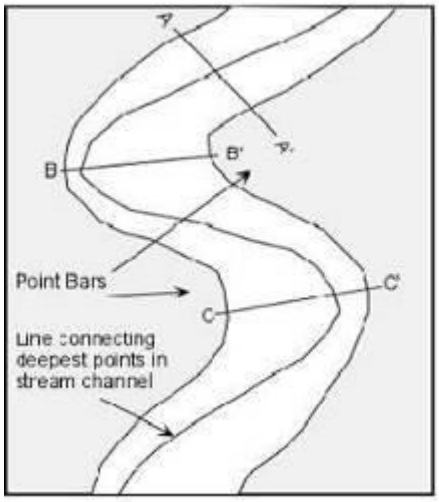


Figure 9-1 Schematic representation of turbidity.

Change in the river channel (widening of the active river channel) from instream mining can further lower the elevation of streamflow. Such mining is being conducted at the current operations.

Flow velocities are, amongst various factors also determined by the shape of a river. Current operations have a typical flow regime similar to "B" as depicted in Figure 9-2 below, while future operations may be regarded as "A". How water typically flows (and erodes) as per flow regime" C" is presented in Figure 9-3. It is expected that by removing the sand deposits, the river will be widened in these areas with a lower velocity. There are however a number of factors which will still determine the river flow regime as the impact of cumulative upstream sand mining activities which will most likely further contribute to an altered flow regime.

It should be noted that the impact on river flow will be higher on smaller flood events, compared to larger flood events. Even strip mining across the deposits (bar-skimming) should be conducted as opposed to haphazard mining techniques.



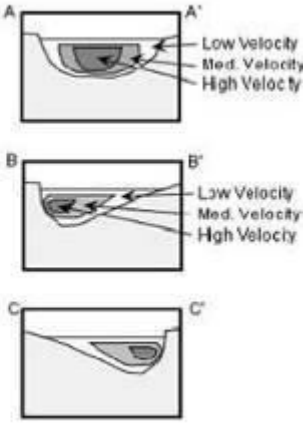


Figure 9-2 River morphology

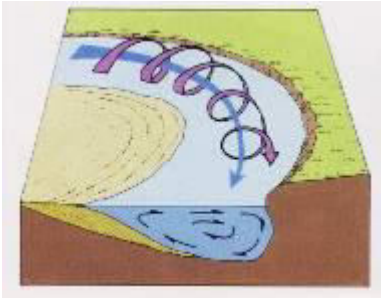


Figure 9-3 Typical stream flow

All material not used, should be evened out across the riverbed once mining has been completed. No piles of material should be left within the active river channel. All tree species which might have established on minable sand deposits are further required to be left intact with a buffer zone of two and a half times the width of its canopy and the soil should be sloped at an angle of less than 35 ° from the mined area to the base of the tree. In other words, if the radius of the canopy is 1 m, the buffer zone should be 2.5 m. Where absolutely necessary, the Proponent may apply for a permit to remove selected trees. Such a permit may further be required for any other sensitive plant species.

Table 9-1 Possible impacts associated with mining activities

ACTIVITY	DESCRIPTION	SENSITIVITY	POTENTIAL IMPACT
Excavating sand from riverbed with frontend loader and loading on tipper truck	Change in river morphology. This include the width of the active channel as well as the gradient of the riverbed.	Erosion	Changes in channel morphology can increase erosion of the river with an increase in sediment load during floods.
		Groundwater	Lower flow velocities due to wider channel and reduced river bed gradient will increase the infiltration time.
	Removal of vegetation (protected and invasive species).	Fauna and Flora	♦ Impacts on bird nests. ♦ Ecosystem functioning. ♦ Loss of habitat ♦ Protected plant species
		Erosion	Removal of vegetation will increase the risk of erosion as the anchoring effect offered by plants are lost.
	Exposure of groundwater.	Groundwater	Increased evaporation of water may cause salinization of groundwater and soil.
	Creating ponds and pools of flood water which may be used by animals and employees on the farm.	Animals and employees.	Increased risk of health and safety to the animals and employees (drowning).
	Spillage of fuel, lubrication oil or hydraulic oils.	Surface and groundwater	Surface and groundwater pollution.
	Noise	Noise	Nuisance and health impact on workers.
	Dust	Air Quality	Nuisance and health impact on workers.
	Transportation to markets may increase road degradation and increase collision risk.	Traffic	Increased collision risk. Road degradation of the C23 road as more frequent heavy loads stress the road surface and base especially at the access point to the road. Particulate fly-off from uncovered loads may increase collision and incident risks.
Transport of sand to markets.	Sand from operations are used in the construction industry: Providing affordable material to the local community.	Windhoek community	♦ Positive contribution to the town economy and development ♦ Increased economic resilience Aspiration towards the future
Sand Supply	Providing job opportunities	Socio-economic	♦ Positive contribution. ♦ Increase economic resilience
Employment	Waste from employees	Waste	♦ Domestic waste and toilet effluent must be properly managed.
	Poaching and gathering of firewood.	Fauna and flora	No poaching and wood gathering is allowed. Employees only allowed at work areas.

10 ASSESSMENT AND MANGEMENT OF IMPACTS

The purpose of this section is to assess and identify the most pertinent environmental impacts that are expected from the operational and potential decommissioning activities of the sand mine. An EMP based on these identified impacts are also incorporated into this section.

For each impact an Environmental Classification was determined based on an adapted version of the Rapid Impact Assessment Method (Pastakia, 1998). Impacts are assessed according to the following categories: Importance of condition (A1); Magnitude of Change (A2); Permanence (B1); Reversibility (B2); and Cumulative Nature (B3) (see Table 10-1). Ranking formulas are then calculated as follow:

Environmental Classification = A1 x A2 x (B1 + B2 + B3).

The environmental classification of impacts is provided in Table 10-2.

The probability ranking refers to the probability that a specific impact will happen following a risk event. These can be improbable (low likelihood); probable (distinct possibility); highly probable (most likely); and definite (impact will occur regardless of prevention measures).

Table 10-1 Assessment criteria

Criteria	Score
Importance of condition (A1) – assessed against the spatial boundaries of human interest it will affect	
Importance to national/international interest	4
Important to regional/national interest	3
Important to areas immediately outside the local condition	2
Important only to the local condition	1
No importance	0
Magnitude of change/effect (A2) – measure of scale in terms of benefit / disbenefit of an impact or condition	
Major positive benefit	3
Significant improvement in status quo	2
Improvement in status quo	1
No change in status quo	0
Negative change in status quo	-1
Significant negative disbenefit or change	-2
Major disbenefit or change	-3
Permanence (B1) – defines whether the condition is permanent or temporary	
No change/Not applicable	1
Temporary	2
Permanent	3
Reversibility (B2) – defines whether the condition can be changed and is a measure of the control over the condition	
No change/Not applicable	1
Reversible	2
Irreversible	3
Cumulative (B3) – reflects whether the effect will be a single direct impact or will include cumulative impacts over time, or synergistic effect with other conditions. It is a means of judging the sustainability of the condition – not to be confused with the permanence criterion.	
Light or No Cumulative Character/Not applicable	1
Moderate Cumulative Character	2
Strong Cumulative Character	3

Table 10-2 Environmental classification (Pastakia 1998)

Environmental Classification	Class Value	Description of Class
72 to 108	5	Extremely positive impact
36 to 71	4	Significantly positive impact
19 to 35	3	Moderately positive impact
10 to 18	2	Less positive impact
1 to 9	1	Reduced positive impact
0	-0	No alteration
-1 to -9	-1	Reduced negative impact
-10 to -18	-2	Less negative impact
-19 to -35	-3	Moderately negative impact
-36 to -71	-4	Significantly negative impact
-72 to -108	-5	Extremely Negative Impact

10.1 Risk assessment and Environmental Management Plan

The EMP provides management options to ensure impacts of the sand mine is minimised. An EMP is a tool used to take pro-active action by addressing potential problems before they occur. This should limit the corrective measures needed, although additional mitigation measures might be included if necessary. The environmental management measures are provided in the tables and descriptions below. These management measures should be adhered to during the various phases of the operation of the sand mine. This section of the report can act as a stand-alone document. All personnel taking part in the operations of the sand mine should be made aware of the contents in this section, so as to plan the operations accordingly and in an environmentally sound manner.

The objectives of the EMP are:

- to include all components of the operation of the sand mine;
- to prescribe the best practicable control methods to lessen the environmental impacts associated with the sand mine;
- to monitor and audit the performance of operational personnel in applying such controls; and
- to ensure that appropriate environmental training is provided to responsible operational personnel.

Various potential and definite impacts will emanate from the operations, and decommissioning phases. The majority of these impacts can be mitigated or prevented. The impacts, risk rating of impacts, as well as prevention and mitigation measures are listed below.

As depicted in the tables below, impacts related to the operational phase are expected to mostly be of low to medium significance and can mostly be mitigated to have a low significance. The extent of impacts are mostly site specific to local and are not of a permanent nature. Due to the nature of the surrounding areas, cumulative impacts are possible and include water pollution and traffic impacts.

10.1.1 Planning Phase

During the phases of planning for operations and decommissioning of the sand mine, it is the responsibility of Proponent to ensure they are and remain compliant with all legal requirements. The Proponent must also ensure that all required management measures are in place prior to and during all phases, to ensure potential impacts and risks are minimised. The following actions are recommended for the planning phase and should continue during various other phases of the project:

- Ensure that all necessary permits from the various ministries, local authorities and any other bodies that governs the operation of the sand mine are in place and valid.

- Ensure all appointed contractors and employees enter into an agreement which includes the EMP. Ensure that the contents of the EMP are understood by the contractors, sub-contractors, employees and all personnel present or who will be present on site.
- Make provisions to have a health, safety and environmental coordinator to implement the EMP and oversee occupational health and safety as well as general environmental related compliance at the site.
- Make provisions to have a community liaison officer contact details on site on case of an emergency who will handle complaints and community input, and through whom, where reasonable, monitoring data can be requested.
- Have the following emergency plans, equipment and personnel on site where reasonable to deal with all potential emergencies:
  - Risk management / mitigation / EMP/ emergency response plan and HSE Manuals;
  - Adequate protection and indemnity insurance cover for incidents;
  - Comply with the provisions of all relevant safety standards;
  - Procedures, equipment and materials required for emergencies.
- If one has not already been established, establish and maintain a fund for future ecological restoration of the project site should project activities cease and the site is decommissioned and environmental restoration or pollution remediation is required.
- Establish and / or maintain a reporting system to report on aspects of the operations and decommissioning as outlined in the EMP.
- Prepare and submit environmental monitoring reports as per the conditions of the environmental clearance certificate.
- Appoint a specialist environmental consultant to update the EIA and EMP and apply for renewal of the environmental clearance certificate prior to expiry.

10.1.2 Skills, Technology and Development

During various phases of the project, training will be provided to a portion of the workforce. Training will be conducted to enhance efficiency within different components of sand mining. Skills are further transferred to the unskilled workforce for general tasks. The proposed technology to be used is unique and new to the sand mining industry with its main aim to reduce risks to environmental damage. Improvement of people and technology are key to economic development as well as operational feasibility.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Employment, technological development and transfer of skills	2	1	2	3	2	14	2	Definite
Indirect Impacts	Transfer of skills and technological development	2	1	2	3	3	16	2	Definite

Desired Outcome: To see an increase in skills of local Namibians, as well as development and technology advancements in associated industries.

Actions

Enhancement:

- If the skills exist locally, contractors must first be sourced from the town, then the region and then nationally. Deviations from this practise must be justified.
- Skills development and improvement programs to be made available as identified during performance assessments.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Record should be kept of training provided.
- Ensure that all training is certified or managerial reference provided (proof provided to the employees) inclusive of training attendance, completion and implementation.
- Bi-annual summary report based on records kept.

