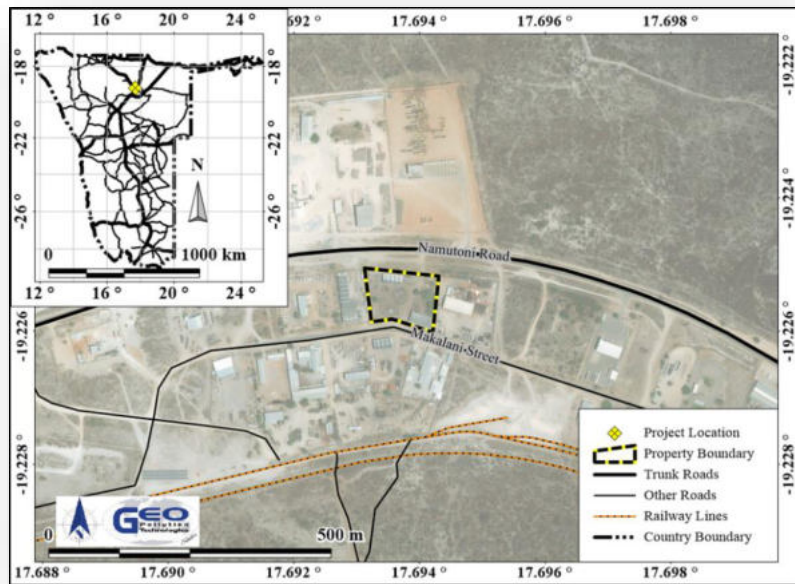


APP-00694

CONSTRUCTION AND OPERATIONS OF A CONSUMER FUEL
INSTALLATION ON ERF 1217, TSUMEB

ENVIRONMENTAL ASSESSMENT SCOPING REPORT




Assessed by:

Assessed for:



Elao Eighty Four CC

November 2022

Project:	CONSTRUCTION AND OPERATIONS OF A CONSUMER FUEL INSTALLATION ON ERF 1217, TSUMEB: ENVIRONMENTAL ASSESSMENT SCOPING REPORT	
Report: Version/Date:	Final November 2022	
Prepared for: (Proponent)	Elao Eighty Four CC PO Box 1361 Tsumeb	
Lead Consultant	Geo Pollution Technologies (Pty) Ltd PO Box 11073 Windhoek Namibia	TEL.: (+264-61) 257411 FAX.: (+264) 88626368
Main Project Team:	André Faul (B.Sc. Zoology/Biochemistry); (B.Sc. (Hons) Zoology); (M.Sc. Conservation Ecology); (Ph.D. Medical Bioscience) Johann Strauss (BA Geography/Psychology); (Environmental Management)	
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Report Approval	 André Faul Conservation Ecologist	

I Rensché Madderson acting as the Proponent's representative (Elao Eighty Four CC) hereby confirm that the project description contained in this report is a true reflection of the information which the Proponent 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 and the report is hereby approved.

Signed at Tsumeb on the 14 day of December 2022.

R Madderson
Elao Eighty Four CC

CC/2007/3476
Business Registration/ID Number

SUMMARY

Elao Eighty Four CC (the Proponent) intends to upgrade their diesel consumer fuel installation on erf 1217 in the industrial area of Tsumeb. The installation is used to supply diesel to various fleet vehicles of the Proponent. The current installation has one 23 m³ aboveground steel tank. The installation will be upgraded to adhere to industry standards with regard to spill control infrastructure. The tank will be located inside an adequately sized concrete bund area and areas where fuel is handled will be covered with concrete spill control slabs with spill catchment pits. General operations will involve the receipt of fuel from road tankers, dispensing fuel to fleet vehicles, tank dips and day to day administrative tasks.

The environmental assessment is conducted to determine all environmental, safety, health and socio-economic impacts associated with the construction and operations of the facility. 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. Impacts on the surrounding environment that may be expected from the facility corresponds to those expected from developments earmarked for industrial areas. It is however recommended that environmental performance be monitored regularly to ensure regulatory compliance and that corrective measures be taken if necessary. The operations of the consumer fuel installation will play an important role in contributing to a reliable supply of fuel to the proponent thereby contributing towards effective operations and sustained employment. By being situated in the industrial area, impacts elsewhere in town may be reduced.

The major concerns related to the upgrade and operations of the facility are that of potential groundwater, surface water and soil contamination and the possibility of fire. This will however be limited by adherence to South African National Standards and Material Safety Data Sheet instructions. Furthermore, noise pollution should meet the minimum requirements of the Labour Act's Health and Safety Regulations and/or World Health Organisation guidelines for community noise. By appointing local contractors and employees and implementing educational programs the positive socio-economic impacts can be maximised while mitigating any negative impacts.

The environmental management plan included in Section 10 of this document should be used as an on-site reference document during all phases (planning, construction (upgrade, care and maintenance), operations and decommissioning) of the facility. All monitoring and records kept should be included in a report to ensure compliance with the environmental management plan. Parties responsible for transgression of the environmental management plan should be held responsible for any rehabilitation that may need to be undertaken. A Health, Safety, Environment and Quality policy as well as Environmental Policy could be used in conjunction with the environmental management plan. Operators and responsible personnel must be taught the contents of these documents. Municipal or national regulations and guidelines must be adhered to and monitored regularly as outlined in the environmental management plan.

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LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
BE	Biological/Ecological
DEA	Directorate of Environmental Affairs
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EMA	Environmental Management Act No 7 of 2007
EMP	Environmental Management Plan
EMS	Environmental Management System
EO	Economic/Operational
ES	Environmental Classification
GPT	Geo Pollution Technologies
HIV	Human Immunodeficiency Virus
IAPs	Interested and Affected Parties
IUCN	International Union for Conservation of Nature
LNAPL	Light Non-Aqueous Phase Liquids
M/S	Meter per second
MBS	Meters below surface
MEFT	Ministry of Environment, Forestry and Tourism
mm/a	Millimetres per annum
MSDS	Material Safety Data Sheet
NaCl	Sodium chloride
PC	Physical/Chemical
PPE	Personal Protective Equipment
PPM	Parts per million
SAH	South Atlantic High
SANS	South African National Standards
SC	Sociological/Cultural
SO₂	Sulphur dioxide
UNCCD	United Nations Convention to Combat Desertification
WHO	World Health Organization

GLOSSARY OF TERMS

Alternatives - A possible course of action, in place of another, that would meet the same purpose and need but which would avoid or minimize negative impacts or enhance project benefits. These can include alternative locations/sites, routes, layouts, processes, designs, schedules and/or inputs. The “no-go” alternative constitutes the ‘without project’ option and provides a benchmark against which to evaluate changes; development should result in net benefit to society and should avoid undesirable negative impacts.

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

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

Construction - means the building, erection or modification of a facility, structure or infrastructure that is necessary for the undertaking of an activity, including the modification, alteration, upgrading or decommissioning of such facility, structure or infrastructure.

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 Impact Assessment (EIA) - process of assessment of the effects of a development on the environment.

Environmental Management Plan (EMP) - A working document on environmental and socio-economic mitigation measures, which must be implemented by several responsible parties during all the phases of the proposed project.

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.

Hazard - Anything that has the potential to cause damage to life, property and/or the environment. The hazard of a particular material or installation is constant; that is, it would present the same hazard wherever it was present.

Interested and Affected Party (IAP) - any person, group of persons or organisation interested in, or affected by an activity; and any organ of state that may have jurisdiction over any aspect of the activity.

Mitigate - The implementation of practical measures to reduce adverse impacts.

Proponent (Applicant) - Any person who has submitted or intends to submit an application for an authorisation, as legislated by the Environmental Management Act no. 7 of 2007, to undertake an

activity or activities identified as a listed activity or listed activities; or in any other notice published by the Minister or Ministry of Environment & Tourism.

Public - Citizens who have diverse cultural, educational, political and socio-economic characteristics. The public is not a homogeneous and unified group of people with a set of agreed common interests and aims. There is no single public. There are a number of publics, some of whom may emerge at any time during the process depending on their particular concerns and the issues involved.

Scoping Process - process of identifying: issues that will be relevant for consideration of the application; the potential environmental impacts of the proposed activity; and alternatives to the proposed activity that are feasible and reasonable.

Significant Effect/Impact - 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 AND INTRODUCTION

Geo Pollution Technologies (Pty) Ltd (GPT) was appointed by Elao Eighty four CC (the Proponent) to undertake an environmental assessment for the proposed upgrade and operations of a consumer fuel installation on erf 1217, Makalani Street in the industrial area of Tsumeb (Figure 2-1). Upgrade of their diesel consumer fuel installation will involve:

- ◆ Site clearing, preparation and earthworks;
- ◆ Civil works required for new infrastructure;
- ◆ Construction of infrastructure for the consumer fuel installation including refuelling area, aboveground tank, pump and reticulation;
- ◆ Installation of spill control infrastructure.

Operations of the consumer fuel installation will include:

- ◆ Filling of the storage tank with fuel from road transport tankers;
- ◆ Dispensing of fuel to fleet vehicles;
- ◆ Tank dips and fuel volume reconciliations;
- ◆ General operational activities and maintenance procedures associated with the facility.

A risk assessment was undertaken to determine the potential impacts of the construction, operational and possible decommissioning phases of 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”.

The environmental assessment was conducted to apply for an environmental clearance certificate in compliance with Namibia’s Environmental Management Act (Act No 7 of 2007) (EMA).

Project Justification – The Proponent operates fleet vehicles inclusive of trucks, forklifts, tractors, pick-ups, etc. in support of their various industrial activities. Operating a consumer fuel installation on site ensures that they have a reliable supply of fuel for their vehicles and improves operational efficiency. Through their operations, various job opportunities have been created and the local and national economy is supported.

Benefits of the consumer fuel installation include:

- ◆ Reliable supply of fuel to fleet vehicles of the Proponent,
- ◆ Employment and skills development especially during the construction phase,
- ◆ Economic development and support for additional investments,
- ◆ Reduced traffic impacts caused by large vehicles elsewhere in town.

2 SCOPE

The scope of the environmental assessment is to, in compliance with the requirements of the EMA:

1. Determine the potential environmental impacts emanating from the upgrade, operational and possible decommissioning activities of the facility,
2. Identify a range of management actions which could mitigate the potential adverse impacts to acceptable levels,
3. Provide sufficient information to the relevant competent authority and Ministry of Environment, Forestry and Tourism (MEFT) to make an informed decision regarding the construction, operations and possible decommissioning of the facility.

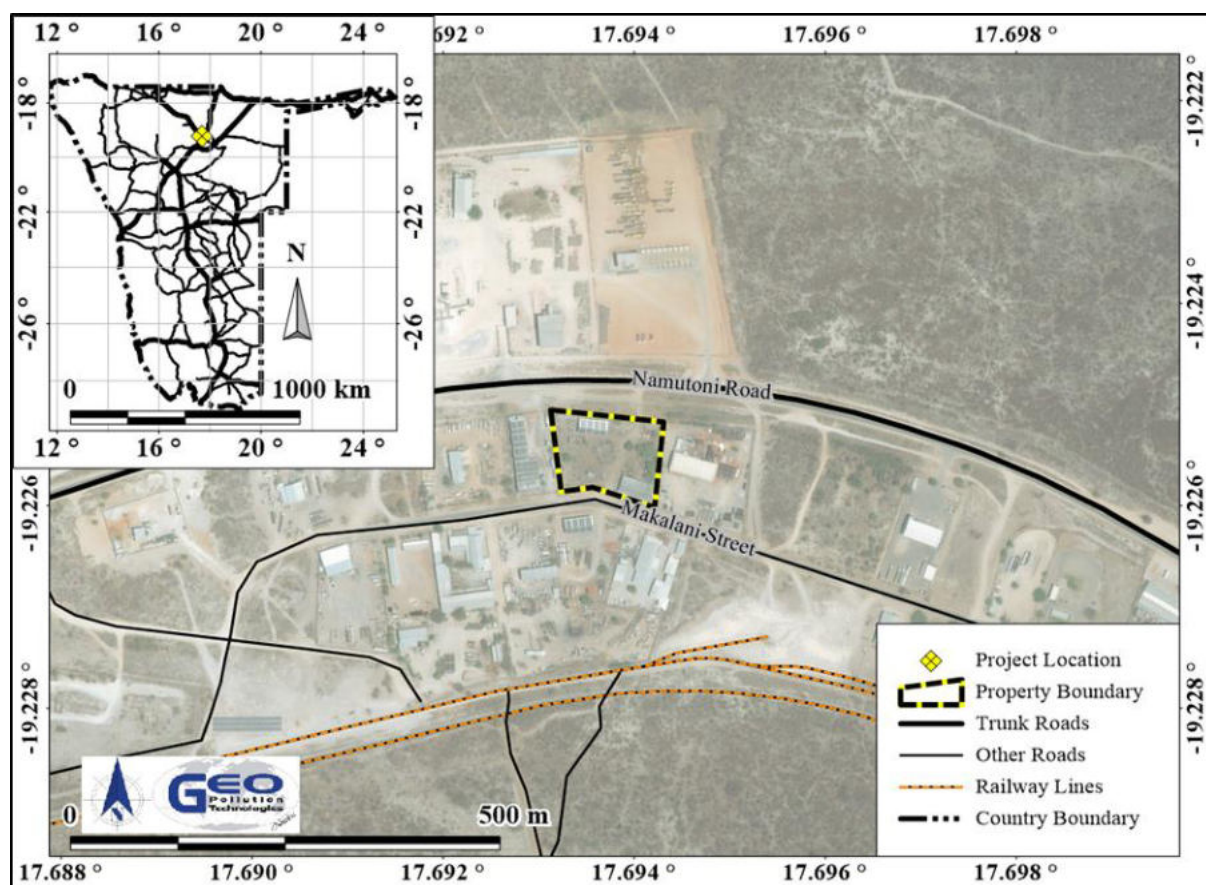


Figure 2-1 Project location

3 METHODOLOGY

The following methods were used to investigate the potential impacts on the social and natural environment due to the construction and operations of the facility:

1. Baseline information about the site and its surroundings was obtained from primary information, existing secondary information as well as from 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 all of which are presented in this report.
3. Potential environmental impacts emanating from the construction, operations and decommissioning of the facility were determined and possible enhancement measures were listed for positive impacts while mitigation/preventative measures were provided for negative impacts.
4. As per the findings of this scoping report, an environmental management plan (EMP) was incorporated into this report to be submitted to the MEFT.

