

ENVIRONMENTAL SCOPING REPORT

FOR THE PROPOSED CONSTRUCTION AND OPERATION OF KETU TWO THOUSAND SERVICE STATION AT ETUNDA VILLAGE, OMUSATI REGION



NAM GEO-ENVIRO SOLUTION

CONSULTING EARTH GEOTECHNICAL, ENVIRONMENTAL
& WATER SCIENTISTS



Environmental authorization information


PROJECT:	<p align="center">ENVIRONMENTAL SCOPING REPORT FOR THE PROPOSED CONSTRUCTION AND OPERATION OF KETU TWO THOUSAND SERVICE STATION AT ETUNDA VILLAGE, OMUSATI REGION</p>	
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ACRONYM

ACRONYM	MEANING
EIA	Environmental Impact Assessment
ESA	Environmental Scoping Assessment
EAP	Environmental Scoping Report
EMP	Environmental Assessment Practitioner
I&APs	Environmental Management Plan
ISO	Interested and Affected Parties
SANS	International Standard Organization
ToR	Africa National Standard
CV	Terms of Reference
EAP	Curriculum vitae Environmental Assessment Practitioner

EXECUTIVE SUMMARY

i. Project Applicant

Ketu Two Thousand Service Station CC proposes to construct and operate a service station at Etunda Village, Omusati Region.

ii. Environmental Assessment Practitioners (EAPs)

Nam Geo-Enviro Solutions, Environmental Assessment Practitioners (EAPs) conducted the Environmental Scoping Assessment (ESA) and Environmental Management Plan (EMP) for the proposed construction and operation of Ketu Two Thousand Service Station in accordance with the requirements of the Environmental Management Act (Act No.7 of 2007). The Environmental consulting firm boast of professional practitioners in the environmental field with a wide range of project experience undertaken in Namibia and other SADC countries, thus the EAPs offers cross cutting solutions to environmental issues from a well-informed and experienced background.

iii. Environmental Impact Assessment

This is a systematic study of impacts of proposed project activities on the bio-physical and the socio-economic components of the environment. The Environmental Assessment Practitioner(s) undertook this Environmental Scoping Assessment (ESA) study, to predict the impacts of the proposed development on the environment and propose mitigation measures that will be incorporated into the project environmental management plan. The ESA covers the project description, baseline studies, consultation programs, social and health impact assessment, environmental quality assessment and impact quantification and an Environmental Management Plan.

The ESA study will make an input into the conceptual design of the project, to ensure that any identified adverse impacts are addressed at the early stage of the project. The assessment will also form the basis for impacts mitigation during the service station operational stages.

iv. Purpose of the ESA

The purpose of this ESA is to identify all environmental aspects and impact associated with the proposed service station. The objectives included:

- To determine the potential environmental impacts derived from the construction, operation and decommissioning of the proposed service station
- To establish baseline environmental conditions so that relevant impacts could be projected and sufficient mitigation measures could be designed into the construction and operational phases.
- To consult with key, interested and affected stakeholders so that their concerns are considered in the formulation and implementation of the environmental management plan

- To propose alternative measures where it is noticed that adverse effects may occur and to set up an Environmental Management Plan that will govern all activities of the project for the better protection of the environment.

v. Environmental Impact Assessment Methodology

The following methodologies were used in the Environmental Scoping Assessment study.

Desktop Research

Desktop research was used to establish an environmental information database for the EIA. Consulted materials include books, articles, maps, internet, photographs, GIS datasets, past EIA and ESA reports and baseline report of the area.

Scoping

The scoping procedure encompassed the following:

- Identification of key assessments to be done based on project type and scope;
- Identify Interested and Affected Parties (I&APs);
- Announcing the EIA process / registration of I&APs;
- Distribution of the BID to IAPs and key Government Stakeholders;
- Public and stakeholder consultation through the different media of communication, and focal meetings;

Consultation with Stakeholders

Relevant authorities who were consulted include Omusati Regional Council, Uukolonkadhi Traditional Authority and Roads authority. Neighbors to the site and locals at Etunda Village were also consulted. This provided an opportunity for stakeholders and the public at large to engage in the process and to make comments or express their concerns regarding the proposed project development. This public participation process component is fundamental to the impact assessment process and it provides important informant during decision-making. An EMP, will be developed that will address environmental management issues highlighted by the consulted stakeholders.

Field Research

The site visit was conducted on 04 October 2019. The fieldwork covered all relevant components of ecological and socio-economic components of the environments.

Impact Assessment and Evaluation

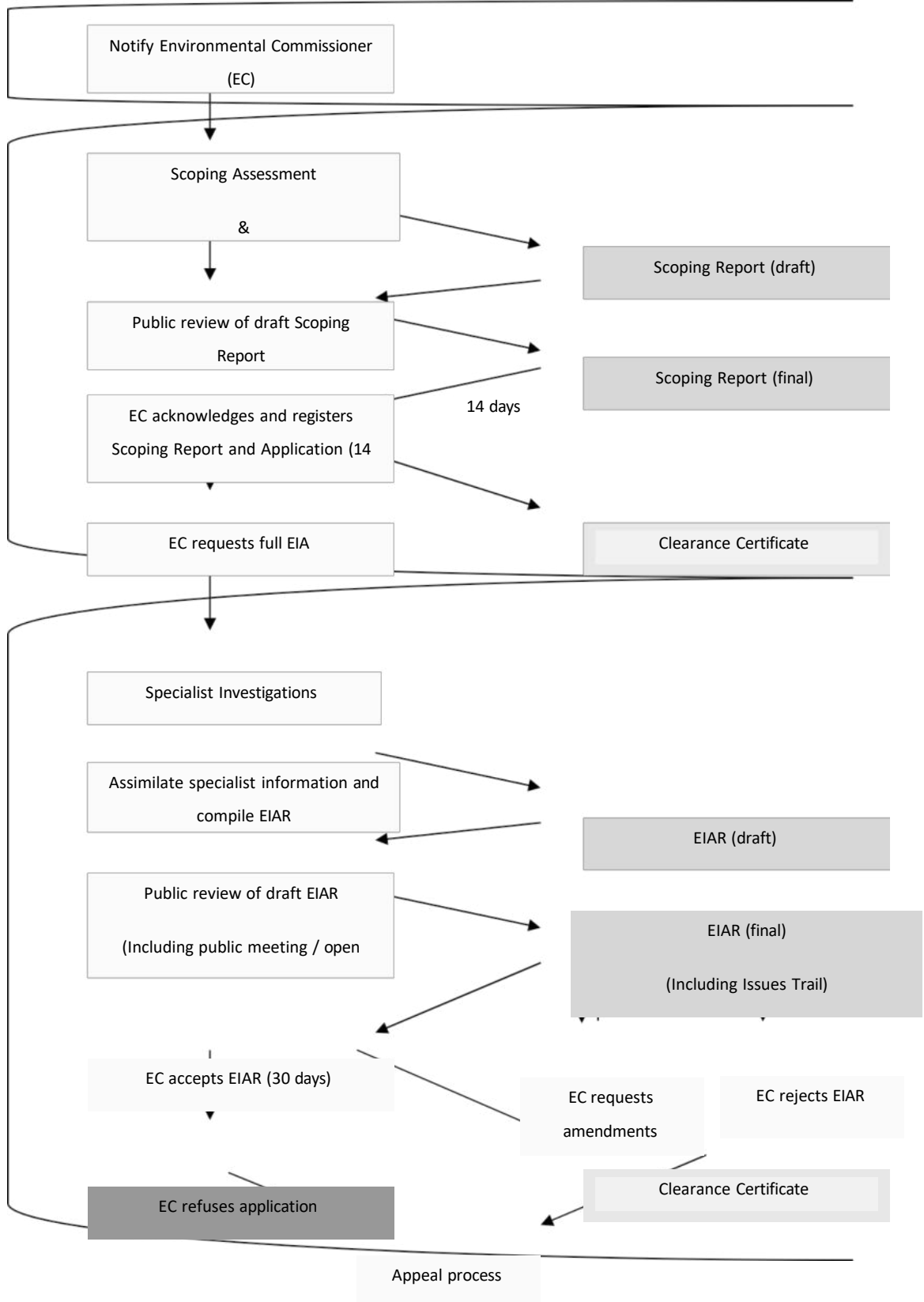
The assessment of all associated and potential impacts of the proposed project were carried out using checklist method. The assessment reviews all environmental, social and economic aspects in relation to applicable policies and regulations.