10.1.3 Contribution to the Windhoek Economy

Operation of the sand mine results in a commodity which is being used in the brickmaking and construction industry in Windhoek. Capital was invested in the maintenance of excavation and transport vehicles along with various operational costs. Revenue is generated from the selling of the sand to the construction industry. On all revenue generated and employment provided, tax is paid to the National Government which is considered to be a cumulative, national, positive impact of a small scale. The indirect contribution to the sustainable employment of the construction industry has a much more significant impact on not only individual livelihoods, but also the construction industry as a whole.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Employment contribution to local economy	2	1	3	3	1	14	2	Definite
Indirect Impacts	Decrease in unemployment, contribution to local economy	3	1	3	3	3	27	3	Definite

Desired Outcome: Contribution to local and national treasury and provision of employment to the surrounding economy.

Actions

Enhancement:

- All capital investment as required for machinery and maintenance to be invested into local or regional Namibian business sector.
- The Proponent must employ local Namibians where possible.
- If the skills exist locally, employees must first be sourced from the town, then the region and then nationally.
- Deviations from this practice must be justified.
- Adherence to all Namibian law relating to revenue generation and employment generation.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Bi-annual summary report based on employee records.
- Financial auditing

10.1.4 Change in Land Use and Earning Potential

Change in land utilisation and related economic productivity will be initiated with the operational phase. The land use being conducted, will lead to revenue generation and contributed to the local, regional and national economy. The earning potential of the project area will be increased. Revenue generated from the area will be increased, not only by sand mining operations, but also in the value addition activities conducted off site (for the construction industry).

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Change and increase of earning potential and flow of revenue	3	2	2	2	1	30	3	Definite
Indirect Impacts	Increased economic resilience potential for state, private and industry parties	3	2	2	2	2	36	4	Probable

Desired Outcome: Development of earning potential of the area though diversification of revenue generating streams as well as sustain a stable earning potential for employees and industry.

Actions

Enhancement:

- The Proponent must employ local Namibians where possible.
- Investigate profitable post-closure land use possibilities

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Ensure all taxes and governmental levies (where required) are paid.
- All social security and related documentation kept on file.

10.1.5 Employees Health & Safety

Work hazards associated with the sand mine operations may present a threat to workers, should they not be properly trained or skilled for each required task. Suitably qualified persons should therefore be employed (or trained). Training and provision in the proficient use of personal protective equipment (PPE) should be signed off on. Additional risks pertinent to the environment include in the event of a flash flood and change meetings with wildlife such as baboons, snakes and scorpions (which are potentially dangerous).

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Physical injuries, exposure to chemicals and criminal activities	1	-2	3	3	2	-16	-2	Probable

Desired Outcome: To prevent injury, health impacts and theft.

Actions

Prevention:

- All health and safety standards specified in the Labour Act should be complied with.
- Provide all employees with required and adequate personal protective equipment (PPE). Training and provision in the proficient use of PPE should be signed off on.
- Ensure that all personnel receive adequate training on operation of equipment / handling of hazardous substances.
- Ensure all personnel are licensed to operate equipment.
- Selected personnel should be trained in first aid and a first aid kit must be available on site. The contact details of all emergency services must be readily available.
- Strict security that prevents unauthorised entry onto the farm.
- No alcohol or recreational drugs are allowed on site.
- No labourers under the influence of either alcohol or recreational drugs should be allowed to conduct any work.
- Employees should be made aware of possible wildlife encounters and what to do in such events. Procedures for environmental incidents such as flash floods should be provided to employees.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Any incidents must be recorded with action taken to prevent future occurrences.
- A bi-annual report should be compiled of all incidents reported. The report should contain dates when training were conducted and when safety equipment and structures were inspected and maintained

10.1.6 Traffic

One entrance is used to access the site. A slight increase in the possibility of accidents at the main road junction due to tipper trucks exist. Damage other to vehicles due to stones/sand falling from tipper trucks on main road.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Increase traffic, road wear and tear and accidents	1	-1	2	2	2	-6	-1	Probable

Desired Outcome: Minimum impact on traffic and no transport or traffic related incidents.

Actions

Prevention:

- Erect clear signage regarding access and exit points to the site. In collaboration with the Roads Authority, warning signs may also be erected on the main roads, warning traffic of HMV.
- A speed limit of 10 km/h should be maintained on any haulage roads between the site and the main roads.
- Only a single access point to the site be used at a time. Once mining is moved from an area, the access point should be rehabilitated.
- All contractors or employees driving heavy motor vehicles should have appropriate training and qualifications to operate such vehicles.
- All vehicles to be roadworthy and appropriately licensed.
- All long-haul shipments should have their loads covered with a suitable covering to prevent fly-off rocks, sand and debris.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Any complaints received regarding traffic issues should be recorded together with action taken to prevent impacts from repeating itself.
- A bi-annual report should be compiled of all incidents reported, complaints received, and action taken

10.1.7 Noise

Noise related to the mining operations is mainly associated with the operations of the earth moving equipment and trucks. Although very contradictory to the environmental character, it is not expected to be a cause of significant disturbance or noise pollution at current operations as well as planned future operations.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Noise generated from the operational activities – nuisance	1	-1	2	2	1	-5	-1	Probable

Desired Outcome: To prevent any nuisance and hearing loss due to noise generated.

Actions

Prevention:

- All machinery must be regularly serviced to ensure minimal noise production.
- Personnel working in noisy environments must be issued with hearing protectors.
- No mining operations to be conducted after dark, on Sundays or on public holidays.
- Follow the Health and Safety Regulations of the Labour Act and World Health Organization (WHO) guidelines on maximum noise levels (Guidelines for Community Noise, 1999) to prevent hearing impairment.
- The WHO limits noise levels to an average of 70 dB over a 24 hour period with maximum noise levels not exceeding 110 dB during the period in order to prevent hearing loss.
- Noise dampers to be fitted on machines where suitable and alternative signalling adopted where possible.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Health and Safety Regulations of the Labour Act and WHO Guidelines.
- Maintain a complaints register.
- Bi-annual report on complaints and actions taken to address complaints and prevent future occurrences

10.1.8 Fire

Operational activities may increase the risk of the occurrence of fires. Operation of mechanical and electrical machinery as well as fuel leaks will increases the risk of fire on site. Discarding of cigarette buds around vegetated areas, or in the vicinity of hazardous chemicals, further increases fire risks. However, no fuel, or large volumes of hydrocarbon material will be kept at the active sand mining sites. Operational areas will be devoid of most combustible material while operating machines will be removed from each other, thereby reducing the spread of potential fire which may occur. Similarly, operational activities are located away from electrical powerlines, as well as higher voltage power lines.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Fire risk	2	-2	2	2	1	-20	-3	Probable

Desired Outcome: To prevent property damage, veld fires, possible injury and impacts caused by uncontrolled fires.

Actions:

Prevention:

- Open fires should not be allowed at the site.
- Fire precautions and fire control must be present at the site.
- All personnel have to be sensitised about responsible fire protection measures.
- A holistic fire protection and prevention plan is needed. This plan must include an emergency response plan and firefighting plan.
- Ensure all chemicals, lubricants and flammable agents are stored according to Material Safety Data Sheet (MSDS) instructions.
- Maintain regular servicing and maintenance of the front-end loader to prevent break downs or oil leaks.
- Maintain regular site, mechanical and electrical inspections and maintenance.
- Fire-fighting training to be provided to staff.
- No smoking or open flames on site.
- Control mechanical sparks and friction and ensure mechanical parts are maintained and efficiently lubricated.
- Maintain firefighting equipment, good housekeeping and personnel training (firefighting, fire prevention and responsible housekeeping practices).

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- A register of all incidents must be maintained on a daily basis. This should include measures taken to ensure that such incidents do not repeat themselves.
- A bi-annual report should be compiled of all incidents reported. The report should contain dates when fire drills were conducted and when fire equipment was tested and training given

10.1.9 River Morphology

The removal of sand from the active river channel will have a definite effect on the river flow and morphology. Considering future other sand mining activities downstream of the Proponent's mining operations, it can reasonably be expected that the deposition of sand may be decreased and the mined out sand reserves will not be replaced at the same rate as prior to such operations. However as the active channel may be widened along proposed and current operational areas, deposition may be more frequent as flow velocities will be reduced and a greater amounts of loosened material be available. Such widening may result in braided flow and sedimentation. Bar skimming or systematic strip mining is not expected to result in pooling / ponding, however, such a risk remains and should be guarded against.

Apart from the impacts as listed below, by removing sand from the river systems, important roughness elements in the riverbed are also removed. Such elements are instrumental in the channel formation which include erosion and deposition processes. The size of operations are however of such a scale that it is not foreseen to be of significant importance.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Change in river morphology	2	-2	2	2	1	-20	-3	Probable

Desired Outcome: To protect all existing infrastructure components and the river banks against possible erosion and erosion cut-back.

Actions

Prevention:

- The excavation of sand may not take place within 200 metres upstream or downstream from any infrastructure developed river bank areas or bridges.
- Systematic strip mining of the sand deposits to be conducted. Limit in-stream mining methods to bar-skimming. Adopt a systematic approach at a specific depth and width to prevent new blockages being formed or holes being made.
- Removal of sand islands and sand banks within the riverbed or channel only. No sand mining to be conducted on the banks of the river, or in a manner which may divert or slow down the flow of water in the river during floods.
- All unused material to be uniformly levelled across the riverbed (not left in heaps around the site).
- Concentrate in-stream extraction activities to minimise area of disturbance. No mining to be conducted deeper than the original depth of the river.
- A buffer zone of sand to be retained next to the riverbed of at least 1.5 metres.
- The river bed must be kept as smooth as possible to reduce turbulent flow.
- Maintain river channel flood discharge capacity.
- Additional measures to determine where mining may be conducted include:
    - Parts of the river reaches that experience deposition or aggradation shall be identified first. Operators may be allowed to extract the sand deposit in these locations to lessen aggradation problem.
    - The distance between sites for sand mining shall depend on the replenishment rate of the river. Sediment rating curve for the potential sites shall be developed and checked against the extracted volumes of sand.
    - Layers of sand which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river
    - Sand shall not be allowed to be extracted where erosion may occur, such as at the outer banks of meandering rivers.

- Sand mining could be extracted from downstream of the sand bar at river bends. Retaining the upstream one to two thirds of the bar and riparian vegetation is accepted as a method to promote channel stability.
- Flood discharge capacity of the river could be maintained in areas where there are significant flood hazard to existing structures or infrastructure. Sand mining may be allowed to maintain the natural flow capacity based on surveyed cross-section history.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Continued mapping of mining area by recording GPS coordinates.

10.1.10 Groundwater Soil and Surface Water Contamination

Leakages from earthmoving vehicles and possible breakdowns resulting in accidental fuel, oil or hydraulic spills may cause contamination of the groundwater, soil or surface water (during rainfall, flood or water release events). Exposure of groundwater will increase the evaporation of water, resulting in a build-up of salt in the soil and subsequent salinization of the groundwater.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Contamination from hazardous material spillages and hydrocarbon pollution	2	-1	2	2	1	-10	-2	Probable

Desired Outcome: To prevent the contamination of water and soil.

Actions

Prevention:

- All vehicles must be serviced and maintained regularly.
- No servicing or maintenance of machines to be conducted within mining areas.
- Spill control by making use of drip trays if there is a need to repair machinery on site. All hydrocarbon based waste must be removed from site and disposed of at a recognised hazardous waste disposal facility.
- Hydrocarbon fuel spills to be remediated and significant spills to be logged on an incident register.
- Any polluted soil or water to be treated as a hazardous waste and polluted soil must be transported to an approved and appropriately classified waste disposal site.
- All machines, equipment and waste to be removed from mining areas prior to expected rainfall events.
- The procedures followed to prevent environmental damage during service and maintenance, and compliance with these procedures, must be audited and corrections made where necessary.
- Consult relevant MSDS information and a suitably qualified specialist where needed.
- Mining may not take place within 2 m of the groundwater level. It is important that water level monitoring be implemented to ensure that the level of mining takes seasonal water level fluctuation into consideration.
- Mined out quarries with stagnant water must be rehabilitated and overburden returned immediately after mining to prevent exposed, stagnant water.