4 UPGRADES, OPERATIONS AND RELATED ACTIVITIES

The Proponent's core business activities on erf 1217, Tsumeb, are scrap salvage and maize milling, as well as the transport of both scrap and maize. They are also contracted by farmers in the area to harvest maize with their combine harvesters. Diesel is required for these operations and as such they operate their own diesel consumer fuel installation. The fuel installation will be upgraded once an environmental clearance certificate has been issued by the MEFT and the various additional permits and licences have been issued by the various regulatory bodies.

4.1 PLANNED INFRASTRUCTURE

The Proponent intends to upgrade one 23 m³ aboveground steel storage tank on site. The storage tank will be situated in a bunded area as per industry standards, which allows for a bunded volume of 110% of the tank volume. The consumer fuel installation will host one pump island with one pump situated adjacent to the bunded area. All surfaces for refuelling will be surfaced with concrete spill control slabs with spill sumps. All infrastructure will be within erf 1217 and access to the erf are from Makalani Street.

Safety systems will include channelling of storm water in order to prevent its contamination with hydrocarbons and firefighting equipment. Fire extinguishers will be placed near the consumer installation and within easy reach of attendants. Minor changes may however be made to the layout during finalisation of the design. The facility will adhere to all Namibian legislation and to relevant South African National Standards (SANS), ensuring safety and environmental protection.

4.2 OPERATIONAL ACTIVITIES

Normal operations associated with the consumer fuel installation will take place. Diesel (50 ppm) will be received from tanker trucks and stored in the aboveground storage tank. Fuel will be dispensed to fleet vehicles and equipment via the dispenser on the pump island by authorised employees as required. Employees will be provided with in-house training for refuelling and operations. Regular reconciliation of fuel volumes will be performed to detect any possible losses. Any contaminated products will be disposed of at a registered waste oil recycler or approved hazardous waste disposal facility. Additional operations of the facility may include daily administrative activities as well as general care and maintenance of the property.



Photo 4-1 Site entrance



Photo 4-2 Proposed installation location

5 ALTERNATIVES TO THE PROPOSED FACILITY

Since the facility must adhere to SANS standards or better, no alternatives in design parameters adhering to SANS is proposed. From an environmental perspective, the environmental assessment did not find any reason why the facility may not continue at this site, on condition that it complies with SANS standards or better, as prescribed by Namibian legislation.

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 to Table 6-3 govern the environmental assessment process in Namibia and/or are relevant to the facility.

Table 6-1 Namibian law applicable to the consumer fuel installation

Law	Key Aspects
The Namibian Constitution	<ul style="list-style-type: none"> ◆ Promote 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	<ul style="list-style-type: none"> ◆ Defines the environment ◆ Promote sustainable management of the environment and the use of natural resources ◆ Provide 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	<ul style="list-style-type: none"> ◆ Commencement of the Environmental Management Act ◆ List activities that requires an environmental clearance certificate ◆ Provide Environmental Impact Assessment Regulations

Law	Key Aspects
Petroleum Products and Energy Act Act No. 13 of 1990, Government Notice No. 45 of 1990	<ul style="list-style-type: none"> ◆ Regulates petroleum industry ◆ Makes provision for impact assessment ◆ Petroleum Products Regulations (Government Notice No. 155 of 2000) <ul style="list-style-type: none"> ○ Prescribes South African National Standards (SANS) or equivalents for construction, operation and decommissioning of petroleum facilities (refer to Government Notice No. 21 of 2002)
The Water Act Act No. 54 of 1956	<ul style="list-style-type: none"> ◆ Remains in force until the new Water Resources Management Act comes into force ◆ Defines the interests of the state in protecting water resources ◆ Controls the disposal of effluent ◆ Numerous amendments
Water Resources Management Act Act No. 11 of 2013	<ul style="list-style-type: none"> ◆ Provide for management, protection, development, use and conservation of water resources ◆ Prevention of water pollution and assignment of liability ◆ Not in force yet
Local Authorities Act Act No. 23 of 1992, Government Notice No. 116 of 1992	<ul style="list-style-type: none"> ◆ Define 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	<ul style="list-style-type: none"> ◆ 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	<ul style="list-style-type: none"> ◆ 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)
Atmospheric Pollution Prevention Ordinance Ordinance No. 11 of 1976	<ul style="list-style-type: none"> ◆ 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	<ul style="list-style-type: none"> ◆ 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)	<ul style="list-style-type: none"> ◆ Not in force yet ◆ Provides for prevention and control of pollution and waste ◆ Provides for procedures to be followed for licence applications

Table 6-2 Relevant multilateral environmental agreements for Namibia

Agreement	Key Aspects
Stockholm Declaration on the Human Environment, Stockholm 1972	<ul style="list-style-type: none"> ◆ 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	<ul style="list-style-type: none"> ◆ 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)	<ul style="list-style-type: none"> ◆ 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	<ul style="list-style-type: none"> ◆ Under article 14 of The Convention, EIAs must be conducted for projects that may negatively affect biological diversity.

Table 6-3 Standards or codes of practise

Standard or Code	Key Aspects
South African National Standards (SANS)	<ul style="list-style-type: none"> ◆ The Petroleum Products and Energy Act prescribes SANS standards for the construction, operations and demolition of petroleum facilities. ◆ SANS 10131 (2004): Above-ground storage tanks for petroleum products. ◆ SANS 10089-3:2010 is specifically aimed at storage and distribution of petroleum products at fuel retail facilities and consumer installations. <ul style="list-style-type: none"> ○ Provide requirements for spill control infrastructure

The project is listed as an activity requiring an environmental clearance certificate as per the following points from Section 9 of Government Notice No. 29 of 2012:

- ◆ 9.1 “The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.”
- ◆ 9.2 “Any process or activity which requires a permit, licence or other form of authorisation, or the modification of or changes to existing facilities for any process or activity which requires an amendment of an existing permit, licence or authorisation or which requires a new permit, licence or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste.”
- ◆ 9.4 “The storage and handling of a dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.”
- ◆ 9.5 “Construction of filling stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin.”

7 ENVIRONMENTAL CHARACTERISTICS

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

7.1 LOCALITY AND SURROUNDING LAND USE

The facility is planned on erf 1217, Makalani Street, Extension 8, Tsumeb (19.22550°S, 17.69380°E) (Figure 2-1). The property is situated within an industrial area in the municipal area of Tsumeb. Access to the site will be gained from Makalani Street. The site is zoned for industrial use and surrounding properties are mainly used for industrial purposes. There are no heritage or cultural sites located on or in close proximity to the site. Adjacent land owners, as contacted during the public consultation process, are listed in Appendix A.

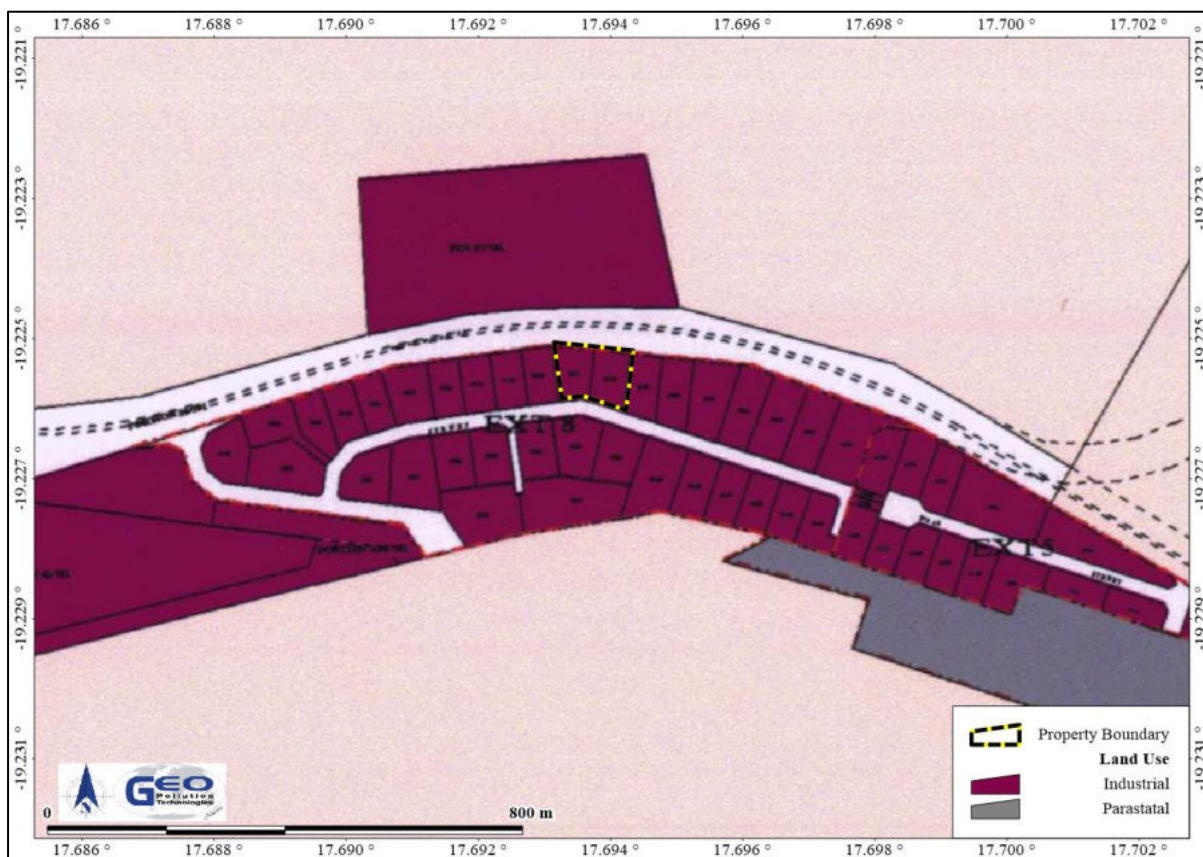


Figure 7-1 Zoning map

Implications and Impacts

The site is situated in an area zoned for industrial purposes. No significant land use impact is expected on nearby establishments from the operations of the consumer fuel installation.

7.2 CLIMATE

The general lack of functioning weather stations in Namibia, in especially rural areas, limits the availability of long term, true weather data. As a best possible workaround, long term climate data was obtained from the Atlas of Namibia Project (2002) and the CHIRPS-2 (Climate Hazards Group Infra-Red Precipitation with Station data version 2) database (Funk et al., 2015), see Table 7-1 and Figure 7-3. Atlas of Namibia Project data was compiled from almost 300 rainfall stations across Namibia. The data was contoured in 50 mm intervals prior to 1999 for variable length data sets. The CHIRPS-2 dataset consists of long term rainfall data (1981 to near-present) obtained from satellite imagery and in-situ station data. The resultant dataset provides a reasonably well represented overview of the climatic conditions and historic rainfall of the general area. True values for single, site specific meteorological events may however differ to some degree.