Assessment of Impacts

- Use an Impact Assessment matrix to establish the environmental risk of the overall project, its alternatives and various components;
- Establish mitigation protocols

The EIA process is summarised below as per EIA Regulations of Namibia 2012.

REGISTRATION



CHAPTER ONE: BACKGROUND

1.1 INTRODUCTION

Ketu Two thousand Service Station CC proposes to construct and operate a service station at Etunda village , Omusati Region, therefore Nam Geo-Enviro Solution was consulted to conduct an ESA for the intended project. The Environmental Management Act (No.7 of 2007) and Environmental Management Regulation (2012) are the guidelines for environmental impact assessments in Namibia. The Environmental management regulation (2012) states all the activities which require an ECC and among the listed activities is the hazardous substance treatment, handling and storage where this project is classified under. The competent authorities will be the Ministry of Mines and Energy and Ministry of Environment and Tourism.

Nam Geo-Enviro Solutions visited the site on the 4th of September 2019. Potential environmental impacts and associated social impacts were identified and addressed in this report.

According to the Environmental Management Act (2007) and its Regulations (2012) any projects related to hazardous substance treatment, handling and storage requires an ECC as specified in the following sections of the regulations as shown in **Table 1** below.

Table 1: Listed Activities relevant to the project

ACTIVITY	RELEVANT SECTIONS
Hazardous substance treatment, handling and storage.	9.4 The storage and handling of 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.

1.2 TERMS OF REFERENCE

This Environmental Scoping and Environmental Management Plan offers a clear and concise evaluation of the proposed service station activities against environmental obligations and considerations as required by law. Furthermore, the EMP will address all anticipated long-term and acute impacts of the project on the environment (ecological, socio-economic, biophysical, political) and explore alternatives for technical improvements based on the requirements set out by the Environmental Management Act (2007) and its Regulations (February 2012).

Request for Environmental Clearance for an Environmental Impact Assessment (this report) – detailing environmental impacts associated with the proposed project, proposing mitigation measures and coming up with an EMP.

- To establish baseline environmental conditions so that relevant impacts could be projected and sufficient mitigation measures could be designed into the construction and operational phases.
- To identify direct or indirect environmental impacts that may result from the proposed filling station project.
- To consult with key, interested and affected stakeholders so that their concerns are considered in the formulation and implementation of the Environmental Management Plan.
- Comply with Namibia's Environmental Impact Assessment Regulation (2012), Environmental Management Act (No. 7 of 2007) and other relevant laws and regulations.
- To propose alternative measures where it is noticed that adverse effects may occur.
- To set up an Environmental Management Plan that will govern all activities of the project for the better protection of the environment.

1.3 PROJECT DESCRIPTION

1.3.1 PROJECT LOCATION

The proposed project involves the construction of a filling station and amenities on a vacant land, situated on Etunda Village, Omusati Region. The GPS coordinates of the location for the proposed project site is Lat:-17.419127 ,Lon: 14.528140° and the elevation is 3684 ft above sea level.

1.3.2 SURROUNDING LAND USES

The proposed filing station will be situated on the business zone of Etunda Village. North of the proposed site is C46 main road of Outapi-Ruacana, .East is the junction of C46 main road (Ruacana-Outapi) and further east of the site is the local shops and Vendors. At the West is the site open area and South is located Etunda Irrigation Scheme fence.



Figure 1: North- C46 main road of Outapi-Ruacana.



Figure 2: South- Etunda Irrigation Scheme fence



Figure 3: West - Open Area



Figure 4: East-junction of C46 main road of Outapi-Ruacana and Etunda Irrigation Scheme



Figure 5 Further East-Vendors and local shops

1.3.3 PROJECT ACTIVITIES

The scope of work will involve construction, operation and possibly decommissioning phase.

Table 2 below indicate activities associated with the project.

Table 2: Activities associated with the project.

ACTIVITY	DESCRIPTION
Construction Phase	
Land preparation	During land preparation, more focus will be put on leveling the ground since the site has few vegetation. During this work dust might be produced. Land preparation is expected to have slight impacts to the ecology because there will less vegetation clearing.
Transportation	During construction equipment such as storage tanks and building material will be transported to the site.
Excavation	This will involve excavation of the ground for installation of the tanks, pipelines and other substructures as per the engineering drawings. Appropriate excavation equipment will be used.
Construction of structures	A service station consisting of a convenient store which will comprise toilets, office, parking area and other proposed elements will be constructed.
Installation	Installation of the pump islands, dispensing pumps, oil/water separator pits and associated electrical, water and sewerage reticulation. The underground fuel storage tanks and fuel pumps will be installed as per the project design. The

	appropriate firefighting equipment will be installed (carbon dioxide, dry powder, foam and bucket of sand).
Water & Electricity connection	Electricity and water will be obtained from NamWater and Nored respectively.
Other fittings (builders' works)	These will include reinforced concrete beams, site lighting and other necessary fittings.
Testing and commissioning	Operations will be tested and if no faults are found the filling station will be subsequently opened.
Operation Phase	
Fuel distribution	Fuel will be distributed by fuel tanker trucks to the service station.
Off-loading of fuel	Fuel will be off-loaded into underground petroleum storage tanks. During this stage precaution must be taken so as to avoid spillages.
Dispensing of fuel into vehicles	Fuel will be dispensed into customers vehicle. Spillages, fire and explosion are some of the hazards which are associated with this stage.
Yard cleaning	The site should always be clean and free from litter.
Maintenance	Non-functioning equipment will be repaired.
Decommissioning Phase	
Tank removal	Careful excavation and removal of the underground fuel storage tanks after emptying the fuel therein, appropriate treatment of any contaminated soil as necessary, backfilling of the excavations with suitable material such as pebbles or construction dug out soil, proper disposal of decommissioned facilities and other wastes using a licensed waste collector.
Landscaping	Planting of grass and trees (or shrubs). The major emphasis here will be rehabilitation of the affected environment.
Disposal	Proper disposal of dismantled material and protection of public health and safety.

1.3.4 INSTALLATION OF FUEL TANKS

The installation of the fuel tanks and pipelines at the filling station will be in line with SABS Standards (SANS 10089: Parts 1-3). Furthermore, this project will fulfill the requirements of the Namibia Water Act and SABS 089:1999 that, all storm water that may potentially be contaminated by fuel or oil spills will be directed to a separator unit prior to exiting the site. The

proposed fuel retail outlet will consist of two (2) underground tanks, of Diesel (50 ppm) and Petrol (ULP)) each with the capacity of 46m³. Suitable dispensing pumps and fuel network will be constructed according to the Ministry of Mines and Energy specified standards for fuel service stations. m²

- Fire protection/fighting equipment as per project drawing plans
- Canopied forecourt with dispensing pumps;
- Current practice is to include facilities such as a convenience store in the overall filling station design.
- Necessary fittings and other works as per the project drawing plans
- All fire points including equipments and hydrant point must be clearly identified by appropriate signs as per SABS 1186. According to this part of SANS 1186 it specifies "requirements for standard ordinary (non-reflective) symbolic safety signs, including signs on vinyl sheets (decals). This part of SANS 1186 also specifies general requirements applicable to self-luminous (radio luminescent), internally illuminated, retro-reflective and photo luminescent symbolic safety signs (complete with their backing sheets, where applicable" (SABS 1186, 2013)

1.4 LAND OWNERSHIP

The land where the project will be operated is allocated to Ketu Thousand Service station CC
See Appendix C, Deed of transfer.

1.5 PROJECT COST

The actual cost of the whole project is not yet established.

CHAPTER TWO: PROJECT NEED AND DISIRABILITY

2.1 ACCESSIBILITY OF FUEL

The establishment of the filing station is necessary as it will ensure supply of fuel to local people and motorists. The proposed site for the filing station is ideal as it is opposite the busy C46 main road of Outapi-Ruacana.

2.2 ECONOMIC DEVELOPMENT

The motivation for Namibia to support the project is economic and strategic in nature. The project has the potential to benefit the country, society and surrounding communities both

directly and indirectly. Direct economic benefits will be derived from wages, taxes and profits. Indirect economic benefits will be derived from the procurement of goods and services and the increased spending power of employees through the creation of new jobs at the filling station.

2.3 EMPLOYMENT CREATION

Job opportunities will be created during the life span of the project. The type of jobs will range from skilled, semi-skilled and unskilled. During the construction phase, contractors, sub-contractors and service providers are going to be employed. Moreover, during the operation phase people are also going to be employed and locals will be the first priority.