Mitigation:

- All spills or any contamination within the quarry pit area to be cleaned immediately to prevent contamination of groundwater resources.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Maintain MSDS for hazardous chemicals.
- Report all spills or leaks to management and initiate clean-up immediately.
- Maintain a register of all incidents on a daily basis. This should include measures taken to ensure that such incidents do not repeat themselves.
- The total dissolved solid concentration of the groundwater must be tested every six months.

10.1.11 Ecosystem and Biodiversity Impacts

The nature of the operational activities is such that the probability of creating a habitat for flora and fauna to establish is low, apart for primary species establishment. Removing of sediment from the river, may change the localised habitat in some areas along the river. Pooling and sedimentation (and erosion) may result from mining operations. Disturbances may range from dust, noise, movement, vibration, lighting and poaching.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Impact on fauna and flora. Loss of biodiversity	3	-1	3	3	2	-24	-3	Improbable

Desired Outcome: To avoid pollution of, and additional impacts on, the ecological environment. To preserve large tree and protected plant species.

Actions.

Prevention:

- Mitigation measures related to waste handling and the prevention of groundwater, surface water and soil contamination should be adopted.
- All staff should be trained in identifying any sensitive plant species which may occur on site.
- All employees must be informed of the value of biodiversity. Rules and regulations regarding the illegal harvesting of natural resources from the surroundings must be made clear and the disciplinary steps that will be followed against perpetrators must be issued in writing and form part of the employees' contracts.
- Mining must be limited to the riverbed and sandbanks outside of the tree line. Soil should be sloped at an angle of less than 35 ° from the mined area to the base of the treeline (or any tree).
- Overburden (where applicable) must be stored in such a way as to prevent the unnecessary destruction of the environment surrounding the river (i.e. either in mined out areas or in areas still to be mined). The return of overburden to the mined out areas is essential in restoration of the areas.
- All mined out areas must immediately be rehabilitated and restored as close as possible to its original state.
- Excavation or mining may not expose the roots of the vegetation in any watercourse, especially native woody species.
- Prevent scavenging of waste by fauna.
- The establishment of habitats (by primary and invader species) at the mining site should be prevented. Regular clearing of invader species should be conducted to prevent spread of such species across the site and onto neighbouring properties.
- Any sighing of protected species should be documented.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Invader species eradication to be reported on.
- All information and reporting to be included in a bi-annual report.

10.1.12 Air Quality

Operations during the dry season are prone to generate greater volumes of dust. Although mostly contained in the river valley of the operational areas, the access road will have greater amounts of dust as used by haulage vehicles. All dust generated is not expected to impact any surrounding receptors as these are located far away from the expected fall-out. In addition, riparian vegetation may trap dust as generated in the riverbed. The impact is therefore considered to be very low, especially if further mitigation measures are employed.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Dust generation	1	-1	2	2	1	-5	-1	Probable

Desired Outcome: To prevent health impacts and minimise the dust generated. Minimise contributions to greenhouse gas emissions.

Actions

Mitigation:

- Personnel issued with appropriate masks where excessive dust or vapours are present.
- A complaints register should be kept for any dust related issues and mitigation steps taken to address complaints where necessary e.g. dust suppression.
- A complaints register should be kept for any dust related issues and mitigation steps taken to address complaints where necessary e.g. dust suppression.
- Vehicles and emission releasing machines to be kept in a good working condition and fitted, where possible with catalytic converters. Adoption of clean energy technologies where possible.

Responsible Body:

- Proponent
- Contractors

Data Sources and Monitoring:

- Any complaints received regarding dust or fuel vapours should be recorded with notes on action taken.
- All information and reporting to be included in a bi-annual report.

10.1.13 Waste Generation

No mining or process related waste will be generated by the sand mining operations. However, waste associated with maintenance and operation of the equipment used for mining may result in hazardous waste such as used oil and contaminated soil. Any other forms of domestic waste may related to human consumption and use. All such waste should be removed from the site daily as, if left in the river, may be transported downstream.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Excessive waste production, littering, contaminated materials	1	-2	2	2	2	-12	-2	Definite

Desired Outcome: To reduce the amount of waste produced, and prevent contamination, pollution and littering.

Actions

Prevention:

- Waste reduction measures should be implemented and all waste that can be re-used / recycled must be kept separate.
- Ensure adequate disposal and storage facilities are available.
- Waste collection points to be clearly demarcated and maintained.
- Temporary hazardous waste storage facilities (such as for old oil, rags, etc.), if any, should be on an impermeable layer.
- Ensure waste cannot be blown away by wind.
- Prevent scavenging (human and non-human) of waste.
- No dumping of waste should be allowed on site.
- Temporary ablution facilities should be erected on site.
- Staff to receive training on waste handling and the principles of reduce, reuse and recycle as well as hazardous waste.
- Solid waste should be disposed of regularly and at appropriately classified disposal facilities, this includes hazardous material (empty chemical containers, contaminated rugs, paper water and soil).
- See the MSDS available from suppliers for disposal of contaminated products and empty containers.
- Liaise with the municipality regarding waste and handling of hazardous waste where required.

Responsible Body:

- Proponent
- Contractors

Data Ssources and Monitoring:

- A register of hazardous waste disposal should be kept. This should include type of waste, volume as well as disposal method/facility.
- Any complaints received regarding waste should be recorded with notes on action taken.
- All information and reporting to be included in a bi-annual report.

10.1.14 Heritage Resources

During sand mining operations, there may be chance discoveries of archaeologically or culturally important artefacts which may have been washed down the river. The probability of such an occurrence is however very low and any find which may be discovered has a good probability of not being in its place of origin.

Project Activity / Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	The discovery /destruction of archaeologically, paleontological or culturally important sites.	1	-2	3	3	1	-14	-2	Improbable

Desired Outcome: To prevent the damage to, or destruction of, any archaeological, paleontological or culturally important (heritage) resources.

Actions

Prevention:

- If such a site or any other archaeologically important artefact is found during the development phase any work in that area must be halted and the relevant authorities must be informed. These include; the Namibian Police and the National Monuments Council.
- Mining may only continue at that location once permission has been granted from the relevant authorities.

Responsible Body:

- Proponent

Data Sources and Monitoring:

- Documenting of any incidents related to heritage, archaeological or paleontological resources.

10.2 Environmental Management System

The Proponent could implement an Environmental Management System (EMS) for their operations. An EMS is an internationally recognized and certified management system that will ensure ongoing incorporation of environmental constraints. At the heart of an EMS is the concept of continual improvement of environmental performance with resulting increases in operational efficiency, financial savings and reduction in environmental, health and safety risks. An effective EMS would need to include the following elements:

- A stated environmental policy which sets the desired level of environmental performance;
- An environmental legal register;
- An institutional structure which sets out the responsibility, authority, lines of communication and resources needed to implement the EMS;
- Identification of environmental, safety and health training needs;
- An environmental program(s) stipulating environmental objectives and targets to be met, and work instructions and controls to be applied in order to achieve compliance with the environmental policy;
- Periodic (internal and external) audits and reviews of environmental performance and the effectiveness of the EMS; and
- The EMP.

11 CONCLUSION

The sand mining operations of Herman Gerhard Romeis will play a positive role in the Khomas Region due to provision of commodities as well as the contribution to sustaining livelihood of secondary industries and related employees. The use of the land for sand mining has a beneficial role in generating income in the region and providing sand, a raw material crucial to the construction industry. Mining operations should be conducted in a systematic manner (bar-skimming mining method) to prevent excessive change in the river morphology.

Operational related impacts must be prevented or mitigated by implementing strict monitoring and control. All permits and approvals must be obtained from relevant ministries or authorities for the operations of the sand mine. Pollution prevention measures should be adequate to prevent incidents that may potentially damage soil, ground water and surface water. Health, safety and security regulations should be adhered to in accordance with the regulations pertaining to relevant laws and standards. Of main importance is that mining be conducted systematically and in strips along sand deposits and within a buffer to the river banks, bed and any protected tree and vegetation species.

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Appendix A: Authorities Consultation

Application reference number	

APPLICATION FOR PERMISSION TO ABSTRACT SAND AND GRAVEL IN THE CITY OF WINDHOEK JURISDICTION

Please complete form and return to:

The Office of the Chief Executive Officer
Customer Care Desk
City of Windhoek
18 Independence Avenue
P.O. 59
Windhoek
Namibia
General Enquiries:

Tel: +264-61-290 +264 61 290 2485
Fax: +264-61-290 111
E-mail: Mary-Anne.Kahitu@windhoekcc.org.na

Chief Executive Officer
Local Authority Act 23 of 1992 - Accounting Officer in line with 27 (1)
23 MAY 2023
Ringline
Box 59
Windhoek
Tel. 061 - 290 2615

SECTION A APPLICANT DETAILS

1. Full name of applicant
H G Romeis

2. Identity number of applicant, or in the case of a company ,close corporation,(registration number).
50071100369

3. Nationality of applicant, or in the case of a company ,close corporation, country of registration.
Namibian

4. Contact Details of Applicant

Physical and postal address of applicant:	P.O. Box 372 Windhoek, Farm Neu Brak 454 Khomas
Telephone number of applicant:	061 234 777
Fax number of applicant:	061 234 777
E-mail of applicant (if any)	hagenromeis@gmail.com

Appendix B: Proof of Public Consultation

Notified IAPs

Initial	Surname	Farm
M	Biederlack	ELISENHOHE FMK/00088
A	Gous	Brack FMK/00083/0000C
M	Riehmer	Rietfontein FMK/00415
W	Romeis	Binsenheim FMK/00453
P	Germishuizen	Waldburg FMK/00082 (Gmundner Lodge)

Report review comments and responses.