The rain season normally starts in October and last until April, peaking in January to March. Heavier rainfall (single day events) occur between November and April, with a single event of 52.5 mm in March (last 40 years data) being the highest (Table 7-2). The average annual evaporation rate is high at 2,800 to 3,000 mm/a (Table 7-1). The average annual rainfall according to the Atlas of Namibia Project (2002) is 500 to 550 mm/a, with a coefficient of variance of less than 30% (Table 7-2). According to the CHIRPS-2 data the average is lower at 436 mm with a variance of 26%. Daily and seasonal rainfall data (Funk et al., 2015) is presented in Figure 7-3. Seasonal (July to June) total rainfall, centred on the average line for the last 40 years, is presented, with the daily total rainfall and the seasonal cumulative rainfall. From the figure it is clear that since 2013 the Tsumeb area received mostly below average rainfall with the driest years between 2014/2015 and 2018/2019.

Average annual temperature is 20 to 21 °C and the solar radiation index is more than 5.8 kWh/m² for the area.

Table 7-1 Climate summary (Atlas of Namibia Project, 2002)

Average annual rainfall (mm/a)	500-550
Variation in annual rainfall (%)	< 30
Average annual evaporation (mm/a)	2,800-3,000
Water deficit (mm/a)	1,501-1,700
Average annual temperatures (°C)	20-21
Average solar radiation (kWh/m ² /day)	>5.8

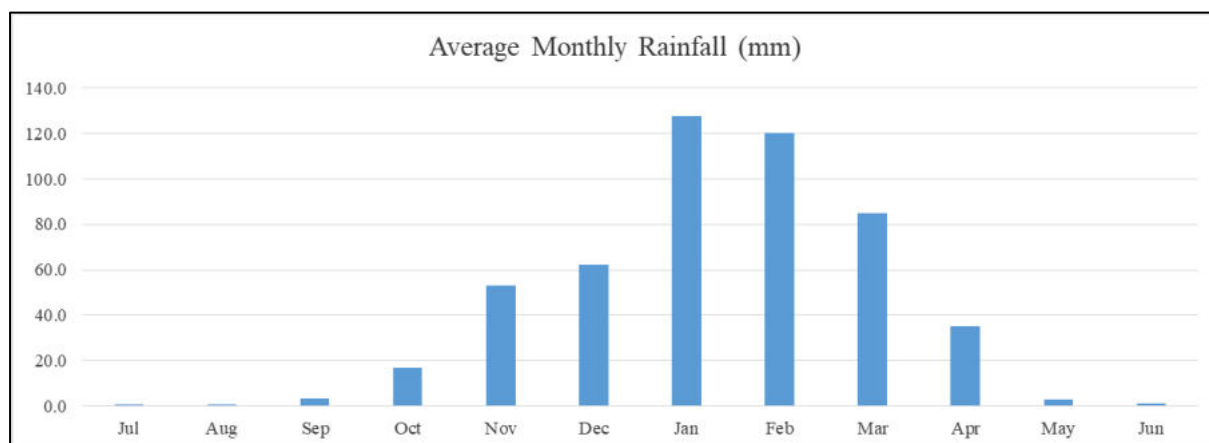


Figure 7-2 Rainfall statistics (Atlas of Namibia Project, 2002)

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/m)	14.14	28.55	22.79	6.98	0.00	0.00	0.00	0.00	0.00	5.87	9.30	21.45
Maximum (mm/m)	225.77	174.21	139.05	108.04	1.15	1.20	0.12	0.00	5.44	60.61	108.25	162.43
Average (mm/m)	92.9	95.0	70.4	29.2	0.0	0.1	0.0	0.0	0.4	18.6	45.0	73.6
Variability (%)	58.0	46.0	42.0	85.0	443.0	442.0	379.0	0.0	259.0	68.0	49.0	47.0
Daily maximum (mm)	34.3	32.4	52.5	45.8	1.6	0.9	0.1	0.0	2.7	25.8	22.9	42.1
Average rain days	13	12	8	3	0	0	0	0	0	3	7	11
Season July - June average: 436 mm						Season coefficient of variation: 26 %						
Data range	1981-Jul-01 to					2021-Jun-30		Lat: 19.2255°S Long: 17.6938°E				

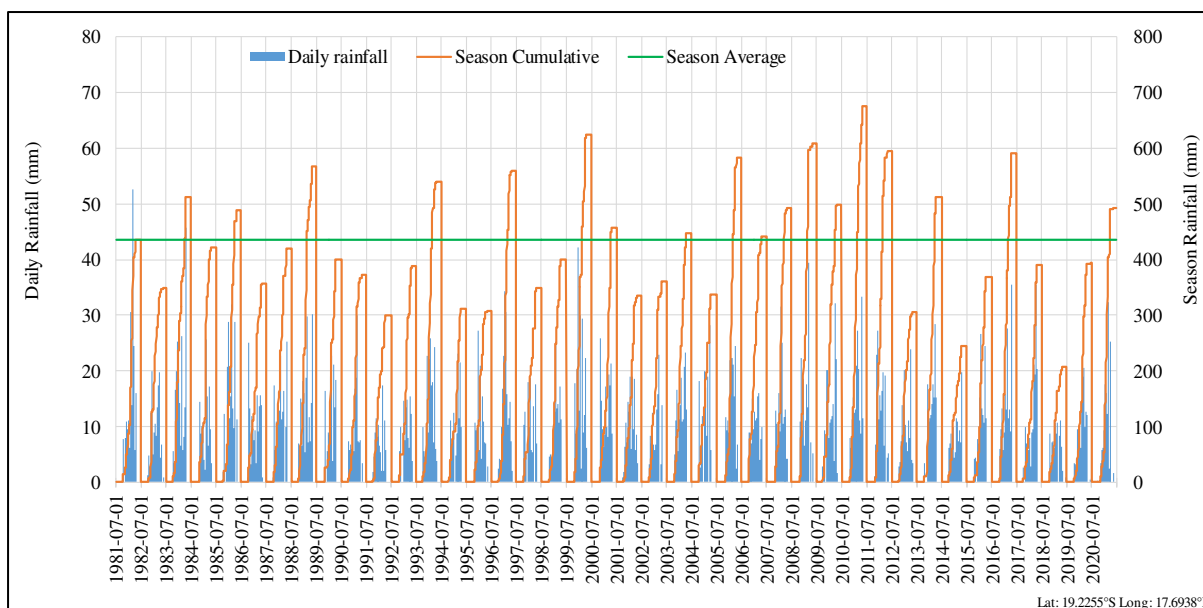


Figure 7-3 Daily and seasonal rainfall from CHIRPS-2 data (Funk et al., 2015)

Implications and Impacts

Water is a scarce and valuable resource in Namibia and in Tsumeb. Rainfall events are typically thunderstorms with heavy rainfall that can occur in short periods of time (cloud bursts). Rainfall in the area is above the Namibian average. The facility must meet all prescribed SANS requirements and therefore should not pose any environmental threat due to Namibia's climatic conditions. Water resources would thus be safe under typical conditions and expected extremes.

7.3 TOPOGRAPHY AND SURFACE WATER

The project area forms part of the Karstveld Landscape, with Kalahari surface deposits in the form of pan deposits. The site forms part of the Otavi Mountain Land which is dominated by hills rising up to 500 m above the surrounding plains, with major east-west trending valleys with relatively flat valley bases. The slope of the project area is mainly less than 5°.

Drainage is poorly developed in the area. The site falls within the catchment of the Etosha Pan. The development of sinkholes, dolines and caves are common in the region. The sinkhole, Lake Otjikoto, occurs approximately 15 km west-northwest of the farm. Surface runoff from the site is expected to be in a northwestern direction (Figure 7-4).

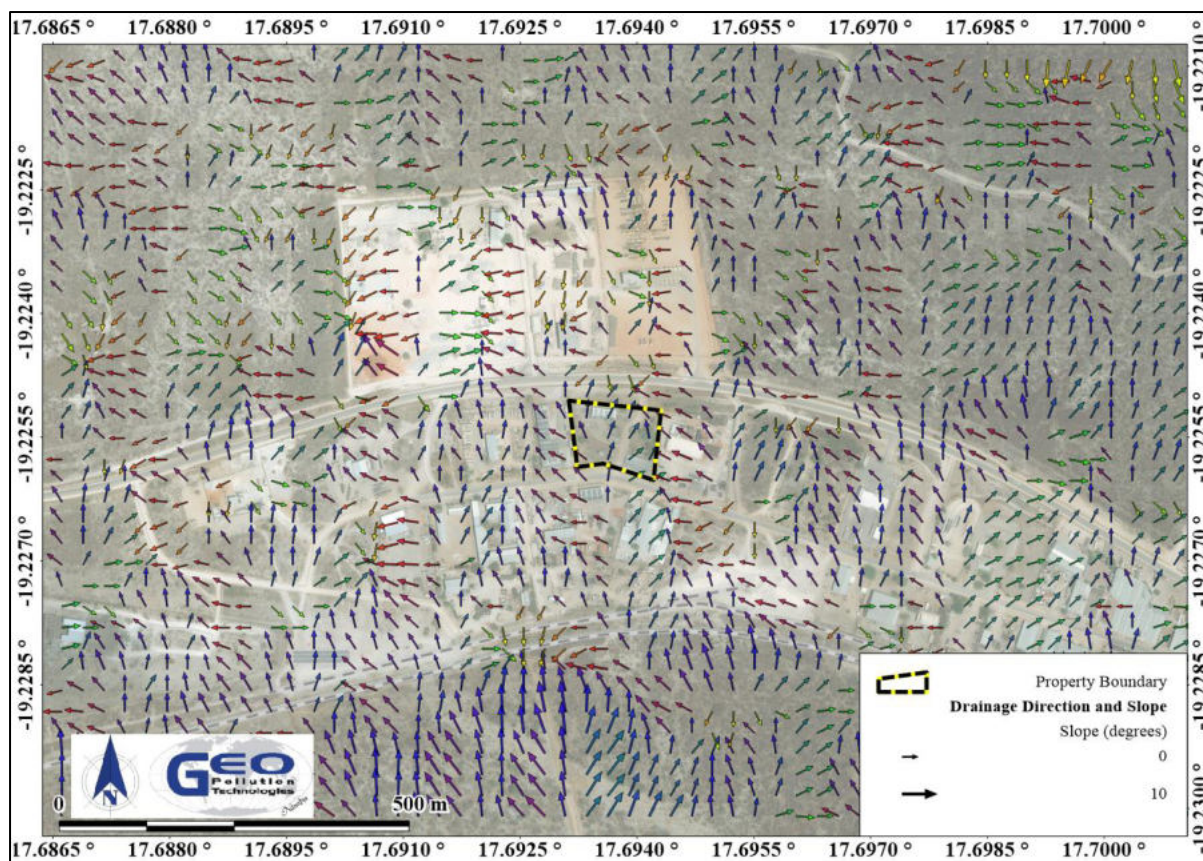


Figure 7-4 Surface flow

Implications and Impacts

The facility must meet all prescribed SANS requirements and therefore surface runoff is not expected to enter surface drainage channels. Flooding is not normally a concern in the area.

7.4 GEOLOGY AND HYDROGEOLOGY

The geology underlying the project area formed during the Quaternary-, Tertiary- and Namibian Age. Geology from the Quaternary and Tertiary Ages consist of the Kalahari Group deposits which typically is sand, calcrete and gravel. Sediments from the Kalahari Group originate mainly from fluvial deposition with some reworking through aeolian processes. The Kalahari Group sediments overlie pre-Kalahari rocks, in this case rocks belonging to the Namibian Age. Damara Sequence rocks consists locally of the Mulden- and Otavi Groups. Subsurface geology at the site consist of dolomite, chert and breccia from the Elandshoek Formation.

Moderate folding of the strata occurred during the Pan African Orogeny (680-450 Ma) and resulted in the formation of synclines and anticlines, generally trending east - west. The development of joints and fractures in the rocks are associated with the folding, which have an impact on the hydrogeological characterization of the area. It should be noted that a thin veneer of Quaternary and Tertiary Age Kalahari Group deposits are present further south than what is indicated in Figure 7-5. The thin veneer was not showed to better present the more important underlying formations.

The main fault orientation is roughly northeast - southwest and northwest - southeast. Geophysical-interpreted dykes occur in the area and strike towards the northeast. Figure 7-5 depicts geological structures interpreted from geophysical data for the farm and the surrounding area.

Groundwater flow is expected to take place through primary porosity in the surface cover, while it is expected to flow along fractures, faults, dykes/mineralised faults or along contact zones


(secondary porosity) and other geological structures present within the underlying formations (hard rock formations). Local flow patterns may vary due to groundwater abstraction.

Groundwater information was obtained from Department of Water Affairs (DWA) borehole database. Groundwater is widely utilised in the study area, with a total of 18 boreholes known of within a 5 km radius. The average water level is 71 mbs and yield 23 m³/h. The DWA database is generally outdated and more boreholes might be present.

According to the Ministry of Agriculture, Water and Forestry (DWAF, 2006) the project is located inside the Tsumeb-Otavi-Grootfontein Subterranean Water Control Area, Government Notice 1969 of 13 November 1970 and Proclamation 278 of 31 December 1976 (Extension). Government regulates groundwater usage in this area and all other groundwater related activities like drilling, cleaning or deepening of boreholes and rates of water abstraction.