2.4 THE HARAMBEE PLAN FOR PROSPERITY (HPP)

The Harambee Plan for Prosperity [HPP] has been developed to complement the National Development Plans and Vision 2030. One of the aims of the HPP is to promote economic advancement. The HPP states that the most effective way to address poverty is through wealth creation, which in turn is done by growing the economy in a sustainable inclusive manner and through the creation of decent employment opportunities. It is vital to point out that, by promoting the service station project, we will be promoting the aims for the Harambee Plan for Prosperity by providing jobs and contribute to the GDP of the country.

The service station project is being initiated by a Namibian and promoting the project will imply promoting the spirit of entrepreneurship and economic empowerment encouraged in the HPP.

CHAPTER THREE: RISK ASSESSMENT AND PROJECT ALTERNATIVES

This following chapter will focus on the alternatives to the project. Alternatives to the project are different ways to achieve the same purpose and need. The alternatives to the proposed project development include alternative sites and the “no project” alternative.

Risk assessment is an imperative element to consider when conducting the Environmental Assessment exercise for any given project.

3.1 ALTERNATIVE SITES (LOCATIONS)

The project can be implemented in a different location other than the chosen site. This could also entail acquiring land elsewhere to carry out the development. However, the following reasons justify the use of the proposed site for the development:

- The land is allocated to Ketu Two Thousand Service Station CC, therefore there is less complexity to get lease of the site.
- Proximity of the site to Etunda Village business center.

- Availability of land. There is adequate space for the proposed project.
- Accessibility-the site is close to C46 road which will make transportation of fuel easy.

3.2 THE “NO PROJECT” ALTERNATIVE

The “No Project” alternative implies that no development should be undertaken on the land and thus retains the original environment. However, it is vital to note that even though the “no project” alternative would not have adverse impacts on the environment but it would not make sense not to undertake the development. The no project option is the least preferred option from the socio-economic and partly environmental perspective due to the following factors:

- Fuel supply- the northern region has been greatly affected by fuel shortages especially during the festive season (mostly December). The 'no project' alternative will therefore make no sense as it will not help the situation but worsen it.
- Growth and development. The project has the potential to benefit the country, society and surrounding communities both directly and indirectly. Direct economic benefits will be derived from wages, taxes and profits. Indirect economic benefits will be derived from the procurement of goods and services and the increased spending power of employees through the creation of new jobs at the site.
- Employment creation-jobs will be available during the construction and operation phases hence reducing unemployment rate in the region.
- Poverty- the project will help to reduce poverty rate in the region as locals will be employed hence improving their social wellbeing.

3.3 OTHER ALTERNATIVE

3.3.1 Energy

ALTERNATIVE DESCRIPTION	ADVANTAGES	DISADVANTAGES
Energy Requirements: lighting		
Electricity	<ul style="list-style-type: none"> • It is transportable over long distances • It is silent • It is very transformable • It is very fast, virtually the speed of light • Clean, does not produce pollution • Safe and a convenient source of energy 	<ul style="list-style-type: none"> • Expensive

Solar energy	<ul style="list-style-type: none"> • Renewable resources • Easily transportable to required application area 	<ul style="list-style-type: none"> • Dependent on sunny days radiation • Expensive capital expenditure • Repair requirements costly and time consuming
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ANALYSIS OF ALTERNATIVES

Electricity is the preferred alternative given that it is a safe and convenient source of energy.

3.3.2 Sanitation

ALTERNATIVE DESCRIPTION	ADVANTAGES	DISADVANTAGES
Flash toilets	<ul style="list-style-type: none"> • Easy to use and keep clean • Prevents flies and smells • Low possibility of environmental contamination 	<ul style="list-style-type: none"> • Water consumption
Pit Latrine	<ul style="list-style-type: none"> • Very cost effective 	<ul style="list-style-type: none"> • Probability of pollution is high
Portable Camp Toilet	<ul style="list-style-type: none"> • Easily transportable • No direct impact on the environment and ecology (if disposed legitimately) 	<ul style="list-style-type: none"> • Artificial chemicals • Transportation of hazardous material • Disposal required at existing facility

ANALYSIS OF ALTERNATIVES

During the construction phase, portable camp toilets will be used. Portable camp toilets are advantageous in that they pose no direct impact on the environment if disposed legitimately. Flash toilets will be used during the operation phase and they are strategic because they present low possibility of environmental contamination

CHAPTER FOUR: RELEVANT LEGISLATION

In this chapter the consultant reviews various applicable local legislations that govern the facets of the project. The objective is to ensure that the proposed filling station project comply with the legal requirements, international standards and organizational performance standards. The

Namibian Constitution Act (1990), Environmental Assessment Policy (1994), Environmental Management Act of Namibia (2007), Environmental Management Act Regulations (2012), Water Resource Management Act of Namibia (2004), Pollution Control and Waste Management Bill (guideline only), were reviewed. **Table 3** below indicates laws and policies which relates to the project.

Table 3: Relevant legislation and policies for the filling station.

Aspect	Legislation	Relevant Provisions	Relevance to the Project
The Constitution	Namibian Constitution First Amendment Act 34 of 1998	<ul style="list-style-type: none"> - “The State shall actively promote and maintain the welfare of the people by adopting policies that are aimed at maintaining ecosystems, essential ecological processes and the biological diversity of Namibia. It further promotes the sustainable utilisation of living natural resources basis for the benefit of all Namibians, both present and future.” (Article 95(l)). 	<ul style="list-style-type: none"> - Through implementation of the environmental management plan, the proposed service station operations will ensure conformity to the constitution in terms of environmental management and sustainability.
Environmental	Environmental Management Act 7 of 2007	<ul style="list-style-type: none"> - Requires that projects with significant environmental impacts are subject to an environmental assessment process (Section 27). - Requires for adequate public participation during the environmental assessment process for interested and affected parties to voice their opinions about a project (Section 2(b-c)). - According to Section 5(4) a person may not discard waste as defined in Section 5(1)(b) in any way other than at a disposal site declared by the Minister of Environment and Tourism or in a manner prescribed by the Minister. - Details principles which are to guide all EIAs 	<ul style="list-style-type: none"> - The EMA will guide the process of the EIA. - The public and relevant authorities were consulted during the process of public participation as per the requirement of the act.
	EMA Regulations (2012)	<ul style="list-style-type: none"> - Details projects which cannot be undertaken without an EIA - Details requirements for public consultation within 	<ul style="list-style-type: none"> - This project is listed under activities which cannot be undertaken without an EIA.

		<p>a given environmental assessment process</p> <ul style="list-style-type: none"> - Details the requirements for what should be included in a Scoping Report and an EIA report 	<ul style="list-style-type: none"> - This Act and its regulations should inform and guide this EIA process.
	Pollution and Waste Management Bill (draft)	<ul style="list-style-type: none"> - This bill defines pollution and the different types of pollution. It also points out how the Government intends to regulate the different types of pollution to maintain a clean and safe environment. - The bill also describes how waste should be managed to reduce environmental pollution. Failure to comply with the requirements is considered an offence and punishable. 	<ul style="list-style-type: none"> - The project should be conducted in a manner which is advised by the bill so as to minimize the generation of waste at the site. - A waste management strategy that follows recycling, reuse and reducing will be commissioned throughout the operations.
	Soil Conservation Act 76 of 1969	<ul style="list-style-type: none"> - This acts makes provision for combating and for the prevention of soil erosion, it promotes the conservation, protection and improvement of the soil, vegetation, sources and resources of the Republic of Namibia. 	<ul style="list-style-type: none"> - Service stations are mainly associated with spillages which can end up contaminating soil. This document aims at guiding the proponent during construction, operation and perhaps decommissioning so as to prevent soil erosion and contamination during operation.
	Hazardous Substance Ordinance 14 of 1974	<ul style="list-style-type: none"> - Provisions for hazardous waste are amended in this act as it provides “for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances; to provide for the prohibition and 	<ul style="list-style-type: none"> - The proponent shall separate waste at site. - The proponent shall ensure that all possible “hazardous” categorised substances and waste shall be handled by a certified hazardous waste handler.

		control of the importation, sale, use, operation, application, modification, disposal or dumping of such substance; and to provide for matters connected therewith”	
	Atmospheric Pollution Prevention Ordinance 11 of 1976;	<ul style="list-style-type: none"> - The Act requires that there is need to register a controlled area with certificate to operate air polluting activities. The retail license covers all elements and requirements of this Act. 	<ul style="list-style-type: none"> - The proponent shall apply for a retail license from the Ministry of Mines and Energy.
	Forest Act (2001) and Regulations (2015)	<ul style="list-style-type: none"> - The Act and Regulations requires that all harvesting of trees and wood, anywhere in Namibia is governed by this Act and regulations. - The Act also governs activities which take place in classified forests, namely State Forests, Forestry Management Areas and Community Forests as well as non-classified forest areas. - The harvesting permit is issued by the administrators of the act which is the Directorate of Forestry (DoF) in the Ministry of Agriculture, Water and Forestry (MAWF). - Inspection of the area where the harvesting will take place has to be done before the issuing of the permit - Where applicable the permit can be renewed every three months 	<ul style="list-style-type: none"> - The proponent shall apply for a Harvesting Permit which is required for any tree cutting and/or harvesting of wood in an area greater than 15 hectares per annum as stated under Section 22 (1), 23 (1), 24 (2&3) and 33 (1&2) of the Forest Act (Act 12 of 2001).