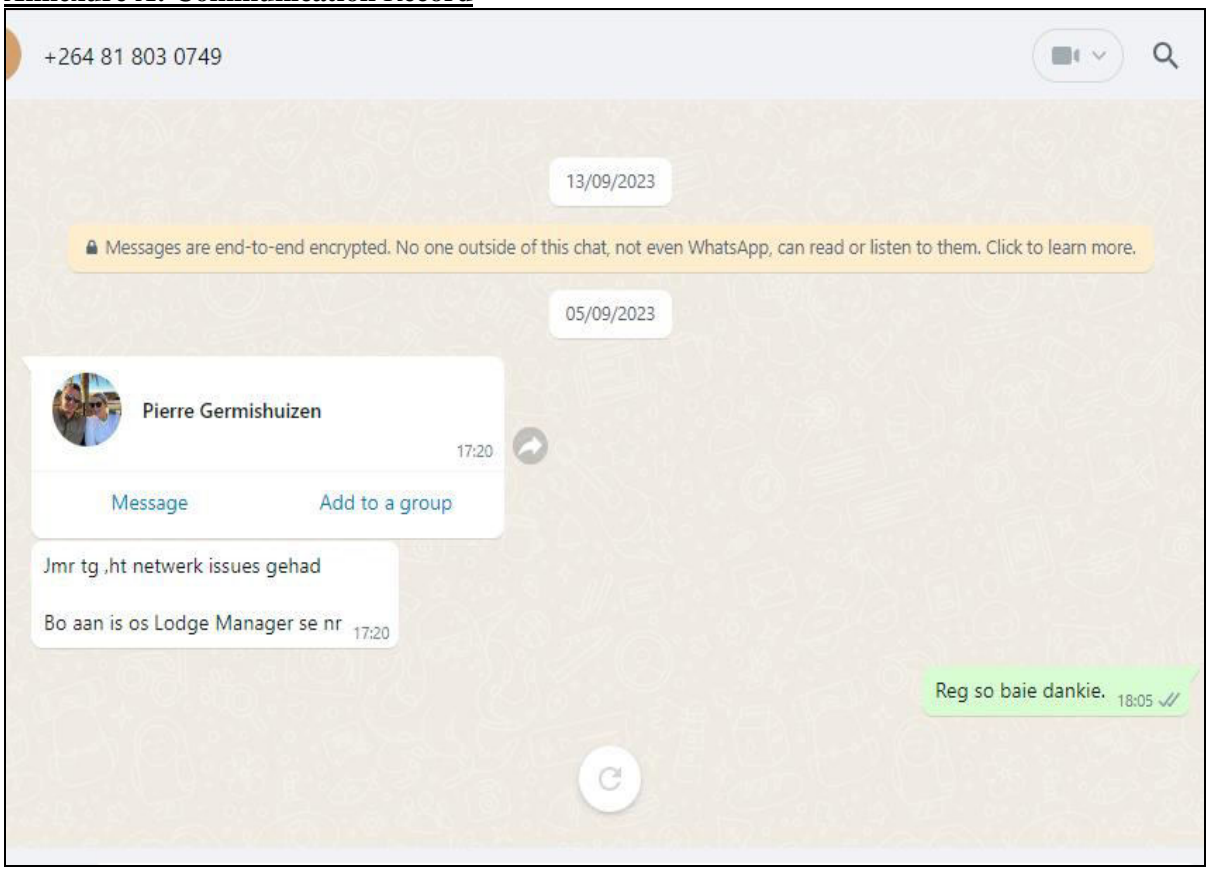
IAP Details		Comment / Concern	Response
JJ Gaya – Fisher Quarby & Priefer acting on behalf of Gmundner Lodge. Email : 09/29/2023	1	In paragraph 8 of the said report under the heading "Public consultation" you stated that consultation with the public forms an integral component of your investigation. We would however like to place on record our client has till date hereof not been consulted in the regards as stipulated by section 44(1)(b) of the Environmental Management Act 7 of 2007 ("the act")	Please see the communication trail with the lodge and lodge manager on the 5th of September and on the 25th of September 2023 in Annexure A. Kindly note that the Gmundner Lodge was contacted directly and contact details of the Lodge manager was obtained. Upon contacting the manager he provided his email address and we directed our notification thereto. He confirmed receipt of the notification email. Furthermore, the communication received from yourselves is in itself part of the public consultation process.
	2	Our client's principal place of business is situated directly opposite and approximately 5 km away from the intended mining site, separated only by a tarred road.	Kindly note that according to our Geographic Information System, the Gmundner Lodge location is situated approximately 6.5 km east-northeast of the project location. Apart from the tarred road, the majority of the area between the sand mine and lodge is bushveld with some areas bush encroached.
	3	Our client runs a high-end lodge which prides itself in being one of Namibia's leading luxury retreats offering its guests various leisure outdoor activities, including, however not limited to, game drives, hiking trails, spa facilities, star gazing, horseback riding and helicopter rides in what was, till recently, considered a partially untouched landscape	Noted.
	4	The current and proposed mining activity is in direct line of sight from our client's guestrooms and the main lodge area thus severely compromising the scenery and views from the lodge. This shall have an immense impact on our client's attractiveness to its guests primarily comprising tourists.	An elevation profile is provided in Annexure B. It depicts a straight line from Gmundner Lodge towards the sand mine. A red arrow indicates the highest elevation between the Lodge and the project (1,713 mamsl). Gmundner Lodge is approximately 1,708 mamsl. Therefore it is unlikely that the sand mine is visible from the Gmundner Lodge, since it is obstructed by the natural topography. A viewshed map is

IAP Details		Comment / Concern	Response
			also attached in Annexure B. This map indicates from where the sand mine will be visible. An 8 m high beacon was placed along the river at several points within the proposed sand mine area, which was used as the point of interest. Direct line of sight areas are shaded in red. Operations will therefore only be visible to someone within the red areas. In addition, as per fragmentation of light and ability of the human eye, visibility will decrease over distance unless the observer makes use of some enhancement such as binoculars. Based on this, visitors to the Lodge is not expected to be able to see the sand mining operations.
	5	The tarred road separating the lodge and the mine has become increasingly populated since the mining activity has commenced and is expected to become even more populated in due course. This further taint the previously untouched landscape.	The main road (M0033) is a public road. The presence of the Gmundner Lodge is expected to increase the normal flow of traffic on this road. The nearby Loadstone Mine also uses this same road for operations as well as all new and recent housing developments in the area. It is the main road between Windhoek and Dordabis realising increasing traffic. The sand mine operations will entail on average 3 to 4 trips on this road, per week. This constitutes a negligible contribution to traffic on this road. The surrounding landscape not only comprise natural areas, but also residential estates, mining and exploration. Please refer to the Loadstone Mine south of the Lodge as well as the existing exclusive prospecting license (EPL) located over the Lodge's farm. The EPL was granted in 2008 and is still valid with ongoing prospecting conducted under this license. Refer to **Annexure C** indicating the mentioned EPL and mine.
	6	The mine creates an immense amount of dust and vast amounts of soil particles are dispersed into the air leading to air pollution. This compromises the view from the lodge and further shall pose a health risk due to the prolonged inhalation of such dust particles by our client's employees	Operations are limited to the use of one excavator a couple of times a week. Dust generation is thus limited due to the small scale of the operations. Furthermore, any dust created will mainly be carried in the southern direction, based on predominant wind direction in the area, and not towards the Lodge. Confirmation of the wind direction as being predominantly a northern wind, is provided in section 7 of the report as well as per the Lodge's own environmental assessment. Should a

IAP Details		Comment / Concern	Response
			western wind blow significantly strong to carry dust for 6.5 km to the lodge, such dust would be sufficiently dispersed not to pose any risks. Instead, such strong winds will generate its own dust wherever it blows over loose or disturbed soils and any "health concerns" will be as a result of Namibia's naturally dusty environment, especially in dry winter months. Therefore, it is more likely that the Lodge's own operations (such as regular travelling on the access gravel road and game viewing trips), will impact its own property, assets, etc.
	7	The dust is clearly visible and shall cause the guests at the lodge severe respiratory discomfort.	Please refer to previous comments related to dust and visual aspects.
	8	The abovementioned air pollution may further hinder the wildlife currently flourishing in the surrounding areas of the lodge.	Please refer to previous comments related to dust and visual aspects.
	9	Once the dust particles settle, they shall have the potential of creating a hygiene risk for our client as they grow their own produce on the farm to ensure that their guests are provided with fresh produce.	Please refer to previous comments related to dust and visual aspects.
	10	The mining activity is being, and shall continue to be, conducted in the Schaaf River. The said river comprises our client's main water source and the mining activity, which comprises of the excavation of vast amounts of soil from the river, shall constrict the flow of water to our client. This shall greatly impact the fauna and flora, as well as our client's access to water in a detrimental manner.	The Schaaf River is an ephemeral river flowing occasionally during rainy seasons, by removing sand deposits, it allows for improved flow during flow periods. The removal of silt, inherent to the mining activity, will increase the permeability of the soil and therefore may also result in an increase in groundwater recharge. Mining will also follow strip mining techniques which prevent the pooling or impoundment of water during river flow. As per the environmental assessment of the Lodge, the supply boreholes of the Lodge, are not adjacent to the river. Therefore, borehole recharge will rather depended on groundwater flow (from north of the Lodge) and not the river located south of the Lodge.
	11	The cleanliness of the water shall also be negatively impacted by the Proponents intended mining activity.	As discussed above, the Schaaf River is an ephemeral river that only flows occasionally, similar to most rivers in Namibia. If the Schaaf River periodically flows, water shall have a high turbidity level, the same as all inland rivers in Namibia, regardless of mining activities.

IAP Details		Comment / Concern	Response
	12	Our client could potentially suffer financial hardships due to the mining activity as it runs the risk of not of being able to provide their guests the same standards and experiences it was previously able to offer	Every land owner has the right to use their own property with its resources to generate income. Therefore, similar to your concern regarding loss of income due to the sand mine, the Proponent can argue that the lodge then result in a loss of income for the Proponent, if the sole reason why they cannot mine sand is the existence of the lodge. Furthermore, the surrounding areas is not a protected landscape. Supply to Namibia's construction industry, and therefore support to this industry, is of high value in Windhoek which is in constant demand for building materials.
	13	Our client employs about 50 Namibian citizens, and a decline in our client's business because of the mining activity would not only have a negative impact on our client but on that of our client's employees too, our client would be forced to reduce its workforce should there be a decline in business as a result of the mining activity.	The above responses negate claims of the said nature. The concerns have been addressed and it is more likely that Namibia's naturally dusty nature and dust from the Lodge's own operations will result in the concerns as raised by the IAP.

Annexure A: Communication Record



From Piere Germishuizen <management@gmundner.africa>
To Johann Strauss
Subject Read: EIA Sand and Gravel Mining in the Schaaf River, Khomas Region

Your message

To: Piere Germishuizen
Subject: EIA Sand and Gravel Mining in the Schaaf River, Khomas Region
Sent: Tuesday, 05 September 2023 12:50:44 (UTC+02:00) Windhoek

was read on Tuesday, 05 September 2023 12:54:54 (UTC+02:00) Windhoek.

From Piere Germishuizen <management@gmundner.africa>
To Johann Strauss
Subject Read: Environmental Impact Assessment: Sand and Gravel Mining Operations in the Schaaf River, Khomas Region

Your message

To: Piere Germishuizen
Subject: Environmental Impact Assessment: Sand and Gravel Mining Operations in the Schaaf River, Khomas Region
Sent: Monday, 25 September 2023 14:55:57 (UTC+02:00) Windhoek

was read on Monday, 25 September 2023 16:35:42 (UTC+02:00) Windhoek.