Groundwater quality data is mostly of a calcium-magnesium-bicarbonate water type which suggest the water is recently recharged. Groundwater quality from the project area reflect an aquifer that is typical of a dolomitic hard rock formation host where rapid groundwater recharge take place.

Table 7-3. Groundwater Statistics

Query Centre:	Centra Frost Air Scrap; -19.2255°S; 17.6938°E											Query Box Radius: 5.0km
	NUMBER OF KNOWN BOREHOLES	LATITUDE	LONGITUDE	DEPTH (mbs)	YIELD (m ³ /h)	WATER LEVEL (mbs)	WATER STRIKE (mbs)	TDS (ppm)	SULPHATE (ppm)	NITRATE (ppm)	FLUORIDE (ppm)	
	18			14	14	11	6	0	0	0	0	
Data points												
Minimum		-19.180504	17.646146	58	0	35	78					
Average				149	23	71	97					
Maximum		-19.270496	17.741454	235	45	116	120					
Group A				0.00%	85.71%	0.00%	0.00%					
<i>Limit</i>				50	>10	10	10	1000	200	10	1.5	
Group B				14.29%	0.00%	27.27%	0.00%					
<i>Limit</i>				100	>5	50	50	1500	600	20	2.0	
Group C				78.57%	0.00%	45.45%	66.67%					
<i>Limit</i>				200	>0.5	100	100	2000	1200	40	3.0	
Group D				7.14%	14.29%	27.27%	33.33%					
<i>Limit</i>				>200	<0.5	>100	>100	>2000	>1200	>40	>3	

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.

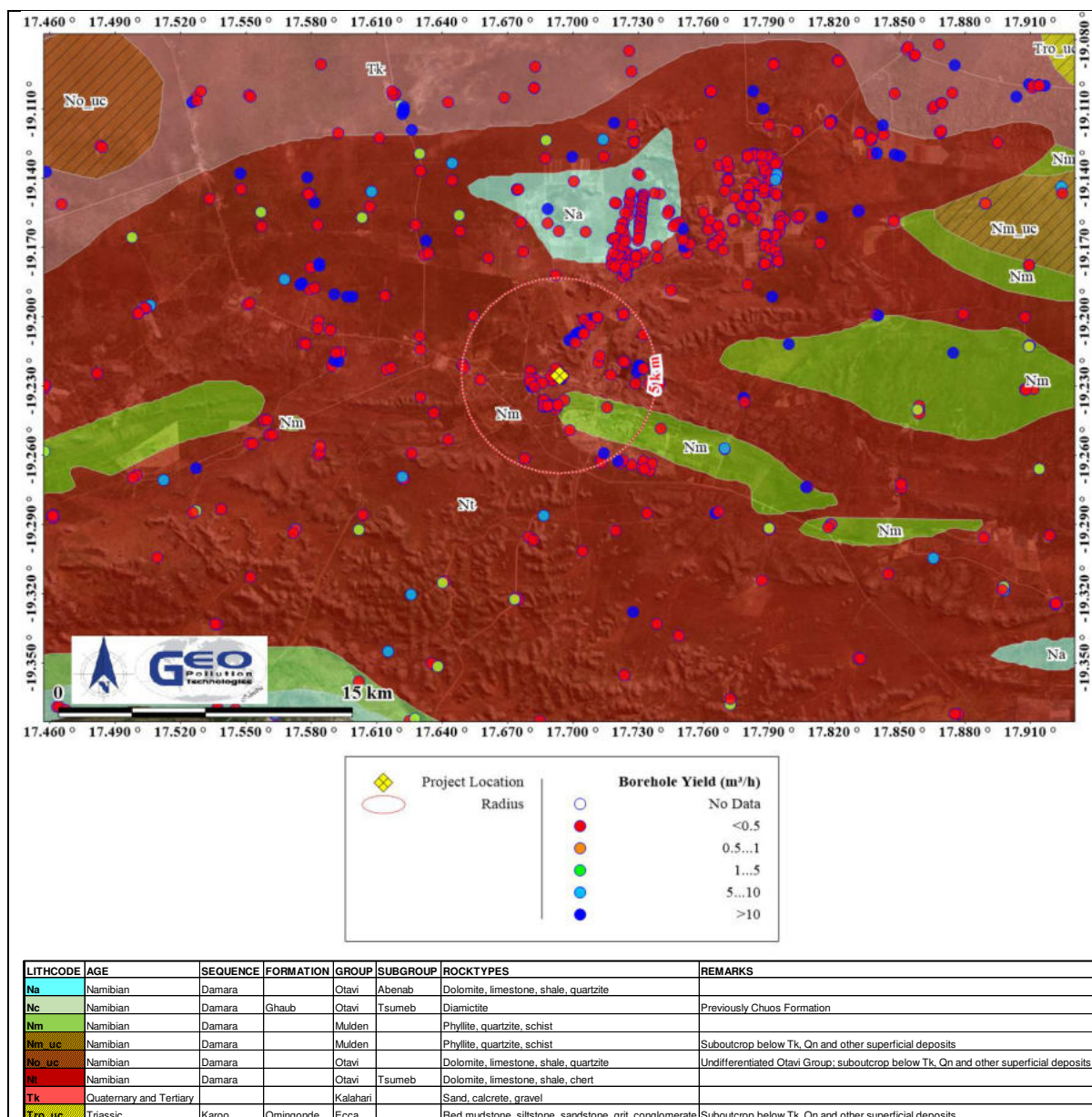


Figure 7-5 Hydrogeology of the project area

Implications and Impacts

Groundwater is utilised in the area and such users would be at risk if pollution of the groundwater takes place. Leakages of contaminants or hydrocarbons from fuel storage and machinery or vehicles on site may pose a risk to contamination of the groundwater resource.

7.5 PUBLIC WATER SUPPLY

Water is supplied to Tsumeb by the municipality from boreholes roughly grouped in three areas: Extension 8, Nomtsoub and Extensions 6 and 7. The boreholes in the Nomtsoub Group have the highest yields.

Implications and Impacts

Water supply to Tsumeb is reliant on groundwater. The consumer fuel installation must meet all prescribed SANS requirements and therefore spilled products is not expected to enter groundwater.

7.6 ECOLOGY

The site falls within the Savanna Biome with a Karstveld vegetation and Woodland structure. Namibia's biodiversity pattern is characterised by low species diversity, but high endemism, in the west while high species diversity, but low levels of endemism, is present in the central north and the northeast.

Plant diversity in the area is high and trees such as *Colophospermum mopane*, *Terminalia prunioides*, *Commiphora* species, *Combretum apiculatum*, *Acacia reficiens*, *Dichrostachys cinerea* and a variety of other trees are characteristic of this vegetation type. Table 7-4 and Table 7-5 present a summary of the general plant and animal diversity of the broader area. The site itself is devoid of natural vegetation apart from some large trees.

Animal diversity in the undisturbed areas of the karstveld (Tsumeb-Otavi Area) is expected to be relatively high, but with low endemism. Birds like the Lilac-breasted Roller, Purple Roller, Crimson-breasted Shrike, Violet-eared Waxbill as well as birds of prey such as the near threatened Red-footed Falcon (*Falco vespertinus*) is expected to be found here. Of the vultures, the critically endangered White-backed Vulture (*Gyps africanus*) and the endangered Lappet-faced Vulture (*Torgos tracheliotos*) have been recorded in the area (BirdLife International 2018a). Although, the site has been transformed by anthropogenic activity, animals protected under the Nature Conservation Ordinance of 1975, like the duiker, scaly anteaters, monitor lizards, pythons, tortoises, honey badgers and steenbok, are still expected to be found outside the site in fragmented patches of natural habitat.

Table 7-4 General flora data (Atlas of Namibia Project 2002)

Biome	Savanna
Vegetation type	Karstveld
Vegetation structure type	Woodland
Diversity of higher plants	High (Diversity rank = 2 [1 to 7 representing highest to lowest diversity])
Number of plant species	400-500
Percentage tree cover	11 - 25
Tree height (m)	2 – 5
Percentage shrub cover	51 – 75
Shrub height (m)	1 – 2
Percentage dwarf shrub cover	2 – 10
Dwarf shrub height (m)	< 0.5
Percentage grass cover	26 – 50
Grass height (m)	< 0.5
Dominant plant species	<i>Colophospermum mopane</i> ; <i>Terminalia prunioides</i> ; <i>Commiphora</i> spp; <i>Combretum apiculatum</i> ; <i>Acacia reficiens</i> ; <i>Dichrostachys cinerea</i>

Table 7-5 General Fauna Data (Atlas of Namibia Project 2002)

Mammal Diversity	76 - 90 Species
Rodent Diversity	24 - 27 Species
Bird Diversity	201 - 230 Species
Reptile Diversity	71 - 80 Species
Snake Diversity	35 - 39 Species
Lizard Diversity	28 - 31 Species
Frog Diversity	12 - 15 Species

Termite Diversity	7 - 9 Genera
Scorpion Diversity	10 - 11 Species

Implications and Impacts

No further impact on the fauna and flora is expected from the continued operation of facility.

7.7 HERITAGE AND CULTURAL ASPECTS

There are four heritage sites in the vicinity of the project area. All four of these sites are located in Tsumeb, southeast of the project area. OMEG-Minenbuero is located 3.35 km from site and is the closest to site, followed by the Roman Catholic Church located 3.37 km away. The Second Directorate's House is located 3.6 km away from site and the German Private School is the furthest from site located 3.8 km from site. Another noteworthy heritage site is Lake Otjikoto, located approximately 15 km west of the project area.

Implications and Impacts

No impact on heritage and cultural aspects are expected from the continued operations of facility.

7.8 DEMOGRAPHIC CHARACTERISTICS

The project area falls within the Oshikoto Region with a population of 181,973 and a density of 4.7 people/km² (National Planning Commission, 2012) (Table 7-6). 88% of the region's population of 15 years and older is considered literate (National Statistics Agency, 2009/2010). Unemployment in the Oshikoto Region is 40% while in the Tsumeb Constituency it is 36%.

Table 7-6 Demographic characteristics of the Tsumeb Constituency, the Oshikoto Region and Nationally (Namibia Statistics Agency, 2011)

	Tsumeb Constituency	Oshikoto Region	Namibia
Population (Males)	9,841	87,066	1,021,912
Population (Females)	9,999	94,907	1,091,165
Population (Total)	19,840	181,973	2,113,077
Unemployment (15+ years)	36%	40%	33.8%
Literacy (15+ years)	89%	88%	87.7%

Table 7-7 Main industry of employed population aged 15 years and above by sex, Tsumeb (Namibia Statistics Agency, 2011)

Main Industry	Total	Female	Male
Total	7,401	2,803	4,598
Agriculture Forestry and Fishing	1,119	359	760
Mining And Quarrying	725	31	694
Manufacturing	557	129	428
Electricity Gas Steam and Air conditioning supply	28	9	19
Water Supply Sewerage Waste Management and Remediation activities	32	3	29
Construction	617	76	541
Wholesale and Retail trade; Repair of motor vehicles and motorcycles	576	279	297
Transportation and Storage	396	30	366
Accommodation and Food Service activities	241	146	95

Main Industry	Total	Female	Male
Information and Communication	46	21	25
Financial Insurance Activities	141	94	47
Real-estate Activities	1	0	1
Professional Scientific and Technical activities	78	46	32
Administrative and Support service activities	1,169	519	650
Public Administration and Defence; compulsory social security	252	106	146
Education	308	202	106
Human Health and Social work activities	200	149	51
Arts Entertainment and Recreation	19	9	10
Other Services activities	135	89	46
Activities of Private Households	603	433	170
Activities of extraterritorial organisation and bodies	3	3	0
Don't Know	155	70	85

Implications and Impacts

The Proponent provides employment to people from the area.

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 the facility and to identify additional issues which they feel should be addressed in the environmental assessment.

Public participation notices were advertised twice in two weeks in the national papers The Namibian Sun and Die Republikein on the 12th and 19th of October 2022 respectively. A site notice was placed on site and notification letters delivered to identified neighbours. The Municipality of Tsumeb was also notified by hand delivered letter. One individual registered as IAP, but no comments or concerns were raised regarding the facility. See Appendix A for proof of the public participation processes and registered IAPs.

9 MAJOR IDENTIFIED IMPACTS

During the scoping exercise a number of potential environmental impacts have been identified. The following section provides a brief description of the most important of these impacts.

9.1 HYDROCARBON POLLUTION

This section describes the most pertinent pollution impacts that are expected from the facility and its operations. Groundwater and soil pollution from hydrocarbon products are major issues associated with the storage and handling of such products. Both forms of pollution are prohibited in Namibia.