Water	Water Act 54 of 1956	<ul style="list-style-type: none"> - The Water Resources Management Act 24 of 2004 is presently without regulations; therefore, the Water Act No 54 of 1956 is still in force: - A permit application in terms of Sections 21(1) and 21(2) of the Water Act is required for the disposal of industrial or domestic wastewater and effluent. - Prohibits the pollution of underground and surface water bodies (S23(1)). - Liability of clean-up costs after closure/ abandonment of an activity (S23(2)). - Protection from surface and underground water pollution 	<ul style="list-style-type: none"> - Service stations are associated with spillages which can contaminate ground water or surface water hence this act will be of importance especially during operation phase. - Ketu Two Thousand filling station shall not be allowed to dispose waste water into the environment. An approved waste handling contractor shall constantly come to collect the waste water from the oil & water separator pit.
Health and Safety	Labour Act (No 11 of 2007) in conjunction with Regulation 156, 'Regulations Relating to the Health and Safety of Employees at work'.	<ul style="list-style-type: none"> - 135 (f): "the steps to be taken by the owners of premises used or intended for use as factories or places where machinery is used, or by occupiers of such premises or by users of machinery about the structure of such buildings of otherwise to prevent or extinguish fires, and to ensure the safety in the event of fire, of persons in such building;" (Ministry of Labour and Social Welfare). - This act emphasizes and regulates basic terms and conditions of employment, it guarantees prospective health, safety and welfare of employees and protects employees from unfair labour practices. 	<ul style="list-style-type: none"> - The proponent will be obliged to create a safe working environment for the employees. This will include applying appropriate hazard management plans and enforcing Occupational Health and Safety (OHS) management systems to contractors.

	Public Health and Environmental Act, 2015	<ul style="list-style-type: none"> - A person who intends to conduct on a premises activities which generate special, industrial, hazardous or infectious waste must be registered for that purpose with the local authority concerned - (3) A person or local authority engaged in activities contemplated in subsection (1) or (2) must ensure that the waste generated on the premises concerned is kept and stored <ul style="list-style-type: none"> (a) under conditions that causes no harm to human health or damage to the environment; and (b) In accordance with applicable laws. - (4) All waste contemplated in this section must be stored in approved containers and for the maximum period determined by the head of health services or the chief health officer. 	<ul style="list-style-type: none"> - The service station shall register and obtain an Authorisation letter from Uukwaluudhi Traditional Authority and Omusati Regional Council.
Oil and Gas	Petroleum Products & Energy Act (1990)	<ul style="list-style-type: none"> - The Act requires that for the operation of the Service station a retail license has to be obtained from the relevant ministry - Adding on the Act requires incident reporting of major spillages occurring on site for pollution control. 	<ul style="list-style-type: none"> - The proponent shall apply for a retail license from the Ministry of Mines and Energy
	South African National Standards SANS 10089-3	<ul style="list-style-type: none"> - Part 3: The installation of underground storage tanks, pumps/dispensers and pipe work at service stations and consumer installations. 	<ul style="list-style-type: none"> - The service station has to be constructed according to SANS standards.

N.B: The proponent shall be required to comply with the legislations. Where there is need to engage private consultants to facilitate compliance, the proponent is encouraged to consult qualified and certified personnel. The Environmental consultant is suppose to conduct legal compliance audits and produce bi-annual reports which will be required during renewal of environmental clearance certificate.

4.1 ENVIRONMENTAL ASSESSMENT POLICY (1994)

The environmental assessment policy details the principles of achieving and maintaining sustainable development that underpin all policies, programmes and projects undertaken in Namibia. This is related in particular, to the wise utilization of the country's natural resources, together with the responsible management of the biophysical environment, which is intended to benefit both present and future generation. The policy also highlights on the following sustainability principles polluter pays principal, precautionary principal and public participation principal.

Line Ministry: Ministry of Environment and Tourism

4.2 WASTE MANAGEMENT REGULATIONS: LOCAL AUTHORITIES ACT (1992)

Waste Management Regulation: Local Authorities of 1992 provides guidelines on waste management, it states that every owner or occupier of premises must provide a secure, hygienic, adequate and readily accessible waste storage place or area on the premises.

Line Ministry: Ministry of Health and Social Services

4.3 WATER RESOURCE MANAGEMENT ACT OF NAMIBIA (2004)

The Water Resources Management Act, No.24 of 2004 emphasizes on the management, development, protection, conservation, and use of water resources. The water act also makes provision for the protection of river catchments, drilling of boreholes and making of wells, it controls effluent discharge into rivers and weather modifications such as cloud seeding and outlines regulations that govern the optimal use of water resources. It clearly defines the interests of the state in protecting water resources.

Line Ministry: Ministry of Agriculture, Water Affairs and Forestry

4.4 NATIONAL HERITAGE ACT NO.27 OF 2004

The Heritage Act of 2004 makes provision for the developer to identify and assess any archaeological and historical sites of significance. The existence of any such sites should be reported to the Monuments Council as soon as possible. The Council may serve notice that prohibits any activities as prescribed within a specified distance of an identified heritage/archaeology site.

4.5 NAMIBIA'S DRAFT WETLAND POLICY

Namibia's Wetland Policy Vision is to manage national and shared wetlands wisely by protecting their vital ecological functions, life support systems for the current and future benefit of people's welfare, livelihoods and socio-economic development. The objectives of the policy are to:

- protect and conserve wetland diversity and ecosystem functioning to support basic human needs;
- provide a framework for enduring use of wetland resources;
- promote the integration of wetland management into other sectoral policies; and to
- recognize and fulfill Namibia's international and regional commitments concerning shared wetlands and wetlands of international importance.

- 4.6 SOME OF THE INTERNATIONAL LAWS NAMIBIA IS SIGNATORY

- **Table 4:** Laws Namibia is signatory to Namibia.

1985	Vienna Convention for the protection of the ozone layer
1987	Montreal protocol on substances that deplete the ozone layer
1989	The Basel convention on the control of trans-boundary movements of hazardous wastes and their disposal
1989	The Rotterdam convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade
1992	The Rio de Janeiro convention on biological diversity
1992	United Nations framework convention on climate change

4.7 PERMITS AND LICENCES

Permits and licenses (**table 6**) that are required, as part of compliance and authorization should always be in place.

Table 5: Permits and licenses required.

Type of permit/Licence	Issued By
Petroleum Product Retail licence	Ministry of Mines and Energy
Access from main road	Roads Authority (Client shall obtain the access permit)
Authorization letter	Uukwaluudhi Traditional Authority Omusati Regional Council

CHAPTER FIVE: DESCRIPTION OF THE AFFECTED ENVIRONMENT

This chapter describes the environmental setting of the project, which includes the biophysical environment and the socio-economic environment. Trends and anticipated environmental conditions will also be indicated. Information will be given enough to allow the reviewers to understand the environmental impacts and assessment carried out in relation to the current environmental conditions. The baseline information will also assist in the monitoring of the environmental impacts once the project is in the construction, operational and monitoring stage. As indicated in the earlier sections, the proposed project is localized therefore the baseline aspects will be very localized and limited in scope.