Annexure B: Visibility Analysis

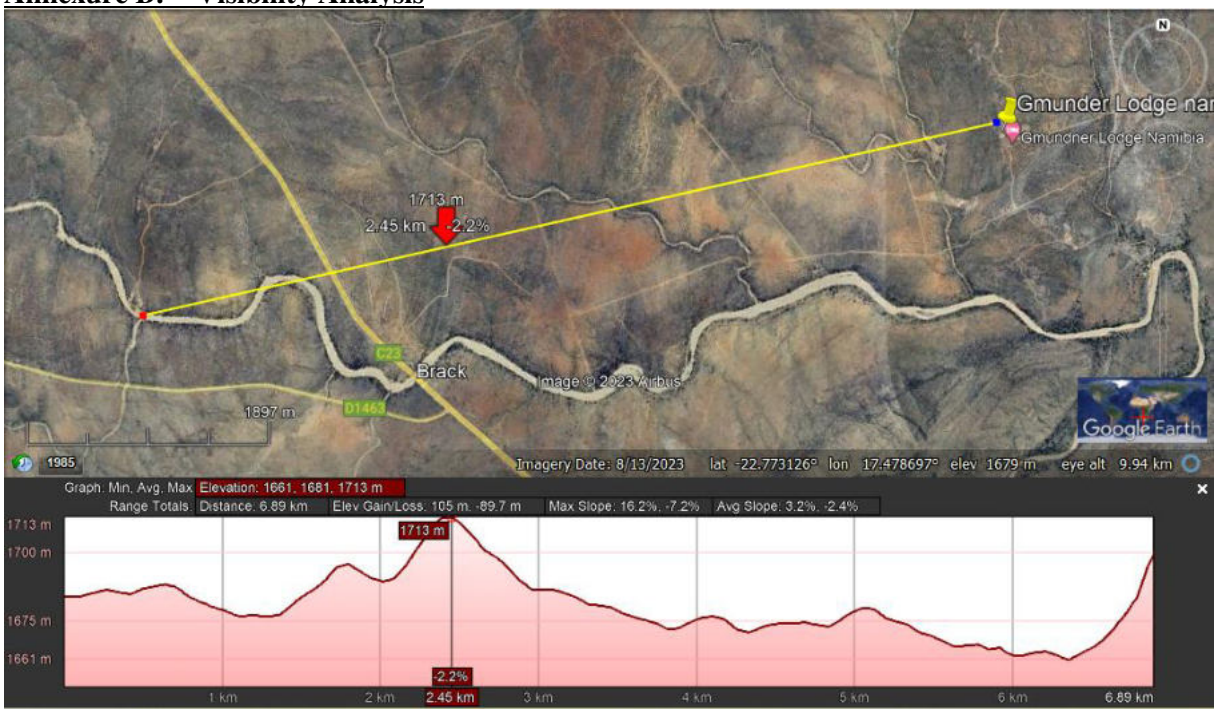


Figure 1 Elevation profile between Gmundner Lodge and the project

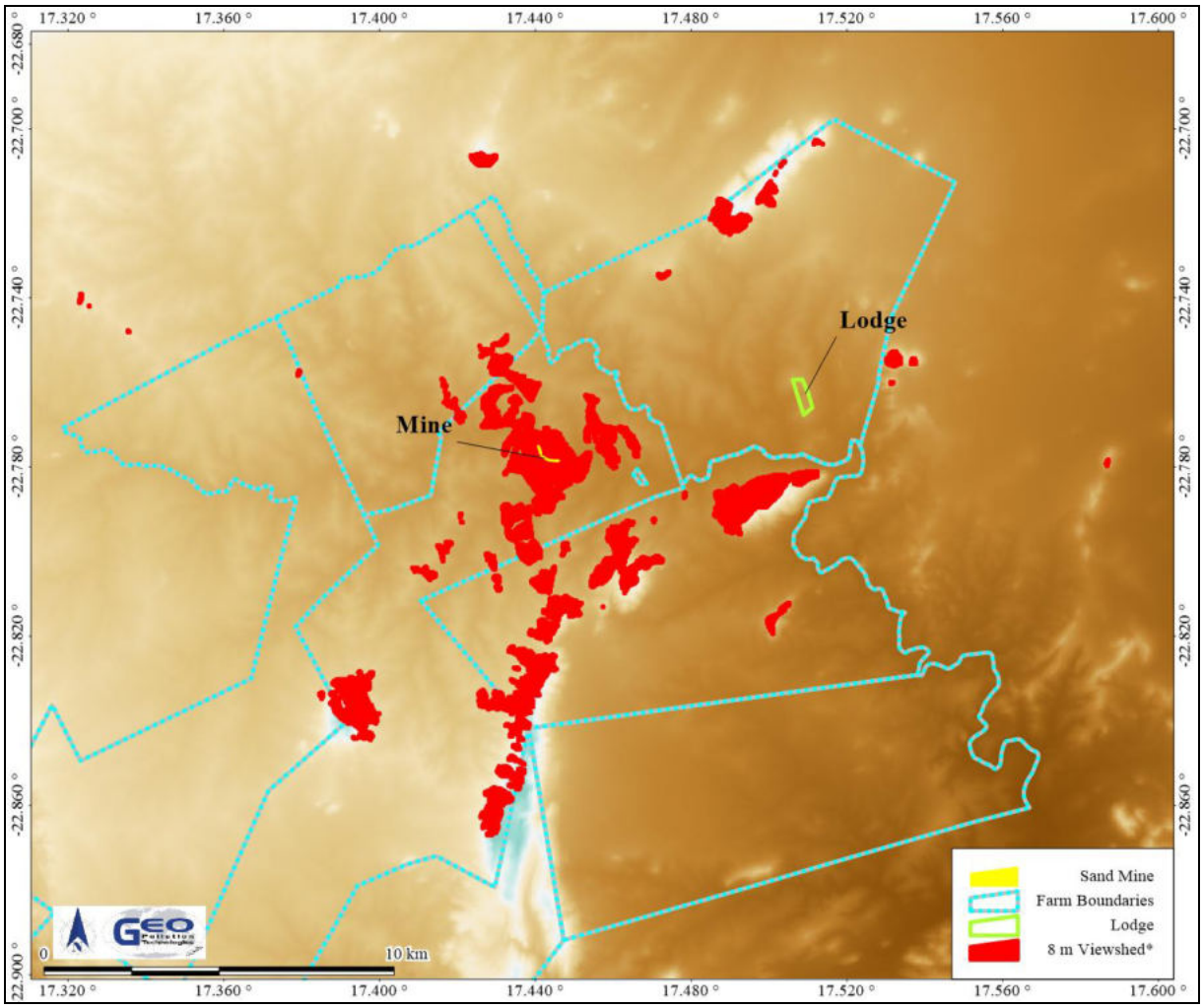


Figure 2 Viewshed of the surrounding area. (*Locations from where an 8 m high structure in the mining area will be visible.)

Annexure C: Mining and Prospecting Licenses

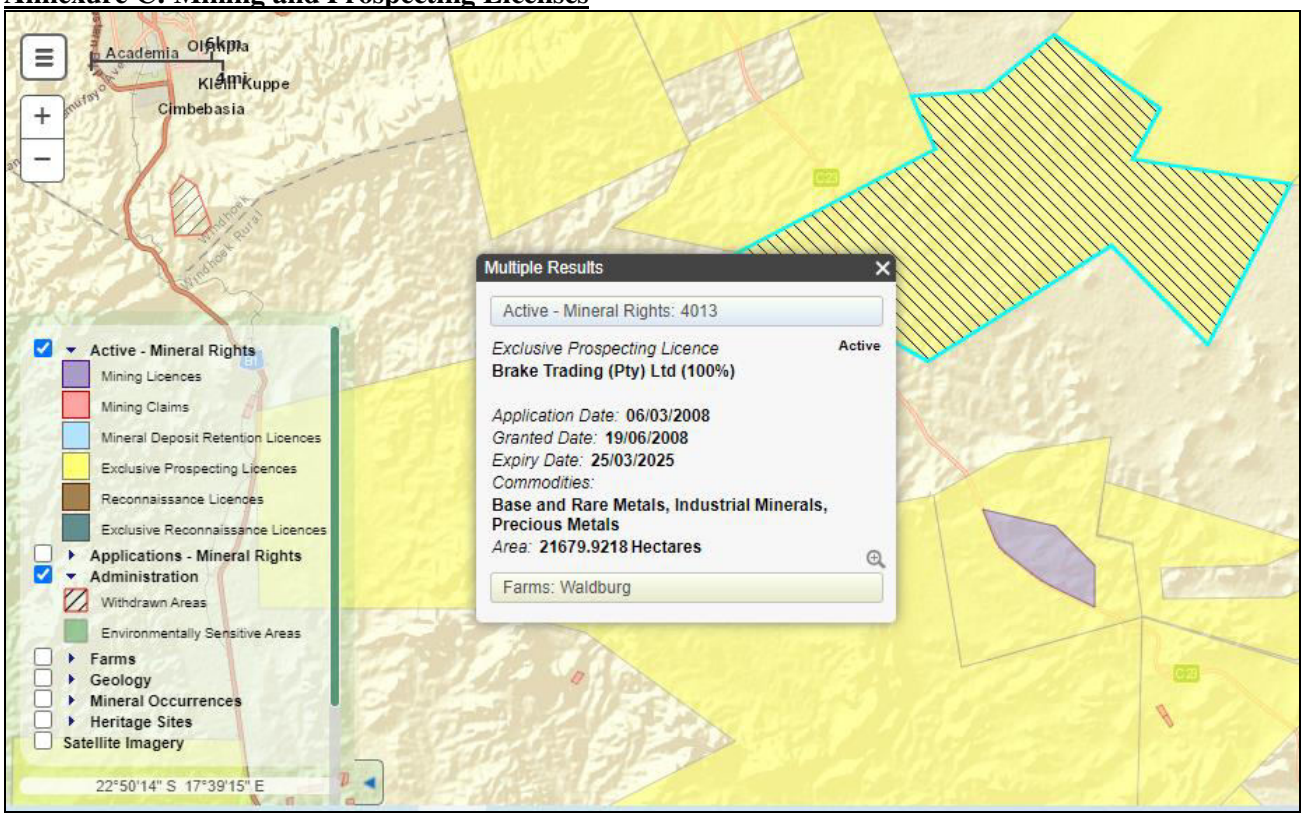


Figure 3 Existing EPL on Farm Waldburg 82 (Namibia Mines and Energy Cadastre)

Notification Letter

TEL.: (+264-61) 257411 ♦ FAX.: (+264) 88626368
CELL.: (+264-81) 1220082
PO BOX 11073 ♦ WINDHOEK ♦ NAMIBIA
E-MAIL: gpt@thenamib.com

To: **Interested and / or Affected Party** **06 September 2023**

Re: **Sand and Gravel Mining in the Schaaf River, Khomas Region**

Dear Sir / Madam

In terms of the City of Windhoek's Policy Towards Sustainable Sand Mining (June 2017) and the Environmental Management Act (No 7 of 2007) and the Environmental Impact Assessment Regulations (Government Notice No 30 of 2011), notice is hereby given to adjacent land owners that an application will be made to the City of Windhoek and the Environmental Commissioner for sand mining in the Schaaf River, Khomas Region.

Project: Sand and Gravel Mining in the Schaaf River, Khomas Region

Proponent: Hagen Romeis

Environmental Assessment Practitioner: Geo Pollution Technologies (Pty) Ltd

Hagen Romeis plans to conduct sand and gravel mining activities along the Schaaf River on the Farm Neu Brack 454 in the Khomas Region, Namibia. Operations will comprise the excavation of sand and gravel; loading onto tipper trucks by means of front-end loaders and transportation to markets.

Geo Pollution Technologies (Pty) Ltd was appointed by the Proponents to conduct an Environmental Assessment (EA) for the mining operations. As part of the assessment we notify interested and / or affected parties. You are hereby invited to share with Geo Pollution Technologies, any comments, issues or concerns related to the proposed project, for consideration in the Environmental Assessment.

Please forward your inputs to:
E-mail: NeuBrack@gpt.com
Fax: 088-62-6368.

Should you require any additional information please contact Geo Pollution Technologies at telephone 061-257411.

Thank you in advance.

Sincerely,
Geo Pollution Technologies

Johann Strauss
Geography/Psychology and Environmental Management

Press Notice: Namibian Sun 16 and 23 August 2023

Namibia's water availability a major concern

ELLANIE SMIT
WINDHOEK

The overall water supply situation is a major concern in many areas of the country due to poor rainfall this season.

According to the 'Crop Prospects, Food Security and Drought Situation' report issued by the agriculture ministry, most water catchment areas have therefore dried up as they did not receive water inflow. "Since the start of the 2022–2023 rainfall season, the country has received below-normal rainfall performance, with a considerable delay in the onset. Most parts of the country only received productive rainfall in January."

Critical to fair

The report added that in addition to the sporadic and insufficient rainfall patterns that have dominated the season, the country reported severe and prolonged dry spells in December, February, March and April.

It said that the water supply situation in Otjozondjupa is generally fair, with boreholes as the main water source. However, boreholes are drying up and also need to be rehabilitated in areas such as Otjongombe, Okamboro, and Okasuvandjiwo, the report said.

Furthermore, the water in the Ovitoto area has a high concentration of lime and poses a health hazard to livestock and people.

In the Erongo Region, the water situation remains critical, especially for the Utuseb, Omatjete, Otjimbingwe, Spitzkope, and Uis areas.

"Besides, most boreholes are broken, and the water supply is insufficient due to below-average rainfall received."

Broken and undrinkable

The report noted that in the Khomas Region, water supply is satisfactory, with earth dams being the main water sources. Meanwhile, water availability in the Hardap and Karas regions is fair, but areas such as Snyfontein and Wambad in Karas have salty water that is not conducive for livestock or human consumption.