When a release of hydrocarbon products takes place to the soil, the Light Non-Aqueous Phase Liquids (LNAPL) will infiltrate into the soil and start to migrate vertically. LNAPL transport in the subsurface environment occurs in several phases, including bulk liquid, dissolved, and vapour phases. Mechanisms that influence transport include the physicochemical properties of the specific compounds present such as density, vapour pressure, viscosity, and hydrophobicity, as well as the physical and chemical properties of the subsurface environment, including geology and hydrogeology. Hydrocarbon liquids are typically complex mixtures composed of numerous compounds, each with its own individual physicochemical and, therefore, transport properties.

If small volumes of spilled LNAPL enter the unsaturated zone (i.e. vadose zone), the LNAPL will flow through the central portion of the unsaturated pores until residual saturation is reached. A three-phase system consisting of water, LNAPL, and air is formed within the vadose zone. Infiltrating water dissolves the components within the LNAPL (e.g., benzene, xylene, and toluene) and transports them to the water table. These dissolved contaminants form a contaminated plume radiating from the area of the residual product. Many components found in LNAPL are volatile and can partition into soil air and be transported by molecular diffusion to other parts of the aquifer. As these vapours diffuse into adjoining soil areas, they may partition back into the water phase and transfer contamination over wider areas. If the soil surface is relatively impermeable, vapours will not diffuse across the surface boundary and concentrations of contaminants in the soil atmosphere may build up to equilibrium conditions. However, if the surface is not covered with an impermeable material, vapours may diffuse into the atmosphere.

If large volumes of LNAPL are spilled, the LNAPL flows through the pore space to the top of the capillary fringe of the water table. Dissolved components of the LNAPL precede the less soluble components and may change the wetting properties of the water, causing a reduction in the residual water content and a decrease in the height of the capillary fringe.

Since LNAPL are lighter than water, it will float on top of the capillary fringe. As the head formed by the infiltrating LNAPL increases, the water table is depressed and the LNAPL accumulate in the depression. If the source of the spilled LNAPL is removed or contained, LNAPL within the vadose zone continue to flow under the force of gravity until reaching residual saturation. As the LNAPL continue to enter the water table depression, it spread laterally on top of the capillary fringe. The draining of the upper portions of the vadose zone reduces the total head at the interface between the LNAPL and the groundwater, causing the water table to rebound slightly. The rebounding water displaces only a portion of the LNAPL because the LNAPL remain at residual saturation. Groundwater passing through the area of residual saturation dissolves constituents of the residual LNAPL, forming a contaminant plume. Water infiltrating from the surface also can dissolve the residual LNAPL and add to the contaminant load of the aquifer.

Decrease in the water table level from seasonal variations may lead to dropping of the pool of LNAPL. If the water table rises again, part of the LNAPL may be pushed up, but a portion remains at residual saturation below the new water table. Variations in the water table height, therefore, can spread LNAPL over a greater thickness of the aquifer, causing larger volumes of aquifer materials to be contaminated.

Hydrocarbon products do biodegrade in the subsurface, although the effectiveness of this process depends on subsurface conditions. The type of hydrocarbon product plays a further role in the duration of biodegradation, with the longer chain components taking much longer to biodegrade.

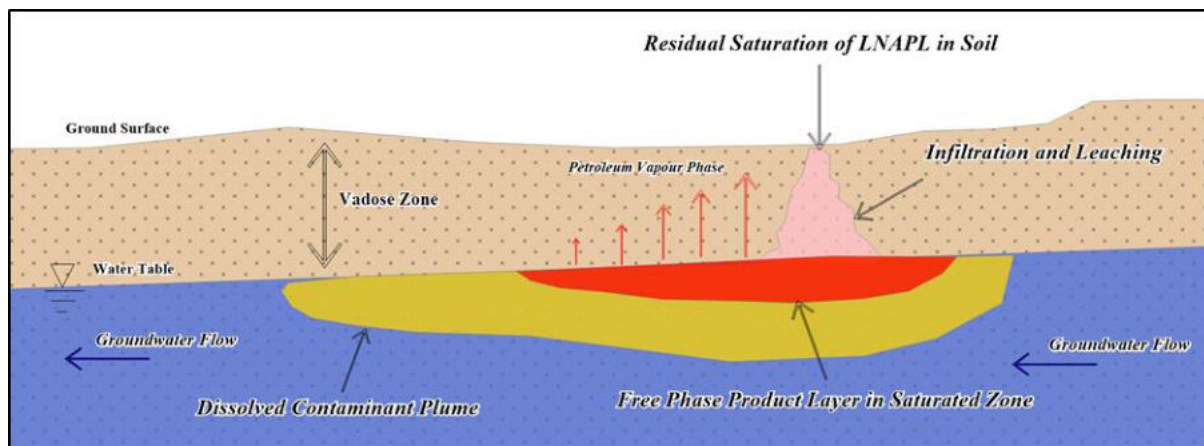


Figure 9-1 Conceptual LNAPL release to the vadose zone

9.2 NOISE IMPACTS

Construction noise will be related to concrete mixing, excavations and vehicles accessing the site. Some noise will exist due to vehicles accessing the site for delivering and collecting fuel during operations.

9.3 TRAFFIC IMPACTS

Limited traffic impacts may be experienced during the construction phase for the delivery of equipment and materials. No additional impacts are expected during the operational phase as it is an existing site. By having their own consumer fuel installation, there is no need for refuelling their own vehicles in town, thus reducing traffic impacts at fuel facilities there.

9.4 FIRE

Diesel will be stored at the site. Although diesel is less flammable than more volatile fuels such as unleaded petrol, it still poses a fire risk if not handled according to Material Safety Data Sheet instructions and SANS requirements.

9.5 HEALTH

Hydrocarbons are carcinogenic and dermal contact and inhalation of fumes should be prevented.

9.6 SOCIO-ECONOMIC IMPACTS

Construction activities at the consumer fuel installation will provide employment opportunities and some training and skills development may ensue. The consumer fuel installation will indirectly contribute to sustaining the daily operations of the Proponent and thus its employee base.

10 ASSESSMENT AND MANAGEMENT OF IMPACTS

The purpose of this section is to assess and identify the most pertinent environmental impacts that are expected from the construction, operational and potential decommissioning activities of the proposed facility. 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:

$$\text{Environmental Classification} = A1 \times A2 \times (B1 + B2 + B3)$$

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 facility 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 facility. This section of the report can act as a stand-alone document. All personnel taking part in the operations of the facility 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 construction activities and operations of the facility;
- ◆ to prescribe the best practicable control methods to lessen the environmental impacts associated with the project;
- ◆ 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 upgrade, 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 medium to low 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 groundwater contamination and traffic impacts.

10.1.1 Planning

During the phases of planning for construction, operations and decommissioning of the facility, it is the responsibility of the 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 construction activities and operations of the installation are in place and remains valid. This includes the consumer installation certificate and municipal approvals.
- ◆ Ensure that design parameters, where required, is approved by relevant authorities prior to construction of the facility.
- ◆ 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 (HSE) Coordinator to implement the EMP and oversee occupational health and safety as well as general environmental related compliance at the site.
- ◆ 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.
- ◆ 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 construction activities, operations and decommissioning as outlined in the EMP.
- ◆ Submit bi-annual reports to the MEFT to allow for environmental clearance certificate renewal after three years. This is a requirement by MEFT.
- ◆ 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

Various levels of unskilled to skilled labour will be used during the construction phase. Some skills transfer to unskilled workers may result. Some employment will be provided for the operations of the fuel installation. Income through salaries and wages will increase local spending power. Employment will be sourced locally while skilled labour/contractors may be sourced from other regions.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Employment	2	1	2	2	2	12	2	Probable
Daily Operations	Employment	2	1	2	3	2	14	2	Definite

Desired Outcome: Employment and development of local Namibians and increase in their spending power through receipt of wages and salaries.

Actions

Mitigation:

- ◆ 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.

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ Summary report based on employee records.
- ◆ Bi-annual summary reports on all training conducted.

10.1.3 Demographic Profile and Community Health

The project relies on labour for construction and operations. The scale of the project is limited and it is not foreseen that it will create a change in the demographic profile of the local community. Community health may be exposed to factors such as communicable disease like HIV/AIDS and alcoholism/drug abuse, especially during the construction phase when an increase in foreign people in the area may potentially increase the risk of criminal and socially/culturally deviant behaviour.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	In-migration and social ills related to unemployment	2	-1	1	1	2	-8	-1	Probable
Daily Operations	In-migration and social ills related to unemployment	2	-1	1	2	1	-8	-1	Probable

Desired Outcome: To prevent the in-migration and growth in informal settlements, prevent the spread of communicable disease and prevent/discourage socially deviant behaviour.

Actions:

Prevention:

- ◆ Employ only local people from the area, deviations from this practice should be justified appropriately.
- ◆ Adhere to all municipal by-laws relating to environmental health which includes but is not limited to sand and grease traps for the various facilities and sanitation requirements.

Mitigation:

- ◆ Educational programmes for employees on HIV/AIDs and general upliftment of employees' social status.
- ◆ Appointment of reputable contractors.

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ Facility inspection sheet for all areas which may present environmental health risks, kept on file.
- ◆ Bi-annual summary report based on educational programmes and training conducted.
- ◆ Bi-annual report and review of employee demographics.

10.1.4 Fuel Supply

The operations of the installation will aid in securing fuel supply to the fleet and equipment of the Proponent. This will aid in the efficiency of the operations of the proponent.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	Contribution to the efficiency of the Proponent	3	1	3	2	1	18	2	Definite

Desired Outcome: Ensure a secure fuel supply remains available to the proponent.

Actions

Mitigation:

- ◆ Ensure compliance to the petroleum regulations of Namibia.
- ◆ Proper management to ensure constant supply.
- ◆ Record supply problems and take corrective actions.

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ Record supply problems and corrective actions taken and compile a bi-annual summary report.

10.1.5 Traffic

The Proponent's operations increase traffic flow in the adjacent streets, especially Makalani Street. However the consumer fuel installation is not expected to result in increased traffic impacts as it is an existing site. In turn, by providing fuel to fleet and construction vehicle on site in the industrial area, the amount of vehicles needing to refuel in town will be reduced. Construction activities may result in minor and temporary traffic impacts in Makalani Street.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Delivery of equipment and building supplies	2	-1	2	2	2	-12	-2	Probable
Daily Operations	Increase traffic, road wear and tear and accidents	2	-1	3	2	2	-14	-2	Definite

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

Actions

Prevention:

- ◆ Erect clear signage regarding access and exit points at the facility.
- ◆ Tanker trucks delivering fuel and fleet vehicles should not be allowed to obstruct any traffic of entrances/exits of neighbours in Makalani Street.
- ◆ Trucks entering and exiting the facility should not be allowed to make sharp turns on Makalani Street, as this may result in traffic issues and damage to the road infrastructure.

Mitigation:

- ◆ If any traffic impacts are expected, especially also during the delivery of equipment during the construction phase, traffic management should be performed to prevent these.

Responsible Body:

- ◆ Contractor
- ◆ 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.

10.1.6 Health, Safety and Security

Activities associated with the construction and operational phases are reliant on human labour and therefore exposes them to health and safety risks. Activities such as the operation of machinery and handling of hazardous chemicals (inhalation and carcinogenic effect of some petroleum products), poses the main risks to employees. Security risks are related to unauthorized entry, theft and sabotage.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Physical injuries, exposure to chemicals and criminal activities	1	-2	2	2	1	-10	-2	Probable
Daily Operations	Physical injuries, exposure to chemicals and criminal activities	1	-2	3	2	2	-14	-2	Probable

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

Actions

Prevention:

- ◆ Implement and maintain an integrated health and safety management system, to act as a monitoring and mitigating tool, which includes: colour coding of pipes, operational, safe work and medical procedures, permits to work, emergency response plans, housekeeping rules, MSDS's and signage requirements (PPE, flammable etc.).
- ◆ Clearly label dangerous and restricted areas as well as dangerous equipment and products.
- ◆ Equipment that will be locked away on site must be placed in a way that does not encourage criminal activities (e.g. theft).
- ◆ Provide all employees with required and adequate personal protective equipment (PPE).
- ◆ Ensure that all personnel receive adequate training on operation of equipment/handling of hazardous substances.
- ◆ All health and safety standards specified in the Labour Act should be complied with.
- ◆ Implementation of maintenance register for all equipment and fuel/hazardous substance storage areas.
- ◆ Strict security that prevents unauthorised entry during construction phases.

Mitigation:

- ◆ 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.

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.