5.1 BIO-PHYSICAL ENVIRONMENT

5.1.1 CLIMATE

Table 6. below briefly describe the general climatic conditions experienced within the Omusati Region, as deduced from the Atlas of Namibia, by Mendelsohn et al 2003. The average annual rainfall received in the area is 350-400 mm per annum. In addition, the Cuvelai has inconsistencies in rainfall timing which lead to great variation in the annual rainfall between 40-50 percent. Furthermore; temperatures vary little across the area where the average is greater than 22°C in most areas, especially during the summer months. The predominant wind in the area is expected to be in the easterly direction.

Average Annual rainfall:	Rainfall in the area is averaged to be 350-400mm per year
Variation in rainfall:	Variation in annual rainfall is averaged to be 40-50 % per year
Average evaporation:	Evaporation in the area is averaged to be between 1960-2100mm per year.
Precipitation:	January-March receives high rainfall, with January being the wettest. June and July being the driest month
Water Deficit:	Water deficit in the area is averaged to be between 1500-1700mm per year.
Temperatures	Annual temperatures are +22 °C per year Average maximum temperature 34°C-36°C Hottest month October Average minimum temperatures 6°C-8°C Coldest month July
Wind direction	Wind directions in the area are predominantly easterly winds.
Humidity	Most humid month is March with 80%-90% and September being the least with 10%-20%

(Source: Atlas of Namibia, 2003)

5.1.2 TOPOGRAPHY AND DRAINAGE

The Omusati region landscape is generally described as being part of the Cuvelai Basin is characterized by the Oshana system (shallow pans), which dominates the environment in the central part of the region. The Oshanas which are only filled by local rain and are generally never connected to one another. Surface water in these depressions shallow pans (Oshanas) is often used by animals for drinking.

The Oshana system accommodates water flowing south, originated within Angola after good rains, meandering through the region until reaching the Etosha Pan. The Cuvelai within the Cuvelai Basin is the most active system in Omusati region.

5.1.3 GEOLOGY

Etunda village is located Omusati Region which is mostly comprised by the Kalahari Group. The geology at the site consists mainly of sand, calcrete and gravel of the Kalahari Group – from the Quaternary and Tertiary Age [Tk] (Mendelsohn, 2002).). Hard geological rock units were not exposed in the study area. **See Appendix A, Hydrogeological Map .**

5.1.4 SOILS

The soils in this area are have a high relative sustainability for crop cultivation. According to the Atlas of Namibia (2002), the major type of soils in this area are classified as Eutric Cambisols, which is the fertile soils with high base saturation.

5.1.5 VEGETATION OF THE STUDY AREA

On a regional scale the vegetation structure can be described as the Tree and Shrub Savanna in landscapes of floodplains, grasslands or woodlands. The vegetation structure for Omusati regional area is described as sparse shrub land, with important plant species like the Mopane tree (*Colophospermum mopane*) and Acacia trees. Mopani trees leaves are mainly eaten by livestock in this region. Additionally, the larvae moth well known as Mopani worm feed on the leaves and most local people harvest it for eating since it's a delicacy in the northern part of Namibia. The Mopane tree is a cause of bush encroachment in the region therefore it is readily used by the local people for various domestic applications. The overall plant diversity is low in this area and the important plant species in this area is *Colophospermum mopane* (see **appendix B, Vegetation map**).

The study area itself is mostly does not contain alot of vegetation of however there are, two *Hyphaene petersiana* (Makalani palm) and several *Pechuel- Loeschea Leubnitzia* (bitter bush) and four *Vachelia Erioloba*(camel thorns)

Vachelia Erioloba is protected in Namibia under the Preservation of Trees and Forests Ordinance of 1952 and the Proclamation of the SWA Administration, No.486 in 1972. It is advised to incorporate this species in the development plan of the survive station.

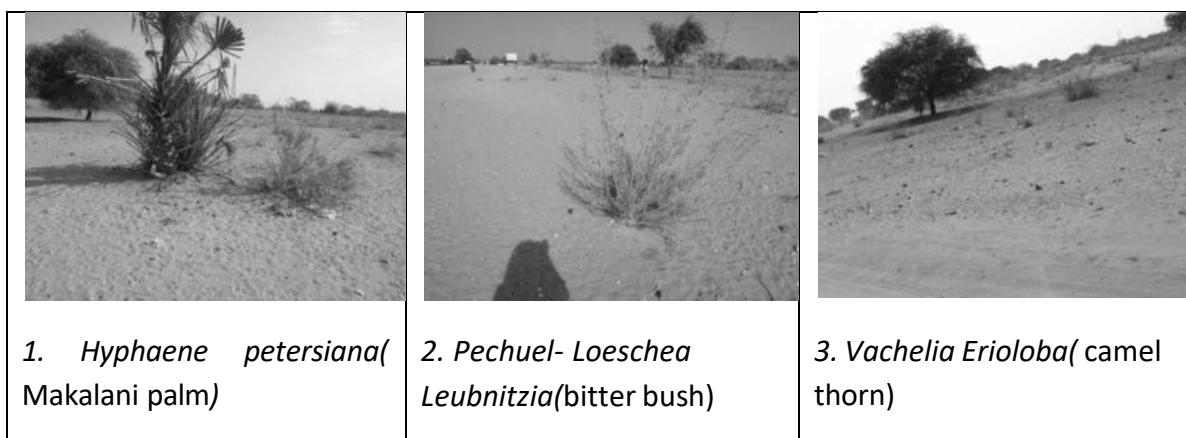


Figure 6: Some of the vegetation observed on site.

5.1.5.1 Alien species

During the site visit, no alien species were observed at the site.

5.1.6 FAUNA

No animals were observed during the site evaluation process.

Table 6: Summary of General Fauna Data.

Mammal Diversity	61-75 Species
Bird Diversity	111-140 Species
Reptile Diversity	61-70 Species
Frog Diversity	16 - 19 Species
Termite Diversity	7-9 Genera
Scorpion Diversity	12 - 13 Species

Source: Atlas of Namibia

5.1.7 HYDROGEOLOGY AND WATER SUPPLY

There are Namwater pipe lines , where most people are connected to and other inhabitants and institutions are using boreholes and the canal as their source of water., **see Appendix A ,Hydrogeology map.**

5.1.8 EFFLUENT DISCHARGE FROM SITE

5.1.8.1 Surface water: general

Drainage shall be planned in accordance with statutory regulations. Every advantage of natural seepage for disposal of surface water shall be utilized. Existing storm-water drains shall also be used to cope with the outflow.

5.1.8.2 Surface water (from tank filler points and dispensing pumps)

Suitable drainage facilities shall be provided to deal with surface water. Drainage system on site will be constructed according to required SANS standard with oil/water separators installed to control pollution due to surface water run-offs from the filling station operations.

5.1.8.3 Sewage

Where a local system for the disposal of sewage exists, it is obviously desirable that the drainage system be connected to it, but where this is impracticable, septic tanks or other

suitable disposal units should be installed. Currently there are no sewer lines serving the project site. However the proponent will ensure that a septic tank is put up and the effluent will be directed to there. Consult the regulations of the local authority and investigate the suitability of the ground with a view to the installation of disposal beds. Contamination with product in such systems shall be avoided. Conversely, sewage systems shall not be connected to interceptors.

5.1.8.4 Washing of vehicles

All wash-bays shall be so designed that effluent, detergents and contaminated water are contained. Run-off water that contains effluent shall be of such quality that it complies with the relevant regulations of the Department of Water Affairs and with the by-laws of the local authority before the water passes into the relevant drains.

5.1.8.5 Monitoring Wells

Monitoring wells shall be installed vertically without any curvature to the pipe in order to facilitate easy collection of samples. These wells shall be installed adjacent to fuel tanks (as shown in **figure 12**) in the following form before backfilling takes place:

- a) a non-metallic slotted/perforated pipe of internal diameter at least 100 mm, wrapped in a porous geo-textile fabric, or
- b) acrylonitrile butadiene styrene (ABS) single-walled wedge-slot tubular screened pipe wrapped in a porous geo-textile fabric. These wells shall be placed around the perimeter of the excavation. The bottom ends shall be plugged and the top ends finished off with a suitable cover.

The monitoring wells should be taken down 500 mm below the floor of the excavation (except when the excavation is in hard rock).