"As such, some villages are being served with water tankers, but the main concerns are that areas such as the Karasburg East constituency can go for weeks without water as there is only one water tanker that is serving the entire region."

According to the report, the Omaheke Region has a number of broken boreholes, especially in the northern side of the region (Eiseb, Talismanus, Otjinene and Epukiro) due to wear and tear especially, leaving both human and livestock with critical water shortages.

The water supply situation in the north-central regions, Ohangwena, Omusati, Oshana and Oshikoto varies from fair to poor. "The floodwaters that were present in this area during January have completely dried up."

However, some areas have access to piped water and boreholes as alternative sources.

Major shortages

The report said that unfortunately, most earth dams are either completely dry or have minimal water that will not last until the next rainfall season.

"Constituencies such as Eengodi in the Oshikoto regions are faced with a major water shortage because of the low water pressure in the pipeline, and communities can go days and weeks with no clean water."

In the Kunene Region, no significant water supply interruptions were reported, apart from isolated cases of broken pumps, while the availability of water in the Zambezi, Kavango East and Kavango West regions is abundantly available in the rivers, streams, swamps, and boreholes in the inland.

• WELL-RESTED CHILDREN LEARN BETTER

MTC staff bring comfort to rural learners

MTC staff donated much-needed bedding to two hostels in the Kunene Region through the MTC Cares employee-led initiative.

STAFF REPORTER
OKANGUATI

HEARTS OF GOLD: MTC employees donated much-needed bedding to the hostels of Omuhonga Combined School and Otjikoto Primary School in Kunene. PHOTO: CONTRIBUTED

Learners at both Omuhonga Combined School and Otjikoto Primary School in the Epupa circuit of the Kunene Region will no longer have to sleep on cold floors, thanks to a donation from MTC employees.

Coming to the aid of the learners, employees donated 120 mattresses and pillows to each hostel as part of an employee initiative known as MTC Cares.

The donation, valued at N$94 000, was made in response to the deplorable state in which hostel learners at the two schools live.

MTC Cares, which is an employee-led initiative aimed at assisting communities with funds voluntarily contributed by MTC employees on a monthly basis, has in the past made similar humanitarian donations, assisting leprosy patients in Omashare, donating sanitary pads to learners in Koës, and donating food to The Men On The Side Of The Road project in Windhoek.

The MTC Cares project has also donated an electric wheelchair to a student and assisted single mothers whose shacks were destroyed by shack fires both in Windhoek and Walvis Bay.

"The request for donations from the two schools reached us in March, and it was sad to see the state in which the learners live in the hostel. Some sleep on the floor, and others simply sleep on worn-out, thin mattresses.

"While some hostels have beds, some [learners], who do not have mattresses, simply use boxes to sleep on; this is not right. We then had internal discussions to raise funds from our salaries so that we could see how we could assist these learners with the little that we had," Fikameni Mathias, an MTC spokesperson, explained.

Mathias added that the decision to assist was necessitated by the need to see Namibian children in rural areas enjoy education equal to those who receive their education in urban areas.

"It cannot be right that we as a country have accepted that deplorable hostel states should be normal in rural areas but expect competitive academic results nationally. When we investigate schools' performances at the end of the year, it is only fair that we understand the ground dynamics and our responsibility to assist those who do not have it at par with the rest of the country," he added.

From their own pockets

Receiving the donation at Omuhonga Primary School was school principal Sande Shilini, who said the donation marks a significant positive change for the learners.

NAMIBIAN CONSTITUTION APP LAUNCHED

ELIZABETH //KHEIBES
WINDHOEK

The Konrad Adenauer Stiftung and MindsInAction launched Namibia's first Namibian Constitution mobile app on Thursday last week.

The app is available on all iOS and Android devices and includes zoom and audio features, making it accessible to visually and hearing-impaired people.

The mobile app design started in March 2022 and was finalised in September. Currently, the app has 700 overall downloads across both Android and iOS.

User-friendly software

During the official launch of the app, MindsInAction CEO Ndaudika Mulundileni said the team is eager to create widespread awareness of the product.

"This event aims to continue spreading the word so that Namibians know about this user-friendly and easy-to-use Constitution App. In addition, the application allows users to share specific articles across various platforms, e.g., WhatsApp," Mulundileni said.

He added that before launching the application, a survey was conducted to establish the user-friendliness of the app as well as gain insight into whether the app should be translated into indigenous languages.

"Most responses came from the youth in the Khomas Region, and this shows that they are engaging in the greater conversation around their rights," he said.

Mulundileni said the application will be updated occasionally to introduce new features as needed.

Democratic education

Speaking at the event, deputy minister of information, communication, and technology Emma Theofelus said the app will allow all Namibians to be part of a decision-making process.

"More importantly, this will allow them to be the deciders for the core principality of how and who governs. We will forever be indebted to Namibia's founding fathers and mothers for crafting our constitution within a remarkable time and unanimously agreeing to it," Theofelus said.

NEWS IN SHORT

Latest 'Wakka' murder suspect appears in court

The last man arrested in connection with the cold-blooded murder of Patrick 'Wakka' Hamupunda appeared in the Katutura Magistrate's Court yesterday on a murder charge.
Wilhelm 'Lavas' Mwawedange, 30, made a brief appearance after handing himself over to the police on Monday – following a nearly week-long manhunt for him. Five other suspects were arrested earlier in connection with the same case. Hamupunda was killed on 13 August at his girlfriend's place in Katutura.
The case against Mwawedange was postponed to 28 September to allow him to find legal representation.

- INGRID BOOYSEN

Grade one learner allegedly raped

A seven-year-old girl was allegedly raped by a domestic worker at an unknown time in the Omuntele area of Oshikoto Region on Saturday.
The accused, an 18-year-old, has been arrested.
Oshikoto regional commander, Commissioner Teopolina Kalompo-Nashikaku, said: "It is alleged that the suspect was left home with two minors, a girl (the victim) and one boy, while the grandmother went to a cuca shop."
She said it was during that period that the suspect allegedly raped the minor. The suspect and victim are not related, and he was at the house for employment.
Kalompo-Nashikaku said the suspect is expected to appear in Ondangwa Magistrate's Court this week.

- TUYEIMO HAIDULA

Aggrieved community petition Arandis municipality

Arandis community members gathered in numbers at the Arandis municipality on Monday to hand over a petition listing numerous grievances they want addressed by the town council.
"We decided to sleep in front of the offices so they know that we are extremely serious about this," said Helena Orus, chairperson of the Arandis community representative group.
Arandis town council CEO, Stanley Norris, received the petition on behalf of the Arandis municipality.
Among the listed demands are the need for land and housing, a debt write-off for pensioners, job opportunities, insufficient town development, the state of the local, tender awards, road conditions, and more.
The petitioners demanded a response to these grievances from the concerned community within the next five working days.

- MEDELINE GASES

• OVER 700 JOBS UP FOR GRABS SOON

Trigon secures N$170 million for Kombat equipment

Minority shareholder Knowledge Katti has called **for better coordination between government and investors at the settlement.**

STAFF REPORTER
WINDHOEK

Trigon Metals, which operates the Kombat mine in partnership with local entrepreneur Knowledge Katti and state-owned Epangelo Mining, has secured funding worth N$169 million to acquire underground mining equipment ahead of restarting operations.

"This equipment will comprise the majority of the underground mining fleet for the restart of mining from the Asis West shaft at the company's Kombat Mine in Namibia, where production is scheduled to ramp up from April 2024," reads a Trigon statement issued on Monday.

The purchase will be made through the company's Namibian subsidiary, Trigon Mining Namibia, which has received approval from Epiroc Financial Solutions for equipment finance.

The term of the financing facility is 60 months from the shipment date of each piece of equipment, and interest will accrue at 10.95% per annum.

"Repayments will be made in 55 monthly payments, commencing six months after the respective dates of shipment," Trigon said.

Mining equipment is expected to arrive on-site at Kombat between October 2023 and March 2024.

BACK ON TRACK: Trigon Metals recently announced that concentrate production has resumed at Kombat Mine. PHOTO: FILE

On schedule

Jed Richardson, Trigon president and CEO, commented: "We are pleased to be working with Epiroc and thank them and the team members that worked to put this financing package in place in a timely fashion. This allows us to build out our underground fleet while we are just starting to generate cash flow at the open pit."

At Kombat, the work at the production plant has been completed on schedule, the company said. "Crushers and mills have been started. The coarse ore bins are being filled, and the first concentrate was produced on Friday, 18 August 2023, the details of which will be shared in a subsequent release. Approximately 25 000 tonne of ore is now stockpiled on the run-of-mine pad."

Katti owns 10% of Kombat Mine through his company, Havana Investments, while state-owned Epangelo Mining, the only other local shareholder in the mine, also holds 10%.

Katti's Havana Investments initially acquired 100% ownership of Kombat Mine from South African company Grove Mining – reportedly for N$50 million – but later sold 80% of its stake to Canada's Trigon, retaining 20%. Katti previously said he donated 10% of his shares to the local community through Epangelo.

Benefitting the community

Approached for comment yesterday, Katti said: "This is what we envisioned when we purchased the mine and all the properties from the South African owners who bought it from Weatherly – reopening the mine and creating jobs for our Namibians.

"However, the job is not done because the ultimate vision is prosperity for the communities living in the government resettlement farms nearby, notably Sommerau. We urge the ministry of rural development and the regional council to include us in jointly planning the future of these communities instead of working independently and relying on inexperienced consultants who themselves rely on other consultants with the main focus on consulting fees."

The resumption of mining activities would create about 750 jobs, officials said.

KANYETU CLAIMS APP OUSTER DUE TO ANTI-GAY STANCE

OGONE TLHAGE/
KENYA KAMBOWE
WINDHOEK

Former All People's Party (APP) secretary-general Vincent Kanyetu alleges that his expulsion from the party was a result of his unsanctioned public comments against same-sex marriages, which he described as 'satanic'.

However, at a press briefing this week, the party's national leadership maintained Kanyetu was expelled for failing to lead the party to new heights, including a lacklustre performance in the 2019 presidential and National Assembly elections.

Kanyetu, who was expelled from the party after he was found guilty of six charges levelled against him, maintained that the comments he made during a press conference in Rundu on the same-sex marriage issue, where he condemned the Supreme Court's May ruling in this regard, cast him as an enemy to those within the party who champion gay rights.

"You remember when I had that press conference on the same-sex marriages? That is where the problem started because we have a senior party member who is a chairperson of an organisation that protects the rights of the LGBTQ community," he said in an interview with Namibian Sun on Monday.

"So because of me rejecting the same-sex marriage thing, they decided to go after me, and that is why they decided to get rid of me."

Allegations made

Kanyetu questioned why he was only charged after he criticised same-sex marriages.

"If they say the party lost votes in 2019, why did they not get rid of me after the election? How can they come three years later and blame me for that? Mind you, I was not the face of APP; the president of the party is the face that appears on the ballot," he said.

Kanyetu also claimed that he learnt about an alleged promise made to the party by a foreign donor to provide funding to the party for the upcoming 2024 election if they are able to field an LGBTQ presidential candidate.

Performance found wanting

Party national chairperson Linus Muchila announced Kanyetu's expulsion from the party on Monday, saying he had been found guilty on six offences.

"Mr Kanyetu has not contributed to the growth of the APP as he claims but rather caused a massive decline in the party's overall performance. The party structures that were in existence and functional at the time of his appointment as SG in 2016 are now dormant and dysfunctional," Muchile said.

"The current state of the organisation is that we are only organised in six regions out of fourteen political regions."

He added: "The expulsion of Mr Kanyetu from the APP has absolutely nothing to do with his family or relatives but rather his inability to carry out his duties and responsibilities as SG of APP."