10.1.7 Fire

Operational and maintenance activities may increase the risk of the occurrence of fires. The site is located developed area which may increases the difficulty of fighting fires. The facility will only store diesel which is not as flammable as more volatile fuels.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Fire and explosion risk	1	-2	2	2	1	-10	-2	Probable
Daily Operations	Fire and explosion risk	1	-2	3	2	1	-12	-2	Probable

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

Actions:

Prevention:

- ◆ Ensure all chemicals are stored according to MSDS and SANS instructions.
- ◆ Maintain regular site, mechanical and electrical inspections and maintenance.
- ◆ Clean all spills/leaks.
- ◆ Special note must be taken of the regulations stipulated in sections 47 and 48 of the Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990).
- ◆ Follow SANS standards for design, operation and maintenance of the facility, this includes refuelling locations and distances from boundaries.
- ◆ All dispensers must be equipped with devices that cut fuel supply during fires.
- ◆ The proponent should liaise with the local Fire Brigade to ensure that all fire requirements are met. This includes, but is not limited to SANS 10400 T: 2011.

Mitigation:

- ◆ A holistic fire protection and prevention plan is needed. This plan must include an emergency response plan, firefighting plan and spill recovery plan.
- ◆ 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.

10.1.8 Air Quality

Fuel vapours are released into the air during refuelling of the storage tank as well as at filling point. Prolonged exposure may have carcinogenic effects. Dust may be generated during construction.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Excessive dust generated from maintenance and upgrade activities	1	-1	2	2	2	-6	-1	Probable
Daily Operations	Fuel vapours	1	-1	3	2	1	-6	-1	Probable

Desired Outcome: To prevent health impacts and minimise the dust generated.

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.
- ◆ Employees should be coached on the dangers of fuel vapours.

◆ **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.

10.1.9 Noise

Construction (including maintenance and upgrades) may generate noise. This will be a temporary impact. During operations, noise pollution will be limited and may be related to vehicles accessing the site to offload fuel and during maintenance activities. As the site is situated in an industrial area, noise impacts is not expected to negatively impacts surrounding land users and will mostly be related to possible hearing loss of onsite personnel.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Excessive noise generated from construction activities – nuisance and hearing loss	1	-1	2	2	1	-5	-1	Probable
Daily Operations	Noise generated from the operational activities – nuisance	1	-1	3	2	2	-7	-1	Probable

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

Actions

Prevention:

- ◆ Follow Labour Act Health and Safety Regulations and World Health Organization (WHO) guidelines on maximum noise levels (Guidelines for Community Noise, 1999) to prevent hearing impairment and nuisances.
- ◆ All machinery must be regularly serviced to ensure minimal noise production.

Mitigation:

- ◆ Hearing protectors as standard PPE for workers in situations with elevated noise levels.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ Labour Act Health and Safety Regulations and WHO Guidelines.
- ◆ Maintain a complaints register.
- ◆ Report on complaints and actions taken to address complaints and prevent future occurrences.

10.1.10 Waste production

Waste will be produced during the construction and operational phase. Waste may include hazardous waste associated with the handling of hydrocarbon products etc. Waste presents a contamination risk and when not removed regularly may become a fire hazard. Construction waste may include building rubble and discarded equipment contaminated by hydrocarbon products. Contaminated soil and water is considered as a hazardous waste.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Excessive waste production, littering, illegal dumping, contaminated materials	1	-2	2	2	2	-12	-2	Definite
Daily Operations	Excessive waste production, littering, contaminated materials	1	-2	3	2	2	-14	-2	Definite

Desired Outcome: To reduce the amount of waste produced, and prevent 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 temporary waste storage facilities are available.
- ◆ Ensure waste cannot be blown away by wind.
- ◆ Prevent scavenging (human and non-human) of waste.
- ◆ All regulation and by-laws relating to environmental health should be adhered to.

Mitigation:

- ◆ 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).
- ◆ The spill catchment traps should be cleaned regularly and waste disposed of appropriately.
- ◆ See the material safety data sheets available from suppliers for disposal of contaminated products and empty containers.
- ◆ Liaise with the municipality regarding waste and handling of hazardous waste.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources 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.

10.1.11 Ecosystem and Biodiversity Impact

The nature of the operational activities is such that the probability of creating a habitat for flora and fauna to establish is low. No significant impact on the biodiversity of the area is predicted as the site is currently void of natural fauna and flora.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Impact on fauna and flora. Loss of biodiversity	1	-1	3	2	2	-7	-1	Improbable
Daily Operations	Impact on fauna and flora. Loss of biodiversity	1	-1	3	2	2	-7	-1	Improbable

Desired Outcome: To avoid pollution of and impacts on the ecological environment.

Actions.

Mitigation:

- ◆ Report any extraordinary animal sightings to the Ministry of Environment and Tourism.
- ◆ Mitigation measures related to waste handling and the prevention of groundwater, surface water and soil contamination should limit ecosystem and biodiversity impacts.
- ◆ Avoid scavenging of waste by fauna.
- ◆ The establishment of habitats and nesting sites at the facility should be avoided where possible.

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ All information and reporting to be included in a bi-annual report.

10.1.12 Groundwater, Surface Water and Soil Contamination

Operations entail the storage and handling of diesel which presents a contamination risk. Contamination may either result from failing storage facilities, or spills and leaks associated with overfilling or human error. Such spills may contaminate surface water, soil and groundwater.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Contamination from hazardous material spillages and hydrocarbon leakages	2	-2	2	2	1	-20	-3	Probable
Daily Operations	Contamination from hazardous material spillages and hydrocarbon leakages	2	-2	3	2	1	-24	-3	Probable

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

Actions

Prevention:

- ◆ Spill control structures and procedures must be in place according to SANS standards or better.
- ◆ All fuelling should be conducted on surfaces provided for this purpose. E.g. Concrete slabs with regularly maintained seals between slabs.
- ◆ The procedures followed to prevent environmental damage during service and maintenance, and compliance with these procedures, must be audited and corrections made where necessary.
- ◆ Proper training of operators must be conducted on a regular basis (fuel handling, spill detection, spill control).

Mitigation:

- ◆ Any spillage of more than 200 litre must be reported to the Ministry of Mines and Energy.
- ◆ Spill clean-up means must be readily available on site as per the relevant MSDS.
- ◆ Any spill must be cleaned up immediately.
- ◆ The spill catchment traps should be cleaned regularly and waste disposed of at a suitably classified hazardous waste disposal facility.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ A report should be compiled bi-annually of all spills or leakages reported. The report should contain the following information: date and duration of spill, product spilled, volume of spill, remedial action taken, comparison of pre-exposure baseline data (previous pollution conditions survey results) with post remediation data (e.g. soil/groundwater hydrocarbon concentrations) and a copy of documentation in which spill was reported to Ministry of Mines and Energy.

10.1.13 Visual Impact

This impact is not only associated with the aesthetics of the site, but also the structural integrity. The facility will form part of the existing site, within a fenced area and will have a minimal impact regarding aesthetics.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Construction	Aesthetic appearance and integrity of the site during construction	1	-1	2	2	2	-6	-1	Probable
Daily Operations	Aesthetic appearance and integrity of the site	1	-1	3	2	2	-7	-1	Improbable

Desired Outcome: To minimise aesthetic impacts associated with the facility.

Actions

Mitigation:

- ◆ Regular waste disposal, good housekeeping and routine maintenance on infrastructure will ensure that the longevity of structures are maximised and a low visual impact is maintained.

Responsible Body:

- ◆ Proponent
- ◆ Contractors

Data Sources and Monitoring:

- ◆ A maintenance record should be kept.
- ◆ A report should be compiled of all complaints received and actions taken.

10.1.14 Cumulative Impact

Possible cumulative impacts associated with the operational phase include increased traffic in the area. This will have a cumulative impact on traffic flow on surrounding streets.

Project Activity/Resource	Nature (Status)	(A1) Importance	(A2) Magnitude	(B1) Permanence	(B2) Reversibility	(B3) Cumulative	Environmental Classification	Class Value	Probability
Daily Operations	The build-up of minor impacts to become more significant	2	-2	2	2	2	-24	-3	Probable

Desired Outcome: To minimise cumulative all impacts associated with the facility.

Actions

Mitigation:

- ◆ Addressing each of the individual impacts as discussed and recommended in the EMP would reduce the cumulative impact.
- ◆ Reviewing biannual and annual reports for any new or re-occurring impacts or problems would aid in identifying cumulative impacts and help in planning if the existing mitigations are insufficient.

Responsible Body:

- ◆ Proponent

Data Sources and Monitoring:

- ◆ Bi-annual summary report based on all other impacts must be created to give an overall assessment of the impact of the operational phase.

10.2 DECOMMISSIONING AND REHABILITATION

Decommissioning is not foreseen during the validity of the environmental clearance certificate. Decommissioning was however assessed as construction activities include modification and decommissioning. Should decommissioning occur at any stage, rehabilitation of the area may be required. Decommissioning will entail the complete removal of all infrastructure including buildings and underground infrastructure. Any pollution present on the site must be remediated. The impacts associated with this phase include noise and waste production as structures are dismantled. Noise must be kept within WHO standards and waste should be contained and disposed of at an appropriately classified and approved waste facility and not dumped in the surrounding areas. Future land use after decommissioning should be assessed prior to decommissioning and rehabilitation initiated if the land would not be used for future purposes. The EMP for the facility will have to be reviewed at the time of decommissioning to cater for changes made to the site and implement guidelines and mitigation measures.

10.3 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; and
- ◆ Periodic (internal and external) audits and reviews of environmental performance and the effectiveness of the EMS.
- ◆ The EMP

11 CONCLUSION

The consumer fuel installation will have a positive impact on the operations of the Proponent by ensuring a reliable supply of fuel is available to fleet and construction vehicles. In addition to reliable and convenient fuel supply, the facility indirectly contributes locally to skills transfer and training which in turn develops the local workforce, especially during the construction phase.

Negative impacts can successfully be mitigated. SANS standards relating to the petroleum industry and prescribed by Namibian law must be followed during all operations of the consumer fuel installation. Noise pollution should at all times meet the prescribed Labour Act Health and Safety regulations and WHO requirements to prevent hearing loss and not to cause a nuisance. Fire prevention should be adequate, and health and safety regulations should be adhered to in accordance with the regulations pertaining to relevant laws and internationally accepted standards of operation. Any waste produced must be removed from site and disposed of at an appropriate facility or re-used or recycled where possible. Hazardous waste must be disposed of at an approved hazardous waste disposal site.

The EMP (Section 10) should be used as an on-site reference document for the operations of the facility. Parties responsible for transgressing of the EMP should be held responsible for any rehabilitation that may need to be undertaken. The proponent could use an in-house Health, Safety, Security and Environment Management System in conjunction with the EMP. All operational personnel must be taught the contents of these documents.

Should the Directorate of Environmental Affairs (DEA) of the MEFT find that the impacts and related mitigation measures, which have been proposed in this report, are acceptable, an environmental clearance certificate may be granted to the Proponent. The environmental clearance certificate issued, based on this document, will render it a legally binding document which should be adhered to. Focus could be placed on Section 10, which includes an EMP for this project. It should be noted that the assessment process's aim is not to stop the proposed activity, or any of its components, but to rather determine its impact and guide sustainable and responsible development as per the spirit of the EMA.

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Appendix A: Proof of Public Consultation

Notified Interested and or Affected Parties

Name	Position	Organisation
Dinna Ipinge	CEO	Tsumeb Municipality
Hilda du Preez	Receptionist	Henning Crusher
Rose Natago	Receptionist	Power Line Africa
Hano Humpries		Power Maize
Johan Nell		<u>Tosas</u>

Registered IAPs

Name	Organisation	Date Registered
Rensche Madderson	Elao Eighty Four	10/16/2022

Notification: Municipality of Tsumeb

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

10 October 2022

To: Interested and Affected Parties

Re: Environmental Scoping Assessment and Environmental Management Plan for a Consumer Fuel Installation on erf 1217, Tsumeb

Dear Sir/Madam

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/or affected parties (IAPs) that an application will be made to the Environmental Commissioner for an environmental clearance certificate for the following project:

Project: Environmental Scoping Assessment and Environmental Management Plan for a Consumer Fuel Installation on erf 1217, Tsumeb

Proponent: Elao Eighty Four CC t/a Centra Frost Air Scrap

Environmental Assessment Practitioner: Geo Pollution Technologies (Pty) Ltd

Centra Frost Air Scrap intends to upgrade their diesel consumer fuel installation on erf 1217, Makalani Street, Tsumeb. The erf is located in the industrial area of Tsumeb and operations on the site entails scrap salvage and milling of maize, as well as the transport of scrap and maize to and from the site. Diesel is required by the Proponent for fleet vehicles and equipment (trucks, tractors, pick-ups and forklifts) to enable daily operations. The consumer fuel installation will be upgraded to adhere to the requirements of the Petroleum Products Act, specifically with regard to spill control measures to protect the environment. To achieve this, the existing 23 m³ aboveground, steel diesel tank will be refurbished and installed inside a concrete bund area with associated spill control infrastructure to protect the environment from accidental spills. Normal operations associated with a consumer fuel installation will take place. This will involve the receipt of diesel from road tankers, storage of the fuel in the aboveground storage tank, dispensing of fuel to operational and fleet vehicles, and day to day administrative tasks.