5.2 SOCIO-ECONOMIC ENVIRONMENT

5.2.1 Historical Backgrounds

Omusati region is one fourteen regions of Namibia, its capital is Outapi. the region name Omusati, comes from the Oshiwambo word Omusati which means Mopani tree this is due to the largely amount of Mopani tree that grows in that region . It shares borders with the Republic of Angola in the north, Ohangwena Region in the north-east, Oshana Region in the east and Kunene Region in the south-west.. Omusati is predominantly an agricultural region in which Mahangu is successfully cultivated as a staple food .A canal, which carries water from the Ruacana river to Oshakati, passes through the town of Outapi, Water from this canal is used for irrigation of the large government-run farm at Etunda. The region is home

to the Ruacana falls which is 120 meters high and 700 meter wide in full flood and is among the largest waterfall in Africa by volume and width

Omusati region is home to the Omugulugombashe heritage site, where the Namibian struggle for independence started in 1966

Omusati Region has 12 constituencies : Anamulenge, Elim, Etayi, Ogongo, Okahao, Okalongo, Onesi, Oshikuku, Outapi, Ruacana, Tsandi, as well as Otamanzi.

5.2.2 Demographics

The 2011 Namibia Population and Housing Census results show that Omusati region has a population of 243 166 people of which 133 621 are women and 109 545 are men. They grew at an annual rate of 0.6 percent between 2001 and 2011. More than 90 percent of the population lived in rural areas compared to only 5.7 percent of the population who lived in urban areas.

There were 46 698 households in the region with an average size of 5.2 persons per household. Omusati region had a relatively young population with over 40 percent of the whole population being less than 15 years of age. The share of young people below the age of 15 years in rural was 41 percent while that of urban areas was 28 percent. The proportion of elderly people aged 60 years and above in rural areas was 11.1 percent, while that in urban areas was 4.1 percent.

65 percent of the population aged 15 years and above in Omusati region were never married while 5.7 percent were traditionally married. The results also indicate that 20 percent of the population were married with a certificate and 3.1 percent were in consensual unions. The high number of people that were never married can be explained by the young population

89.3 percent of all reported deaths in the 12 months prior to the Census were registered. Rates of registration were higher in urban (90.7%) than in rural areas (89.2%). At constituency level, Okahao had the highest level of registered deaths (98.0%), while the lowest proportion of registered deaths was in Outapi and Ruacana with around 82 percent of registered deaths each.

5.2.3 Education Profile

There are 10 Education Circuits in the Region and 275 schools with the capacity to accommodate 86 999 learners in both the public and private schools. The Region has 2 737 permanent classrooms, 260 pre-fabricated buildings, 198 sheds, 64 laboratories, 65 libraries, 41 computer laboratories, 44 cluster centre halls, 167 administration blocks, 82 staff rooms, 147 teachers houses, 466 flushing toilets, 1 604 pit latrines, 254 schools with sewerage, 21 schools without sewerage, 7 schools with water tanks, 147 schools with electricity, 124 schools with telephones and 64 schools with fax machines.

Omusati Region maintained its 2nd position for two consecutive years as from 2011 to 2012 but it has dropped to 3rd position in 2013 during the final Examinations for Grade 10. However, the Region has improved from its 10th position in 2011 to 9th position in 2012 and 8th position in 2013 in the National Senior Secondary Certificate (NSSC) Ordinary Level space for Grade 12, respectively. For the NSSC Higher Level, the Region has declined with one place for three consecutive years i.e. from 11th position in 2011 to 13th place in 2013.

The Region retains its 3rd position for the Junior Secondary Certificate (JSC) since 2013. Regarding the Namibia Secondary Certificate Ordinary Level (NSSCOL), it moved from 11th position in 2015 to 8 in 2016. Among the top ten performing schools in the country, Negumbo Senior Secondary School, Canisianum Roman Catholic School, Nuuyoma Senior Secondary School and Onawa Senior Secondary School are from Omusati Region. Nationally, the total number of learners who qualify for the Tertiary Education from Grade 12 stands at 1,862 which is equal to 50 percent. Out of 16 Secondary Schools in the Region, 12 obtained 50 percent which was the Regional target for the Academic Year 2016.

There are two Tertiary Institutions in the Region namely, the University of Namibia Ogongo Campus which is located in Ogongo Settlement and the Namibia University of Science and Technology (NUST) Centre in Outapi Town. The vocational courses such as plumbing, brick laying, mechanical, hospitality and office administration are offered at Nakayale Vocational Training Centre, Development Aid from People to People (DAPP) Vocational Training Centre, Marcopolo Vocational Centre and Ruacana Vocational Centre.)

The 2011 Namibia Population and Housing Census results show that out of the population aged 6 years and above in Omusati region, 10.2 percent never attended school. A higher

proportion of the population that never attended school was found in rural areas (10.6%) compared to urban (5.0%) areas. about 48 percent of the population had completed their primary education and 14 percent had completed secondary education before leaving school, while 32 percent did not complete primary school. Only 3.5 percent of the population had completed their tertiary education. More than 10% of the population aged 6 years and above in rural areas had never been to school. enrolment rate was 91.6 percent for children aged 7 -13 years old. The enrolment rate was higher in urban (93.1%) than in rural areas (91.3%). The results further show that more girls in this age group were enrolled in school in rural areas than boys. At constituency level, most of the constituencies - with the exception of Onesi and Ruacana - had high enrolment rates of more than 90 percent.

the literacy rate for youth aged 15-24 years in Omusati was 95.9 percent, with a higher proportion of females (96.8%) than males (95.0%) being literate. The literacy rate was slightly higher in urban areas (97.9%) than rural areas (95.8%). The literacy rate for young females in rural areas was 1.9 percent higher than males, while in urban areas the literacy rates were nearly identical. the literacy rate was highest in Oshikuku (93.3%) and lowest in Ruacana (77.7%).

5.2.4 Employment Opportunities

The 2011 Namibia Population and Housing Census results show that 58.0 percent of the economically active population aged 15 years and above were employed while 42.0 percent were unemployed. There were differences between urban and rural areas, in that 66.3 percent of the economically active population in urban areas was employed, while only 57.1 percent in rural areas was employed.

skilled agricultural and fishery workers made up the largest occupation group (48.5%), followed by service workers (11.5%) and professionals (10.6 %). There were significant differences between females and males in the top three occupational groups. 54.1 percent of the jobs held by women were in the 'skilled agricultural/fishery' workers category. However, more males (12.4%) than females (2.5%) worked in the craft and related trade occupations. On the other hand, more females worked as professionals and clerks than males.

in Omusati region, Agriculture, Forestry and Fishing were the main industry (50.3%) of the work force, followed by Education (9.4%). Administrative and Support service activities employed about 6 percent of the workforce. Education, Wholesale and Retail trade, Accommodation and Food serving activities; Human Health and Social work activities were clearly the domain of women, while men predominantly worked in Mining, Construction and the Transportation industry.

about 32 percent of the employed population in the region had completed their primary education. About 14 percent of the employed population had not completed their primary school education. Women, on average, were better educated than men. About 34 percent of employed women had completed their primary education and about 9 percent had completed their tertiary education compared to 29 percent and 7 percent of men respectively. about 42 percent of the unemployed population had completed their primary education, 16.9 percent had completed their secondary education and 0.8 percent completed their tertiary education. Those with no formal education constituted around 10 percent of the unemployed population.

5.2.5 Health

The Region has four District Hospitals, namely Outapi, and 40 clinics in the located as per District and Health Centers. About 34 percent of the people in the Region travel more than 5 kilometers to reach the nearest hospital or clinic, almost 48 percent lives about 2-5 kilometers closer to health facilities, while only 18 percent travels shorter distances i.e. 1 kilometer or less to health facilities. There are 15 medical doctors and 222 registered nurses and 259 enrolled nurses.

According to Namibia Population Based HIV Impact Assessment (NAMPHIA) 2017 estimated HIV Prevalence rate in Omusati region age between 15-64 to be 16.9% ,its higher on females than in males

Mortality report of Omusati region had an infant mortality rate of 39 deaths per 1000 live births and a child mortality rate of 60 deaths per 1000 live births to children under the age of 5 years old and most of this deaths are due to illness (Namibia 2011 census).