Guilty as charged

Kanyetu was previously the secretary-general of the Popular Democratic Movement (PDM), but was expelled in 2015 over allegations he and two others sold the party's regional office in Rundu without the consent of the party's leadership.

Kanyetu, for his part, announced his resignation from the party this past weekend with 200 of his family members. It is believed he jumped ship ahead of his formal expulsion. "I just want to communicate my resignation from my position as secretary-general and member of both the party and all its organs with immediate effect as of today, 19 August," he said.

Kanyetu was found guilty on charges of negligence in performing his duties as SG; negligence for failing to keep records of loan requisitions; conspiring to form or join a counter-association or party; concealment of information from the party; and inciting unlawful conflicts in terms of the APP's party code.

Press Notice: Republikein 16 and 23 August 2023

LUGHAWEPAD VOOR EINDE 2024 VOLTOOI

Werk aan die nuwe lughawepad vorder glo goed. FOTO VERSKAF

Ogone Tlhage

Die Paaieowerheid (RA) sê bouwerk aan die nuwe lughawepad sal teen November 2024 voltooi wees.
Die projek van N$949 miljoen sal padgebruikers toegang gee tot die Internasionale Lughawe Hosea Kutako (HKIA) via 'n dubbelbaanpad.
Die projek het 'n verdere hupstoot gekry met kontrakteurs wat toegang gekry het tot plaasgrond waardeur die pad na verwagting sal loop, het Conrad Lutombi, die uitvoerende hoof van die RA, gesê.

Hy het ook kortliks melding gemaak van die nuwe Rehoboth-toegangspad, wat padgebruikers wat vanaf die suide inry, toegang sal gee tot die A1-dubbelbaan sonder om in Windhoek in te ry.
Die padkonstruksie het in Maart 2020 begin en sal die hoofstad en die lughawe verbind. Ongeveer 300 mense sal na verwagting tydens die konstruksiefase in diens geneem word. Die projek word gefinansier deur 'n bedrag van N$1 miljard wat deur China beskikbaar gestel is.

- republikein@republikein.com.na

Groenwaterstofsektor bereik nuwe mylpaal

Augetto Graig

Hyphen Hydrogen Energy het Maandag aangekondig dat hy 'n kontrak met die internasionale maatskappy ILF Consulting Engineers onderteken het.
Die maatskappye sal nou hande vat om Namibië se reuse-groenwaterstofprojek in die suide van die land op te bou.
ILF is 'n onafhanklike ingenieurs- en konsultasiemaatskappy met meer as 45 kantore wêreldwyd en meer as 55 jaar se ondervinding.
Meer as 2 600 werknemers ontwikkel oplossings vir kliënte in die gebiede van energie- en klimaatsbeskerming, hulpbronne en volhoubare nywerhede, water en die omgewing, asook vervoer en infrastruktuur.
Marco Raffinetti, Hyphen se uitvoerende hoof, sê dié vennootskap is 'n stap nader aan die vestiging van Namibië as 'n wêreldleier in die groenwaterstofsektor.
"ILF se ondervinding van waterstofprojekte oraloor die wêreld sal van onskatbare waarde wees en sal Hyphen help om die projektydlyne en Namibië se ontwikkelingsdoelwitte te bereik."
Groen waterstof verwys na waterstof wat deur die gebruik van hernubare kragbronne vervaardig word.
Die regering het Hyphen as voorkeurkontrakteur gekies om 'n groenwaterstofnywerheid in Lüderitz, Aus en die Tsau //Khaeb Nasionale Park te vestig.
Ton Beukes, Hyphen se hoof van die omgewing en maatskaplike bestuur, het in Julie gesê die aanstelling van 'n vennoot vir ingenieurswese, konstruksie en die bestuur van die projek sal binnekort 'n realiteit word.
Volgens die verklaring sê dr. Michel Kneller, ILF se direkteur vir waterstof, dat sy onderneming trots is om deel van dié toonaangewende projek te wees.
"Deur ons ingenieurs- en projekkonsultantdienste aan hierdie unieke projek te verskaf, kan ons tot die energie-oorgang bydra.
"Waterstof speel 'n deurslaggewende rol in die transformasie van ons energiestelsel, en ons is oortuig daarvan dat dit die sleutel tot 'n volhoubare toekoms is," word hy aangehaal.
Raffinetti voeg by: "Hierdie aanstelling, gekombineer met ons verbintenis met potensiële konsortium-vennote, toon daar is groot belangstelling in Namibië van diegene wat in een van die wêreld se mees gevorderde grootskaalse groenwaterstofprojekte met die laagste koste wil belê.
"Ons sien uit om nou saam met ILF te werk in die lewering van hierdie transformerende projek."
Die projek beoog om een van die grootste groenwaterstofprojekte ter wêreld te wees en sal krag aan Namibië voorsien, koolstofvrystellings vanaf plaaslike kragstelsels verminder en albei hierdie voordele ook vir uitvoer kan lewer.
Waterstof kan hernubare krag oordra na lande wat poog om weg te beweeg van koolstofgedrewe nywerhede. Hyphen se doelwit is om teen 2027 'n jaarlikse produksie van een miljoen ton groen ammoniak te vervaardig deur stikstof met groen waterstof te kombineer. Dié hoeveelheid moet teen 2029 na twee miljoen ton vermeerder word. Die maatskappy beoog om teen volle produksie 350 000 ton groen waterstof per jaar te vervaardig.
Die projek in die Tsau // Khaeb Nasionale Park sal dien as 'n bloudruk vir toekomstige groenwaterstofprojekte wêreldwyd, volgens Hyphen.
Dit word ontwikkel as die eerste stap in die implementering van die regering se strategie om 'n grootskaalse groenwaterstofbedryf in verskeie streke in Namibië te ontwikkel, teen 'n totale belegging van US$10 miljard.
Die projek sal na raming tot 15 000 nuwe werksgeleenthede gedurende die konstruksiefase skep asook 3 000 permanente werksgeleenthede daarna, met die teiken dat ongeveer 90% van die poste deur Namibiërs gevul moet word. Hyphen se doelwit is 30% plaaslike verkryging vir goedere, dienste en materiaal deur beide die konstruksie- en bedryfsfases.

- augetto@republikein.com.na

» Tekort moet deur kommersiële invoer gedek word

Silo's se graanvoorraad laag

Die plaaslike produksie vir hierdie seisoen is slegs sowat 52% van die totale nasionale graanbehoefte, luidens 'n onlangse verslag.

Ellanie Smit

Aan die einde van verlede maand was Namibië se graanbergingsfasiliteite se voorraadvlakke op slegs 16% van hul algehele bergingskapasiteit.
Die nasionale strategiese voedselreserwes (NSFR), wat in verskillende gebiede van die land geleë is, het op 31 Julie vanjaar 'n totale voorraadvlak van 3 560 ton gehad.
Die totale bergingskapasiteit van hierdie fasiliteite is 22 900 ton, volgens die Julie-verslag oor gewasvooruitsigte, voedselsekerheid en die droogtesituasie – wat onlangs deur die ministerie van landbou, water en grondhervorming uitgereik is.

VIR VERLIGTING UITGEDEEL

Volgens die verslag is die huidige voorraad in die silo's van die afgelope seisoen oorgedra.
Intussen het die nasionale graanverkrygingseisoen in Mei 2023 begin om die silo's se voorraad aan te vul. Die proses sal tot volgende maand duur, of tot tyd en wyl alle plaaslike produksie geabsorbeer is.
Volgens die Landboubemarkings- en Handelsagentskap (Amta) het die witmielie-inname op 14 Junie afgeskop, terwyl die inname van mahangu vanaf 1 Julie aan die gang is.
"Dit is belangrik om daarop te let dat baie van die graan wat van verlede jaar in die silo's opgeberg kon gewees het, gemaal en direk aan behoeftiges versprei word as deel van die regering se droogtehulp-voedselbystand."
Verder is van die grane aan plaaslike kleinskaalse meulenaars verkoop wat geen of beperkte kapasiteit het om in te voer.

GEREKENDE TEKORT

Amta beoog om vanjaar 10 125 ton graan, 2 250 ton mahangu en 7 875 ton witmielies uit plaaslike produksie gedurende die 2023-graanbemarkingseisoen te verkry.
As gevolg van 'n swak oes is die mahanguvolume egter verminder, terwyl witmielies verhoog is na aanleiding van 'n beter oes uit mielieproduserende gebiede – insluitend die groenskemas.
Intussen word plaaslik beskikbare graan vir die bemarkingseisoen van 1 Mei tot 30 April 2024 op 192 700 ton geraam.
"Dit dui daarop dat die plaaslike produksie vir hierdie seisoen slegs sowat 52% van die totale nasionale graanbehoefte is."
Luidens die verslag is daar 'n geraamde tekort van 179 100 ton, wat 48% van die nasionale graanbehoefte is.
Die tekort, bestaande uit 50 100 ton koring, 70 500 ton mielies en 58 600 ton mahangu en sorghum, sal na verwagting deur kommersiële invoer gedek word.
Soos sake nou staan, is daar steeds 'n totale tekort van sowat 173 800 ton graan wat nog deur kommersiële invoer gedurende die 2023-'24-bemarkingsjaar gedek moet word.

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WEER

BINNELAND: Gedeeltelik bewolk en warm tot baie warm in die Noorde. Elders gedeeltelik bewolk en warm maar matig in die |Kharasstreek.

KUS: Gedeeltelik bewolk en matig tot warm.

GETYE BY WALVISBAAI: H: 07:10 **L:** 12:53 **H:** 19:31

VOORUITSIGTE

WINDHOEK	08°	25°
RUNDU	10°	32°
OSHAKATI	12°	35°
GOBABIS	08°	27°
MARIENTAL	07°	26°
KEETMANSHOOP	04°	22°
WALVISBAAI	12°	20°
LUANDA	15°	25°
JOHANNESBURG	10°	26°
KAAPSTAD	11°	15°

Etosha

VAN BL. 1

Die gebruik van draadstrikke word nie deur die ministerie goedgekeur nie en is onwettig.
Die omgewingsministerie, die Namibiese polisie (Nampol) en die Namibiese weermag (NDF) is sedert Junie 2023 met 'n gesamentlike operasie besig om draadstrikke rondom Okaukuejo op te spoor en te verwyder. Hulle het 62 draadstrikke in drie dae verwyder.
"Vars mensspore is ook gevind en tot by die inwoners in Okaukuejo gevolg. 'n Soektog is uitgevoer en die mense is gewaarsku. Niemand kon in hegtenis geneem word nie aangesien daar nie genoegsame bewyse was nie," het Muyunda gesê.
Die gesamentlike ondersoekspan het ook vier gemeenskapsvergaderings belê. Die reëls en regulasies van die park is tydens die vergaderings aan die gemeenskappe voorgelê en hulle is ook ingelig oor die strafmaatreëls wat toegepas word as die bepalings van die wet oortree word.
"Operasies om draadstrikke in al ons nasionale parke te verwyder, is tans aan die gang. Ons wil 'n beroep doen op ons toeriste of besoekers aan die parke wat draadstrikke, lokvalle of enige ander onwettige aktiwiteit teëkom om dit onmiddellik by die ministerie se amptenare aan te meld sodat hulle spoedig kan optree," luidens die verklaring.

SKEND REPUTASIE

'n Verslag van 'n springbok in 'n draadstrik is op 17 Augustus vanjaar ontvang. 'n Veearts van die ministerie het die springbok met 'n verdowingspyl geskiet. Die draad het ongelukkig te diep in die springbok se weefsel ingesny en die dier moes van kant gemaak word.
"Ons wil die betrokkenes waarsku om die onwettige bedrywighede te staak of hulle loop die risiko om gevang en aangekla te word vir die onwettige jag van wild.
"Die Etosha Nasionale Park is ons vlagskippark; sulke voorvalle skend die park se reputasie. Indien daar vasgestel word dat enige van ons amptenare betrokke is, sal hulle aan vasgestelde dissiplinêre prosedures onderwerp word."