Geo Pollution Technologies (Pty) Ltd was requested to conduct an environmental assessment for the proposed facility. As part of the assessment we consult with IAPs who are invited to register with the environmental consultant to receive further documentation and communication regarding the project. By registering, IAPs will be provided with an opportunity to provide input that will be considered in the drafting of the environmental assessment report and its associated management plan.

Please register as an IAP by **28 October 2022**. To register, please contact: Email: gpt@thenamib.com or Fax: **088-62-6368**

Should you require any additional information please contact Geo Pollution Technologies at telephone 081-1452164 / 061-257411.

Thank you in advance.

Sincerely,
 Geo Pollution Technologies

André Faul
 Environmental Assessment Practitioner

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Administration Office	
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Page 1 of 2

Directors:

P. Botha (B.Sc. Hons. Hydrogeology) (Managing)

COPY BY HAND

Notification Letter Delivery Sheet



Public Participation Notification: Environmental Assessment: For a Consumer Fuel Installation on erf 1217, Tsumeb

Name & Surname	Organisation/Address	Tel / Mobile	Email	Signature
Dina Spinge	Tsumeb Municipality	067-221056	dspinge@tsumebmunicipality.com	[Signature]
Hilda du Preez	Henning Crucher	067-222856	sales@henningcrucher.com	[Signature]
Rose Notago	Lower Line Krica	067-2220780	reception@plastic.com	[Signature]
Hanso Danyar	Coal Mine	067-226726	Power.Motors@gmail.com	[Signature]
Sahar Nell	Tsumeb	067-221940		[Signature]

Geo Pollution Technologies
 Elao Eighty four CC

October 2022

Press Notice: The Namibian Sun 21 and 28 April 2021

WEDNESDAY 12 OCTOBER 2022
NEWS & COMMENTARY

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EDITORIAL

Swapo's closed-door, secretive campaigns rob the party's rank and file of an opportunity to follow and influence the congress outcome. To suggest that the future of a mass movement like Swapo must be left to 700 delegates alone - with little to no influence by the broader membership - undermines democracy in a big way. We understand the fear of further disintegration and polarisation of the party, as it seasonally happens ahead of elective congresses, but politics by its nature is a competitive enterprise which must be left as such. There were many other alternative guidelines the party could have imposed on candidates without hamstringing and confining them to venues as small as a child's toy. While it is true that individual delegates will be alone in the voting booth, they represent the aspirations of the broader membership. Therefore, open campaigns would have afforded non-delegates an opportunity to listen to candidates' ideas and, through delegates, perhaps influence the outcome. That's democracy par excellence. The essence of campaigns is to get those who agree with a candidate's ideas to support them. Such support does not only come from inside the voting booth. It also includes being a foot soldier of the candidate's ideals and amping up support for them through congress delegates. The narrow view that all powers to dictate the future of a former liberation movement should be left to the mercy of 700 people alone is defeatist.

CONTACT DETAILS

Tel (061) 393 400
P.O. Box 86829, Erros II
General Murtala Mohammed Road,
Erros, Windhoek

Website: www.namibiansun.com
Email: sun@namibiansun.com

Editor:
Ivivo Ndjebela: ivovo@namibiansun.com

News Editor:
Mathias Hausfiku: mathias@namibiansun.com

Sub-Editors:
Jana-Mari Smith, Cindy van Wyk

Reporters:
Elianie Smit, Jamima Beukes,
Jana-Mari Smith, Ogone Tihage,
Elizabeth Joseph

Sport Reporters:
Jesse Jackson Kauraila,
Limba Mupetani

Entertainment Reporter:
Michael Kayunde

Runduc:
Kenya Kambowe, 081 7241 044

Ongwediva:
Tuyesimo Haidula, 081 339 3112

Keetmanshoop:
Monique Adams, 081 245 4688

Carmen Stenger/ Marketing and Sales
Team Leader
081 239 7664/061 297 2102

Subscriptions:
Etiienne Kotze, etiienne@nmh.com.na
Tel (061) 297 2076

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Opponents

Continued from page 1

The other rival in the vice-president race, Pohamba Shifteta, officiated a climate change event last Friday at Si-kanjabuka in Zambezi before candidates engaged the region's congress delegates the next day.

A source from Kuugongelwa-Amadhila's campaign team insisted that all candidates have side events and it should thus not be pinned on the prime minister alone.

Track record

Kuugongelwa-Amadhila has downplayed the influence of her sideline activities ahead of meeting regional

THE TOURISM EXPO'S PROGRAM IS DESIGNED SUCH AS TO ALLOW FAMILIES ACCESS TO THE VARIOUS TOURISM OPERATORS WHILE ALSO ENSURING THAT THESE FAMILIES HAVE A DAY OF FUN WITH VARIOUS ENTERTAINMENT OFFERS, NOT LEAST BEING VARIOUS SINGERS AND ARTISTS.

delegates, saying they are not what delegates at the Swapo Party congress will use to vote for her, but her track record in public office instead.

Yesterday, ahead of candidates addressing congress delegates in Kavango East today, she presided over a handover ceremony in Rundu where her office donated furniture to two

struggling schools. Namibian Sun spoke to her on the sidelines of the ceremony, and alerted her to the discontent of her rivals.

Pouring cold water on allegations that such activities are aimed at scoring political points ahead of engaging delegates as per the new campaign rules, she said congress delegates will look at who has over the years demonstrated that they are capable of leading the party or government.

"I don't think I necessarily have an advantage over my competitors just because of the activities that I just carried out," she said.

Yardstick

"At the end of the day, all of us have been serving Namibians in various

capacities and I don't suppose us for our suitability to lead on the basis of what we do today we visit them in their reg

former finance minister said "If there is support for me infinitely not there because I today. It is because people served me since the time Swapo as a young person, th commitment and the va situations I served in and wh

able to deliver," she said "That is what they are goi as a yardstick to determine I am fit to be deployed into tion of vice-president, and spired and grateful for the feedback I am receiving from ians across the landscape at members."

konyai@namibiansun.com



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André Faul
Geo Pollution Technologies (Pty) Ltd
Telephone: +264-61-257411
Fax: +264-88626368
E-Mail: gpt@thenamib.com

GEO POLLUTION TECHNOLOGIES

Denounced

Continued from page 1

Political analyst Ndumba Kamwanyah said this conduct is unjustifiable and stressed that being the governing party does not provide for automatic usage of state resources.

"State resources must, as a general rule, be used only for the performance of official business of government; hence those resources may not be used for political campaign or personal purposes," he opined. "Doing so not only violates basic laws and rules that regulate how state resources should be used, but is also an act of corruption."

'Disgusting'

Josef Kauandenge, secretary-general of the National Unity Democratic Organisation (Nudo), also condemned Swapo's use of state resources for its own internal election campaigns, calling it "disgusting".

"Swapo Party politicians have already misused this country's scarce resources to line their

own pockets for over 30 years, plundering us into poverty all over. These politicians cannot continue to use public resources for their own internal campaigns. They must be asked to use their own private cars for this purpose as this has nothing to do with the country but [is] party politics," he said.

"It is regrettable that even the president is quiet on this matter as he should have laid down guidelines and totally forbid the use of state resources for inter-party campaigns."

'We have all the money'

Political scientist Rui Tyitende argued that the use of government vehicles in political campaigns is a blatant abuse of state resources as there is a clear separation between the Namibian government and Swapo as a political party.

"What happened to Sophia Shaningwa saying 'we have all the money'? They should use party resources for party activities and government resources for government activities," he said.

"We are going through an economic crisis and every cent

should be spent on and services that pro welfare of the most v in society, not a polit that is being delibera verse with taxpayer in their own political car

The official opposit ular Democratic M (PDM) has for long o over irregularities the peated every time the to elections opens.

PDM treasurer and member of parliam Smith said Swapo's abuse of state resou cates that it has no co sion of the separation the party and state.

"It undermines our cy because it gives Swa fair advantage over o parties during electi paigning, but also in elections," he said. "Even within Swapo, ing field is uneven, sit serving in governm access to public mot Swapo members like don't have that access, if they don't have a b in government."

jemima@namibiansun.com



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6 WEDNESDAY 19 OCTOBER 2022 OPINION
Sun



OPINION

Electoral pressure could fuel overspending

PHILLEPUS UUSIKU

As elections loom, politicians need to have a clear vision for the nation in order to secure the votes of the masses to get into power.

This could fuel overspending on unrealistic projects to support the ideologies of the campaigning candidates, worsening the country's fiscal space.

At the moment, Namibia is faced with various socio-economic challenges ranging from unemployment, inequality, corruption, housing, rising and unsustainable debt levels, inflation and sluggish economic growth.

The million-dollar question is: how will these challenges be addressed? We cannot rule out the fact that the availability of funds plays a crucial role in addressing the challenges faced by the public. Policies that are objective are equally important.

We don't want to see public funds being spent on unrealistic projects that will impress the public in the short term but not reap fruits in the long run.

In the past, politicians came up with brilliant ideas, and most of them were failures.

Recently, economist Robin Sherbourne published a book titled "Guide to the Namibian Economy" in which he outlined some of Namibia's policy failures.

While there were events beyond Namibia's control, such as droughts and Covid-19, sluggish growth could be blamed on policy failures.

According to Sherbourne, policy failures, amongst others, include poorly managed green schemes, fishing quota allocations, the introduction of a mining export levy and royalty taxes, scrapping the Export Processing Zones (EPZ), manufacturing and export incentives without better offers, and poorly managed state-owned enterprises (SOEs).

resents 75.2% of gross domestic product (GDP).

The debt-to-GDP ratio continued to rise further above the Southern African Development Community (SADC) benchmark of 60% of GDP.

The International Monetary Fund (IMF) recently urged the government to implement a fiscal consolidation strategy that is crucial to preserving debt sustainability.

That includes containing the wage bill, advancing the reform of state-owned enterprises, and strengthening tax administration.

Civil servants recently received a salary increment of 3%.

In parallel, the IMI further pointed out that it is important to preserve social spending and growth-supporting public investments and mitigate the impact of higher food and fuel prices on the poorest.

Strengthening the public financial framework will support the fiscal consolidation.

All in all, I am not against spending. We need a concrete and practical plan. We want to see sustainable and productive spending.

Aggressive accountability is also of critical importance.

• *Philliepus Uusiku is a researcher.*

AUSTRALIAN PACE BOWLER GLENN MCGRATH HAS TAKEN THE MOST WICKETS (71) COMBINED IN ODI WORLD CUPS.

The author further questioned if Namibia takes policy seriously.

Debt
According to the Bank of Namibia, total debt stock is anticipated to rise to N\$165.5 billion over the medium-term expenditure framework (MTEF) period, which rep-

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André Faul
Geo Pollution Technologies (Pty) Ltd
Telephone: +264-61-257411
Fax: +264-88626368
E-Mail: gpt@thenamib.com



PUBLIC PARTICIPATION NOTICE

ENVIRONMENTAL ASSESSMENT, CONSTRUCTION AND OPERATION OF THE OKAPUTA BIOMASS PELLETING PLANT, OTJOZONDJUPA REGION, NAMIBIA

Geo Pollution Technologies (Pty) Ltd was appointed by **Okaputa Pellet Manufacturing (Pty) Ltd**, to undertake an environmental assessment for the construction and operations of their Okaputa Biomass Pelleting Plant located in the Otjozondjupa Region. Background information to the project, containing a location map, is available at:


www.thenamib.com/projects/projects.html

The environmental assessment will be according to the Environmental Management Act of 2007 and its regulations as published in 2012.

Construction activities will entail the establishment of the main operational building which will house various components of the pelleting plant, a site office, laydown areas and access control. During operations, harvested and dried biomass will be received, chipped and pelleted before it will be stored until rail shipment to Walvis Bay.

All Interested and Affected Parties are invited to register with the environmental consultant to receive further documentation and communication regarding the ECC applications. Reports for review and comment periods will be communicated to all registered parties. For further information regarding the project and/or to register as an Interested and Affected Party, please contact:

Quzette Bosman
Geo Pollution Technologies (Pty) Ltd
Telephone: +264-61-257411
Fax: +264-88626368
E-Mail: okaputa@thenamib.com



Press Notice: Die Republiek 21 and 28 April 2021

Woensdag 12 Oktober 2022

Republiek

NUUS 5

>> Sal op 18 Oktober gelewer word

Uitspraak uitgestel in moordenaar se appèl

Johnny Ryno Diergaardt appelleer teen sy skuldigbevinding en vonnisoplegging van 35 jaar.

› Kristien Kruger

Die uitspraak in die appèlaansoek van 'n man wat skuldig bevind is op die grmoord van sy meisie en gevolglik 35 jaar tronkstraf opgelê is, is Maandag uitgestel.