According to National Tuberculosis and Leprosy Programme Annual Report: 2015-2016 The cases of TB reported in Omusati regions have decrease consistently over the past four years,

since 2012. The new cases (Bacteriologically confirmed) have however remained relatively stable over the previous four years with a peak during 2015 . The increase could be the result of the effective diagnostic methods during the drug resistant TB survey conducted during the first half of 2015

5.2.6 Tourism

The Ruacana Waterfront, Otjipahuriro Community Camp Site, Omugulugwoombashe National Heritage, Ombalantu Baobab Tree, Okahao Baobab Tree, Outapi War Museum, Olufuko Festival Centre, Giant Baobab Tree near Tsandi Village Council, Salt Pan in Otamanzi, Tsandi Royal Homestead and Cultural Heritage Museum and Ogongo Game Camp, to mention a few, are worth visiting. Again, the accommodation facilities are well established in and around the Region. Among others in Outapi Town, there is Outapi Town Hotel, Mini Lodge, Outapi Guest House, Mwaa Bed and Breakfast and Villa Tresa Bed and Breakfast. Omaka Travel and Ketu Guest House are located in Okalongo Settlement, Eha and Mayayu in Ruacana Town, Ongozzi Lodge and King Uushona Lodge in Okahao Town, Tia Monika Bed and Breakfast in Oshikuku Town and Uukwaluudhi Hotel in Tsandi Village.

CHAPTER SIX:PUBLIC PARTICIPATION

Environmental Management Act (No 7 of 2007), section 2 states that public participation in decision making affecting the environment shall be promoted and fair and equitable access to natural resources shall be promoted. This section makes the stakeholder consultation an integral part of the environment management process. Environmental Management Act (No 7 of 2007), empowers the local community to participate in the implementation and promulgation of legislation and policies that secure sustainable management of natural resources, while promoting justifiable economic and social development hence public consultation forms a vital component of the EIA process.

This consultation process is a valuable source of information on key impacts, potential mitigation measures and the identification and selection of alternatives. The openness and transparency which was practiced in this process ensured that unbiased information was produced from this process. It is anticipated that the stakeholder participation will be maintained throughout the project life-cycle and integrated with the Environment Management Plan. The key stages of this public consultation process were public information, consultation and participation.

6.1 OBJECTIVES OF THE STAKEHOLDER CONSULTATION PROCESS

The objectives of the stakeholder consultation are;

- 🕒 To fully inform the stakeholders about the filing station project and to give the stakeholders the confidence that their concerns and any negative impacts would be addressed while the positive ones would be enhanced.
- 🕒 To gather potential negative and positive environmental impacts associated with the proposed project from the stakeholders' perspectives.
- 🕒 To engage stakeholders for the effective mitigation and enhancement of negative impacts and positive impacts arising from the proposed project respectively.

6.2 PRINCIPLES GOVERNING PUBLIC CONSULTATION

Public consultation can be any process that directly engages the public in decision-making and gives full consideration to public input in making that decision. The consultant therefore took note of points like inclusivity, transparency and fairness during the public consultation process.

6.2.1 Inclusivity

The public consultation process covered representation of all relevant stakeholders. To ensure this principle was held, the stakeholder list was rationalized by the relevant authority and the consultant. The list included all neighbors to the site.

6.2.2 Open and transparency

In order to enhance this principle, the consultant ensured that all steps and activities of public consultation were understood by all consulted stakeholders. In some cases the consultant explained the essence of stakeholder consultation and also took time to explain all the proposed project activities.

6.2.3 Relevance

Relevance was also key in this EIA and this was achieved through remaining focused on the project issues that matter. The consultation boundaries also ensured that the consultation process remained relevant to the proposed activities.

6.2.4 Fairness and responsiveness

To achieve the objectives of the stakeholder consultation process there was a need to ensure that the consultation was conducted impartially. All stakeholders were empowered with project information first, and then solicit their informed input.

6.3 NOTIFICATION OF INTERESTED AND AFFECTED PARTIES

The consultation was facilitated through the following means:

- A Background Information Document (BID) containing the project description, the EIA process and an invitation to participate was shared with stakeholders and local members. The main aim of distributing the BID to Interested and Affected Parties is to bring awareness and clarity about the project to be developed in their area. **A copy of the BID is provided in Appendix B.**
- Invitations to participate notices were published in the local newspapers (Confidante , The Southern times and the New Era) as shown in **Table 9** below.
- Placement of a public notices at the project site.

Table 7: Details of public notification of the EIA study.

Newspaper	Area of Distribution	Language	Date Placed
Confidante	Country Wide	English	26 Septmber-02 October 2019
The Southern Times	Country Wide	English	04-10 October 2019
New Era	Country Wide	English	24 September 2019
New Era	Country Wide	English	30 September 2019
Site notices	Project Site	English	04 October 2019

(See **Appendix B**)

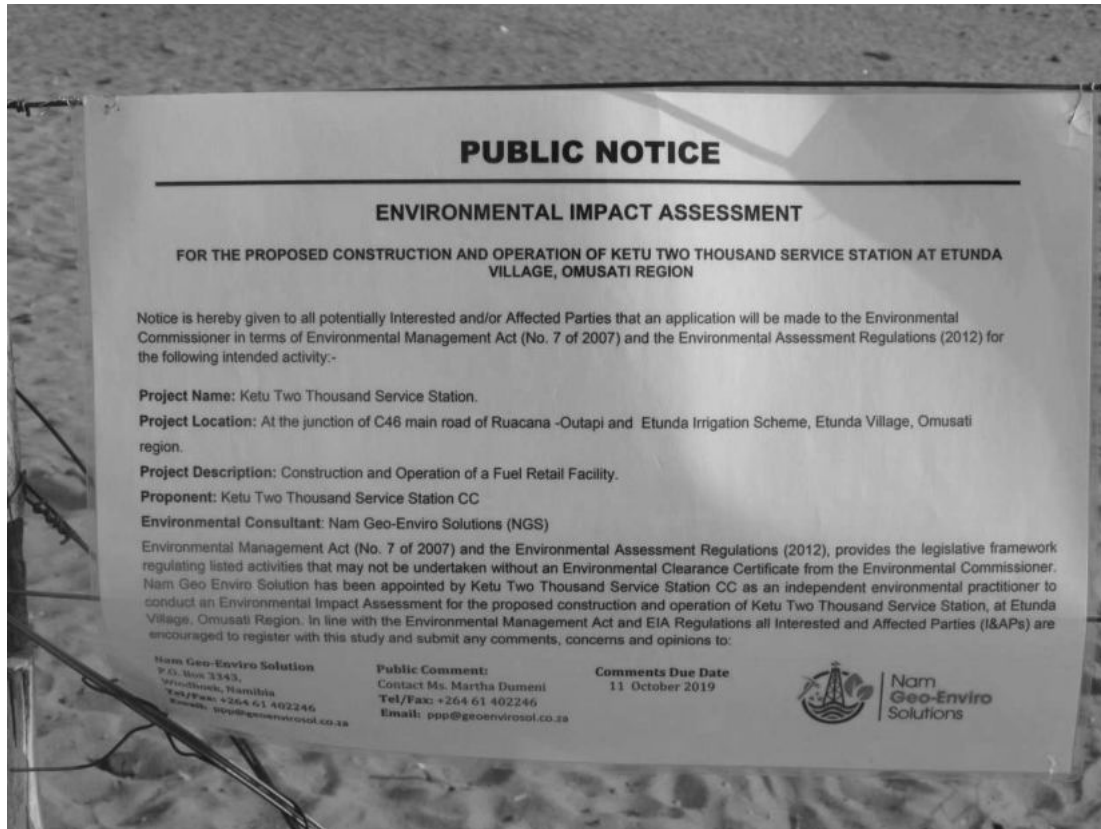


Figure 7: Poster on site

6.3.1 Stakeholders and Interested and Affected Parties

A public meeting was held at Etunda village on the 4th of October 2019. Relevant stakeholders and Interested and Affected Parties were identified and these are listed below:

- Omusati Regional Council
- Uukwaluudhi Traditional Authority
- Neighbouring business people
- Etunda residents

6.4 SUMMARY AND DISCUSSION OF STAKEHOLDERS CONSULTATION.

Table 8: Summary of stakeholder concerns.