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» Dissiplinêre prosedures in plek

Gerugte van korrupsie by Namcol

Aantygings van wanbesteding en korrupsie is teen 'n rekenmeester by Namcol gemaak.

› Ogone Tlhage

'n Rekenmeester by Namcol word daarvan beskuldig dat sy fondse wat vir studente bedoel is, wanbestee het. FOTO NAMCOL

'n Rekenmeester by die Namibiese Kollege vir Afstandonderrig (Namcol) staar dissiplinêre stappe in die gesig oor geld – glo N$2,5 miljoen – wat na bewering by die staatsbeheerde onderwysinstelling vermis geraak het.
Sy het na bewering onopgeëiste terugbetalings wanbestee wat aan studente van die instelling behoort. Die geld is na bewering na 'n spookrekening herlei, wat volgens voorlopige ondersoeke met haar verbind kan word.
Job Amupanda van die Affirmative Repositioning (AR)-beweging het dié gissings onder die publiek se aandag gebring en het in 'n sosialemediaplasing gesê Namcol-werknemers word stilgemaak om na die vermiste fondse te verneem.
"Namcol-werknemers is gekeer om vrae op die WhatsApp-groep te vra oor die gesteelde miljoene. Daar is 'n meningsverskil – sommige in die bestuur wil die diefstal verdoesel terwyl ander wil hê die publiek moet die waarheid weet," het Amupanda geskryf.
"Die publiek word hiermee ingelig dat 'n vroue-rekenmeester by Namcol miljoene na haar persoonlike bankrekening oorgeplaas het. Hierdie inligting word van die publiek weerhou omdat dit lyk asof talle ander betrokke is by die 'eet' van studentegelde. Hoe meer hulle versuim om die publiek in te lig, hoe meer sal ons aanhou om die besonderhede bekend te maak," het Amupanda gesê.
Ons susterkoerant *Namibian Sun* verneem dat Namcol se bestuur die kwessie intern bespreek het, met base in die finansiële departement wat glo die vrou gevra het om te bedank pleks daarvan om aan 'n dissiplinêre ondersoek onderwerp te word.
'n Personeelverteenwoordiger op die direksie het die aangeleentheid na bewering onder die Namcol-raad se aandag gebring. Die Namibiese Vakbond vir Staatsdienswerkers (Napwu), wat op die direksie verteenwoordig word, dring na bewering daarop aan dat strafregtelike klagte teen haar aanhangig gemaak word.
Die direkteur van Namcol, Heroldt Murangi, het gesê die volle besonderhede van die beweerde misdaad moet nog aan hom verskaf word.
"Ek het egter nog nie 'n gedetailleerde verslag van my kollegas ontvang nie, maar ek het gehoor daar is bewerings van wanbesteding van fondse. Ek het nie die verslag by my nie. Dit is 'n interne vakansiedag, maar ons sal volgende week 'n verslag uitreik," het Murangi gesê.
Korrupsie sal nie by die instelling geduld word nie, het hy gesê.
"Ons verdra nie korrupsie en bedrog nie. Die personeellid sal aan 'n dissiplinêre ondersoek onderwerp word," het Murangi gesê.
Sou 'n ondersoek teen haar ingestel word, sal Namcol volgens Murangi verseker dat die proses regverdig is.
"Daar is interne prosedures wat gevolg moet word, ons sal 'n onafhanklike persoon aanstel om die feite te verifieer. Ons het gevestigde prosedures in plek," het hy gesê.
Die personeellid is om kommentaar genader, maar het nog nie gereageer nie.

Derduisende in voorraad toegesluit

VAN BL. 1

"Ek sou die eerste persoon in die land wees wat 'n plant uitvoer en dit is nou ook daarmee heen," het sy mismoedig gesê.
Die NAC het presies geweet wat hulle doen toe hulle Saterdag die grondhanteringsdienste aan Paragon oorhandig het, sê die vrou.
"Hulle het geweet watter gewelddige impak dit gaan hê en hulle doen niks daaraan nie. So verloor mense duisende en selfs hul besighede."
Vrae oor onder andere watter stappe gedoen gaan word om die situasie so spoedig moontlik te beredder, is aan die uitvoerende hoof van die NAC, Bisey /Uirab, gerig.
Hy het gesê die vrae is ontvang en bygevoeg 'n span werk daaraan om dit in konteks en omvattend deur te gee omdat daar ook "regsimplikasies" is. Hy het die hoop uitgespreek dat die antwoorde teen gistermiddag gereed sou wees, maar dit is egter teen druktyd nog nie ontvang nie.

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Namibië se eerste swart verkeersbeampte gegroet

VAN BL. 1

Theobold was volgens sy seun ook 'n man met 'n hart vir sy gemeenskap.
"Hy het altyd troues en roudienste bygewoon – hy het altyd gesê hy kan nie net tuis bly terwyl ander mense in rou is nie," sê Ruben.
Theobold se kollega, Eliphas !Owos-Oab, het in 1983 by die Windhoek-verkeersdepartement onder Theobold se mentorskap begin werk.
Hy sê oudpresident Sam Nujoma het kort ná onafhanklikwording daarop aangedring dat Theobold bevorder word.
"Ons was in die groep wat baie belangrike persone moes begelei en een aand by 'n dinee het Sam Nujoma my nader geroep en gevra wanneer ons hom gaan bevorder. Ek het nie regtig geweet wat om te sê nie, toe sê ek maar ons sal dit in die departement opneem," sê Eliphas.

Ruben Uazukuani
THEOBOLD UAZUKUANI SE SEUN

"Hy het altyd troues en roudienste bygewoon – hy het altyd gesê hy kan nie net tuis bly terwyl ander mense in rou is nie."

Theobold is kort daarna na 'n pos as senior verkeersbeampte bevorder, wat hy tot sy aftrede beklee het.
"Hy was soos 'n pa vir ons. Almal in die departement het geweet hulle kon met hul probleme na hom toe gaan," sê Eliphas.
Eliphas en Ruben sê hulle sal graag wil sien dat 'n straat in die hoofstad na Theobold vernoem word.
Hy is onlangs ter ruste gelê.

- irene@republikein.com.na

Theobold Uazukuani het 34 kinders by vier vroue. FOTO VERSKAF

Site Notice


Fax: 088-62-6368 or E-mail: NeuBrack@gpt.com
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Thank you in advance.
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PUBLIC NOTICE:
ENVIRONMENTAL ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN FOR SAND AND GRAVEL MINING ACTVIES IN THE SCHAAF RIVER, KHOMAS REGION
In terms of the Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations (Government Notice No. 30 of 2012), notice is hereby given to all potential interested and affected parties that an application will be made with the environmental commissioner for an environmental clearance certificate for the following:
Project: Sand and Gravel Mining in the Schaaf River, Khomas Region
Proponent: Hugen Romeis
The Proponent plans to conduct sand and gravel mining activities along the Schaaf River on the Farm Neu Brack 454 in the Khomas Region, Namibia. Operations will comprise the excavation of sand and gravel, loading onto tipper trucks by means of front-end loaders and transportation to markets.
Geo Pollution Technologies (Pty) Ltd was appointed by the Proponent to conduct an environmental assessment for the proposed operations. As part of the assessment we consult with interested and affected parties. You are hereby invited to register as an interested and affected party with Geo Pollution Technologies. Registration provides you with an opportunity to submit comments, issues or concerns related to the farm, for consideration in the environmental assessment. Please send your written registration or comments to:

Appendix C: Consultant's Curriculum Vitae

ENVIRONMENTAL ASSESSMENT PRACTITIONER **Johann Strauss**

Johann Strauss holds a B.A degree in Geography with Psychology and Environmental Management from the Northwest University (NWU) South Africa. He entered the environmental assessment profession at the end of 2022 and since then has worked on various Environmental Impact Assessments including assessments of the petroleum industry, irrigation schemes, tourism and transport industry.

CURRICULUM VITAE JOHANN STRAUSS

Name of Firm	:	Geo Pollution Technologies (Pty) Ltd.
Name of Staff	:	Johann Strauss
Profession	:	Environmental Assessment Practitioner
Years' Experience	:	1
Nationality	:	Namibian
Position	:	Environmental Consultant
Specialisation	:	Environmental Impact Assessments
Languages	:	Afrikaans – speaking, reading, writing – excellent English – speaking, reading, writing – excellent

EDUCATION AND PROFESSIONAL STATUS:

B.A Geography with Psychology and Environmental Management : North West University, 2021

AREAS OF EXPERTISE:

Knowledge and expertise in:

- Environmental impact assessments
- Environmental management plans
- Environmental monitoring
- Environmental auditing and compliance

EMPLOYMENT:

2022-Date : Geo Pollution Technologies – Environmental Consultant

PUBLICATIONS:

Contract reports : 10

ENVIRONMENTAL ASSESSMENT PRACTITIONER **Quzette Bosman**

Quzette Bosman has 16 years' experience in the Impact Assessment Industry, working as an Environmental Assessment Practitioner and Social Assessment practitioner mainly as per the National Environmental Legislation sets for South Africa and Namibia. Larger projects have been completed in terms of World Bank and IFC requirements. She studied Environmental Management at the Rand Afrikaans University (RAU) and University of Johannesburg (UJ), including various Energy Technology Courses. This has fuelled a passion towards the Energy and Mining Industry with various projects being undertaken for these industries. Courses in Sociology has further enabled her to specialize in Social Impact Assessments and Public Participation. Social Assessments are conducted according to international best practise and guidelines. Work has been conducted in South Africa, Swaziland and Namibia.

CURRICULUM VITAE QUZETTE BOSMAN

Name of Firm	:	Geo Pollution Technologies (Pty) Ltd.
Name of Staff	:	QUZETTE BOSMAN
Profession	:	Social Impact Assessor / Environmental Assessment Practitioner
Years' Experience	:	16
Nationality	:	South African
Position	:	Senior Environmental Consultant
Specialisation	:	ESIA & ESMP; SIA
Languages	:	Afrikaans – speaking, reading, writing – excellent English – speaking, reading, writing – excellent German –speaking, reading - fair
First Aid Class A		EMTSS, 2017
First Aid LSM		OSH-Med International 2022
Basic Fire Fighting		EMTSS, 2017
Basic Industrial Fire Fighting		OSH-Med International 2022

EDUCATION AND PROFESSIONAL STATUS:

BA	Geography & Sociology	:	Rand Afrikaans University, 2003
BA	(Hons.) Environmental Management	:	University of Johannesburg, 2004

PROFESSIONAL SOCIETY AFFILIATION:

Namibian Environment and Wildlife Society
International Association of Impact Assessors South Africa (IAIA SA)
Member 2007 - 2012
Mpumalanga Branch Treasurer 2008/2009
OTHER AFFILIATIONS
Mkhondo Catchment Management Forum (DWAF): Chairperson 2008-2010
Mkhondo Water Management Task Team (DWAF): Member 2009

AREAS OF EXPERTISE:

Knowledge and expertise in:

- environmental impact assessments
- project management
- social impact assessment and social management planning
- community liaison and social monitoring
- public participation / consultation, social risk management
- water use licensing
- environmental auditing and compliance
- environmental monitoring
- strategic environmental planning

EMPLOYMENT:

2015 - Present	:	Geo Pollution Technologies – Senior Environmental Practitioner
2014-2015	:	Enviro Dynamics – Senior Environmental Manager
2010 - 2012	:	GCS – Environmental Manager (Mpumalanga Office Manager)
2007 - 2009	:	KSE-uKhozi - Technical Manager: Environmental
2006 -2007	:	SEF – Environmental Manager
2004 - 2005	:	Ecosat – Environmental Manager

PUBLICATIONS:

Contract reports	: +190
Publications	: 1