Johnny Ryno Diergaardt appelleer teen sy skuldigbevinding en vonnisoplegging, maar aangesien die uitspraak nog nie gereed is nie, sal dit op 18 Oktober gelewer word.

Hy is in 2019 skuldig bevind aan die moord op die 22-jarige Tiffany Tanita Lewin in Maart 2014 nadat hy haar 27 keer met verskeie kombuismesse, voor haar vierjarige seun, aangeval het.

Die oorledene se seun het glo vir Diergaardt gevra om nie sy ma te steek nie en het Diergaardt selfs in die been gesteek om sy ma te verdedig. Die voorval het in Khomasdal plaasgevind.

30 JAAR UITDIEN

Regter Nate Ndauidapo het Diergaardt tot 35 jaar gevonnissen, waarvan vyf jaar opgekort is op voorwaarde



Johnny Ryno Diergaardt FOTO ARGIF

dat hy nie skuldig bevind word aan moord gedurende dié tydperk nie. Diergaardt moet dus effektief 30 jaar tronkstraf uitdien.

In sy vonnisoplegging het Ndauidapo gesê die slagoffer was 'n weerlose mens wat op die wreedste manier

denkbaar dood is.

"Die beskuldigde het net aangehou om die oorledene te steek asof sy 'n dier is; een van die messe het in haar kop vasgesit," het Ndauidapo in sy uitspraak gesê.

- kristien@republiek.com.na



Ter illustrasie FOTO TANJA BAUSE

Vanjaar reeds 57 renosters gestroop

› Elanie Smit

Die aantal renosters wat reeds vanjaar gestroop is, staan op 57, vergeleke met 44 renosters verlede jaar.

Die woordvoerder van die ministerie van die omgewing, bosbou en toerisme, mnr. Romeo Muyunda, het bevestig twee witrenosters is verlede week op private plase gestroop.

Hy sê hoewel stropery onlangs in die Etosha Nasionale Park voorge-

kom het, is geen renosters verlede week in die park gestroop nie.

"Ek kan bevestig daar is oraloer in die land renosters gestroop. Een voorval is by 'n private plaas naby Waterberg aangemeld en nog een op 'n plaas naby die Internasionale Lughawe Hosea Kutako. Op albei plase het die stroopers nog 'n renoster beseer."

In 2021 is 42 renosters gestroop, 57 in 2019, 83 in 2018 en 55 in 2017.

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E-Mail: ggt@thenamib.com



Dr. Petrina Johannes



Welcome On Board

The RFA board, management and staff are pleased to welcome our newly appointed board member, **Dr. Petrina Johannes**.

Dr. Johannes arrives with a wealth of knowledge and experience. She graduated with a Bachelor of Science in Civil Engineering at the University of Cape Town, and further attained her Masters and Ph.D in Civil Engineering from the University of Wisconsin-Madison, USA.

She is working in the education space as Associated Dean at the School of Engineering & the Built Environment, University of Namibia, as well as Campus Director of the Eng. José Eduardo dos Santos Campus, University of Namibia.

In both of these roles, she provides effective and efficient leadership, lending her knowledge to strategic planning, curriculum development, community engagement and much more at a School, Faculty and University Management Level.

As part of academia, she is a Senior Lecturer at the University of Namibia, while also lecturing part-time at the University of Cape Town.

Her impressive CV continues with previous industry experience as a Review Panel Member (Procurement Act 15 of 2015) at the Ministry of Finance, Chairperson at the Roads Construction Company, and Civil Engineer at the Roads Authority.

We are excited to gain the benefits of Dr. Johannes's insight, learning and experience, and are proud to welcome her on board.

+264 61 433 3000 TOLL-FREE 0800 433 300 www.rfanam.com.na 21 Feld Street, Windhoek, Namibia



Sauber en Mans klop RSA se bestes

» Geweerskiet

Die gedugte Dirk Sauber van Namibië het sy vernuf opnuut gewys toe hy die 2022 Suid-Afrikaanse Kampioenskap by Darling in die Wes-Kaap gewen het, met sy landgenoot Keiran Mans boonop algeheel tweede. Die Namibiese Praktiese Presieskietvereniging (NPPSA) was bevoorreg om sy beste skuts te stuur. Jaco Kloppers het daarin geslaag om 'n tiende plek te behaal. Vir deelname aan die tweedaagse spoggeleentheid van die Suid-Afrikaanse Presieskietvereniging het die Namibië Sportkommissie nasionale kleure aan Dirk Sauber, Keiran Mans, Jan (Janus) van der Merwe, Schaalk van Wyk en Johannes (Liebies) Liebenberg toegeken. Kevin Fick, Jaco Kloppers, Eneil Buitendag en Thys Blaauw het as individue aangesluit.

Die kompetisie is oor 16 rondtes met 'n totale maksimum telling van 131 beslis. Sauber het uiteindelik gewen met 108 treffers en 'n aansienlike voorsprong bo sy landgenoot Keiran Mans (tweede met 100) en Hendrik Nel van Suid-Afrika (99). Sauber het Namibië reeds betekenisvol op die kaart geplaas toe hy vroeër vanjaar 'n individuele sewende plek by die wêreldkampioenskap in Frankryk behaal het. Presieskiet word beskryf as geweerskiet (oorhaalksie) vanuit tot soveel as tien verskil-



Die podium is oorheers deur Keiran Mans (tweede) en Dirk Sauber (wenner) van Namibië, met Hendrik Nel van Suid-Afrika derde.

lende skietposities, met 'n hoë aantal skote (8-12) binne 'n beperkte tyd (90-120 sekondes) met staalplate as teikens op afstande wat wissel van 250 tot 1300 meter.

UITNODIGING

Vir diegene wat belangstel om by die sport (PRS) in Namibië aan te sluit, is daar 'n verbinde tot 'n inklusiewe benadering tot die ontwikkeling van die sport.

Dit word bereik deur verskillende klasse wat 'n verskeidenheid vaardighedsvlakke toelaat om teen hul eweknieë mee te ding en progressief te verbeter namate 'n mens se vaardighede en selfvertroue verbeter.

Die struktuur van die klasse, dalk uniek aan NPPSA, is verdeel in die Elite, Ope, Taktiese, Vroue en Juniors asook 'n "Informele" klas waarin nuwe skuts kan aansluit en die "gevoel" kan kry deur blootgestel te word aan groter staalteikens, gewoonlik die helfte van die rondtetelling, minder vereiste posities en toegelate "afgrigting" tydens hul skietdeelnames. In hierdie klas word dikwels hewig meeding, maar die truuk is dat as jy 'n kompetisie in hierdie klas wen, word jy outomaties na die Ope-klas bevorder.

Kontak gerus vir Dirk Sauber (namibia.prs@gmail.com), of PRS Namibia op Facebook en Instagram.

Ryergroep se genotvolle drie dae in bergpasse

» Bergfietsry

Die 3Passes bergfietsryer is vir die tiende keer van afgelope Vrydag tot Sondag aangebied. Ryers, oud en jonk, het weer die geleentheid gehad om hulself te toets en afstande te probeer aflê wat nog altyd buite hul bereik was, asook om die uitdagende Spreetshoogtepas uit te ry.

Deelnemers was bevoorreg om weer op Namibgrens gasteplaas te bly waar die heel eerste toer in 2013 begin het. Die groep is bederf vir die drie dae wat hulle daar bestee het en is met warmte bedien.

Vrydag is 'n afstand van 61 km (of 'n gedeelte daarvan) aangedurf wat die 8 km lange Gamsbergpas (af en op) ingesluit het. Sterk wind was aan die orde van die dag en, buite die uitdaging op hande, het elkeen die geleentheid aangegryp om ook die asemrowende natuurskoon te geniet, iets wat 'n mens vergeet of misloop wanneer jy in die stad vasgedruk is.

Saterdag was die groot uitdaging nie net die afstand van 145 km (of 'n gedeelte daarvan) nie, maar ook Remhoogtepas (af) en die 4 km lange Spreetshoogtepas (op) wat van begin tot einde met 450 meter bo seevlak verskil.

Saterdag was 'n absoluut perfekte dag met gunstige wind asook bewolkte weer. Met reëndruppels wat van tyd tot tyd geval het, kon elkeen weer asem skep en toelaat dat die gemoed weer geul word.

Sondag is die geleentheid gebruik om, ná 'n lang Saterdag, as groep



Die 3Passes-toer se deelnemers en hul ondersteuningspanne ná afloop van die driedaagse rit. FOTO VERSKAF

sam op Namibgrens Gasteplaas te gaan ry en die natuurskoon te geniet. Dis altyd 'n geleentheid om die siel skoon te kry en weer waardering te kry vir wat ons rondom ons het.

Johan Fourie

ORGANISEERDER

"Ek probeer gesinne so ver kry om ... tyd te maak vir hulself en weer perspektief te kry."

Die 3Passes is daar om, soos die Wintertoer, vir ryers die geleentheid te bied om uitdagings aan te pak en nie deur tyd teruggehou te word nie.

Elkeen word aan die einde beloon vir wat hulle gedoen het ongeag uitslae.

"Ek probeer gesinne so ver kry om iets saam te doen. Tyd te maak vir hulself en weer perspektief te kry van waaroor die sport gaan. Dit gaan vir my nie net oor die fietsryer wat iets aandurf nie, maar ook oor die mense wat dikwels ure spandeer om ons te ondersteun," sê die organiseerder, Johan Fourie.

"Hoewel die toer nie die oomblik nie 'n titelborg het nie, bedank ek graag die volgende borge vir hul ongelooftlike bydrae om vanjaar se toer moontlik te maak: Atlas Engineering Solutions (hooftborg), 2Beards Coffee Roasters, Superspar The Grove, Namibgrens Gasteplaas, Cal-C Vita, Rennies, Spice and Scale World, Chiwani Safari Camps en Pupke-witz Toyota.

AUSTRALIAN PACE
BOWLER GLENN
MCGRATH HAS TAKEN
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**TUNE IN THIS SATURDAY,
THE 22ND OF OCTOBER**

LIVE AT 08:20

**ON THE NMH NAMIBIA
MEDIA HOLDINGS**

YOUTUBE PAGE AS WELL AS THE

Republiekin Sun

**PAGES FOR THE
NAMIBIAN SHOW JUMPING
CHAMPIONSHIPS 2022.**







Site Notice



Appendix B: Consultant's Curriculum Vitae

ENVIRONMENTAL SCIENTIST**André Faul**

André entered the environmental assessment profession at the beginning of 2013 and since then has worked on more than 160 Environmental Impact Assessments including assessments of the petroleum industry, harbour expansions, irrigation schemes, township establishment and power generation and transmission. André's post graduate studies focussed on zoological and ecological sciences and he holds a M.Sc. in Conservation Ecology and a Ph.D. in Medical Bioscience. His expertise is in ecotoxicological related studies focussing specifically on endocrine disrupting chemicals. His Ph.D. thesis title was The Assessment of Namibian Water Resources for Endocrine Disruptors. Before joining the environmental assessment profession he worked for 12 years in the Environmental Section of the Department of Biological Sciences at the University of Namibia, first as laboratory technician and then as lecturer in biological and ecological sciences.

CURRICULUM VITAE ANDRÉ FAUL

Name of Firm	:	Geo Pollution Technologies (Pty) Ltd.
Name of Staff	:	ANDRÉ FAUL
Profession	:	Environmental Scientist
Years' Experience	:	18
Nationality	:	Namibian
Position	:	Environmental Scientist
Specialisation	:	Environmental Toxicology
Languages	:	Afrikaans – speaking, reading, writing – excellent English – speaking, reading, writing – excellent

EDUCATION AND PROFESSIONAL STATUS:

B.Sc. Zoology	:	University of Stellenbosch, 1999
B.Sc. (Hons.) Zoology	:	University of Stellenbosch, 2000
M.Sc. (Conservation Ecology)	:	University of Stellenbosch, 2005
Ph.D. (Medical Bioscience)	:	University of the Western Cape, 2018

First Aid Class A	EMTSS, 2017; OSH-Med 2022
Basic Fire Fighting	EMTSS, 2017; OSH-Med 2022

PROFESSIONAL SOCIETY AFFILIATION:

Environmental Assessment Professionals of Namibia (Practitioner)

AREAS OF EXPERTISE:

Knowledge and expertise in:

- ◆ Water Sampling, Extractions and Analysis
- ◆ Biomonitoring and Bioassays
- ◆ Biodiversity Assessment
- ◆ Toxicology
- ◆ Restoration Ecology

EMPLOYMENT:

2013-Date	:	Geo Pollution Technologies – Environmental Scientist
2005-2012	:	Lecturer, University of Namibia
2001-2004	:	Laboratory Technician, University of Namibia

PUBLICATIONS:

Publications:	5
Contract Reports	+160
Research Reports & Manuals:	5
Conference Presentations:	1