NAME	COMMENTS/QUESTIONS, CONCERNS & SUGGESTIONS	RESPONSE
Mr Titus Ainima	<p>Comment:</p> <ul style="list-style-type: none"> • Late comers should get informed about what was discussed. 	<p>By Mr Angula (Chair Person): The late comers will get a briefing.</p>

	<ul style="list-style-type: none"> vendors that are selling along the site will be affected. Will the Vendor still be allowed to sell there? 	<p>By Mr Josua (Proponent): One side will be left for vendors, but they will be required to pay little renting fee.</p>
Mr Pick Card Silas	<p><u>Comment:</u></p> <ul style="list-style-type: none"> Concerned about pollution such as plastics that will be swallowed by Cattle. Suggested to use plastic tanks instead of still, because is corrosive. How deep the tanks are going to be underground? 	<p>By Mss Martha: An EMP with mitigation measures of all possible impact will be compiled and used as an on-site reference document during all project phases.</p> <p>By: Mr Josua The Installation of the tanks will be designed by Engineers. He added that they are going to follow the law of handling hazardous waste.</p>
Mr David Kalimba	<p><u>Comment:</u></p> <ul style="list-style-type: none"> He is thankful for the proposed service station and he is aware of the benefits . He suggested to have ATM on the proposed service station. 	<p>By Mr Josua : There will be Standard Bank, FNB, Bank Windhoek.</p>
Mr Lazarus Cornelius (Former Councilor)	<ul style="list-style-type: none"> <u>Comment:</u> He is excited about the project, because is going to bring development in the area The highlighted that the area along the road is allocated for business purposes. .He is aware that everyone is in support of the project and he could see that everyone is excited 	<p>By Mss Martha : Thank him for his contribution.</p>
Mr Phillipus Ashimbanya	<ul style="list-style-type: none"> <u>Comment:</u> He is excited about the project, because is going to bring development in the area. He also asked what is needed for an ECC 	<p>By Mss Martha : Ministry of Environmental and Tourism is the one that make decision on the approval of</p>

	to get approve.	an ECC . She added that the public concerns, question, suggestion and all comments will be incorporated in EIA report.
Mr Titus Ainima	<ul style="list-style-type: none"> • Comment: • He suggested that once the construction and operation of the service start, the proponent should bring trained and experienced employees but he must also employ local people . • He asked if the proponent will also consider giving back to the community as other entrepreneurs do. 	<p>By Mr Josua : Noted.</p> <p>He is a business man and they aim to bring development by investing and giving back / donating to the community.</p>
MR Kalimba	<ul style="list-style-type: none"> • He asked whether the service station is going to be operating for 24 hours. 	<p>By Mr Josua: Yes, it will be operating for 24 hour</p>

All people viewed the project as beneficial to the community. The stakeholders highlighted that the project will affect them in a positive way as it will bring new development in Etunda Village and accessibility of fuel. .However, some were concerned about pollution and suggested for the use of plastic tanks instead of still, because is corrosive.



Figure 10. Public meeting at Etunda Village

CHAPTER SEVEN ASSESSMENT OF ENVIRONMENTAL IMPACTS

7.1 IMPACT ANALYSIS AND ASSESSMENT

This section provides an introduction to the assessment of potential impacts and the criteria used in making each assessment. Firstly, in line with international practice in EIAs, a broad definition of "Environment" is adopted, which incorporates both bio-physical and socio-economic components. The EIA Policy of Namibia seeks to achieve a balance between negative and positive impacts and between biophysical impacts and social and economic gains to society. Therefore, both negative and positive impacts on the environment will be considered below. Moreover, this report will recommend measures to mitigate negative impacts and optimize (or enhance) positive impacts.

7.2 METHODOLOGY FOR ASSESSING IMPACTS AND ALTERNATIVES

The potential impacts on the environment from the proposed project are identified based on the nature of the various activities associated not only with the project implementation and operation, but also on the current status of the environmental quality at the project site. A number of potential impacts were identified as a result of: -

- The public participation,
- An initial site investigation

7.3 IDENTIFICATION OF POTENTIAL IMPACTS OF THE PROJECT

Table 9: The positive impacts of the project

Positive Impacts
Accessibility of fuel.
Employment creation.
Creation of a hub for future developments in the area.
Generation of revenue.
Improve the welfare of the locals through increased income earned.

Table 10: The Negative impacts associated with the project.

Negative impacts	
Air Environment	Water Environment
Impacts on ambient air quality	Impacts on ground water quality
Impacts on ambient noise	Socio -Economics

Land Environment	HIV/AIDS
Soil contamination	Safety and security
General waste	Risk of Occupational health and safety.
Fire and explosions	Impact on traffic
Hydrocarbon waste	Indirect Impacts
	Cumulative impacts

7.4 IMPACT ANALYSIS

In this section, the impacts of the filling station project on the human and biophysical environment are evaluated and analyzed (**table 13**). Following the identification of the various potential environmental impacts, the impact analysis framework looked at the impacts under the following categories:

Table 11: Ranking matrix for Environmental Significance.

	Temporal scale		Score	
EFFECT	Short term	Less than 5 years	1	
	Medium term	Between 5 and 20 years	2	
	Long term	Between 20 and 40 years (a generation) and from a human perspective almost permanent.	3	
	Permanent	Over 40 years and resulting in a permanent and lasting change that will always be there.	4	
	Spatial Scale			
	Localized	At localized scale and few hectares in extent	1	
	Study area	The proposed site and its immediate environment	2	
	Regional	District and Provincial level	3	
	National	Country	3	
	International	Internationally	4	
	Severity		Benefit	
	Slight/Slightly Beneficial	Slight impacts on the affected system(s) or party(ies)	Slightly beneficial to the affected systems(s) or party(ies)	1
	Moderate/Moderately Beneficial	Moderate impacts on the affected system(s) or	An impact of real benefit to the	2

		party(ies)	affected system(s) or party (ies)	
	Severe/Beneficial	Severe impacts on the affected system(s) or party(ies)	A substantial benefit to the affected system(s) or party(ies)	4
	Very Severe/Very Beneficial	Very severe change to the affected system(s) or party(ies)	A very substantial benefit to the affected system(s) or party(ies)	8
Likelihood				
LIKELIHOOD	Unlikely	The likelihood of these impacts occurring is slight		1
	May occur	The likelihood of these impacts occurring is possible		2
	Probable	The likelihood of these impacts occurring is probable		3
	Definite	The likelihood is that this impact will definitely occur		4

The analysis of the environmental impacts is focusing on the construction, operational and decommissioning phases of the project. Wherever possible, the impact will be discussed under specific project activity (**table 14**).

Table 12: Matrix for impacts and their environmental significance.

Environmental Significance		Positive	Negative												
LOW	An acceptable impact for which mitigation is desirable but not essential. The impact by itself is insufficient even in combination with other low impacts to prevent development.	4-7	4-7												
MODERATE	An important impact which requires mitigation. The impact is insufficient by itself to prevent the implementation of the project but which, in conjunction with other impacts may prevent its implementation.	8-11	8-11												
HIGH	A serious impact which, if not mitigated, may prevent the implementation of the project. These impacts would be considered by society as constituting a major and usually long term change to the natural and/or social environment and result in severe negative or beneficial effects.	12-15	12-15												
VERY HIGH	A very serious impact which may be sufficient by itself to prevent the implementation of the project. The impact may result in permanent change. Very often these impacts are unmitigable and usually result in very severe effects or very beneficial effects.														
Likelihood	Effect (temporal scale+ spatial scale+ severity)														
		3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	2	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	3	6	7	8	9	10	11	12	13	14	15	16	17	18	19
4	7	8	9	10	11	12	13	14	15	1	17	18	19	20	

7.5 IMPACT EVALUATION

7.5.1 POTENTIAL IMPACTS OF THE PROJECT DURING CONSTRUCTION:

1. DUST

Identified Impact	Effect						Risk Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score			
Dust Unmitigated	Short term	1	Localized	1	Slight impact	1	Definite	4	7
Mitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5

The site has is partially uncompacted sand, hence the site is definitely going to experience dust during the construction phase. Some dust emissions during the construction period might come from movement of vehicles/ equipment at site and activities like grading, earthworks, foundation works and other construction related activities. The composition of dust in this kind of operation is, however, mostly inorganic and non-toxic in nature. The impact will be for short duration, confined locally and the overall environmental significance will be low. The impact by itself will be insufficient even in combination with other low impacts to prevent development.

Mitigation measures:

- Use of dust suppression/dump methods
- People at the site should be provided with respirators
- Regular monitoring and review to ensure safe operation.

2. NOISE IMPACT

Identified Impact	Effect					Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact			
Noise Unmitigated	Short term	1	Localized	1	Slight impact	1	4	7
Mitigated	Short term	1	Localized	1	Slight impact	1	3	6

Noise is unwanted loud sound that can affect performance. Too much noise can cause annoyance and hindering of concentration. In severe cases it can cause loss of hearing and pain.

During construction phase, noise will generated locally from construction vehicles and other construction activities. Noise can also be created by hooting of vehicles around the site. These activities can cause an increase in the ambient noise levels; however the impact will remain localized to the project area and will hardly exceed the ambient noise level beyond the project boundary. Noise is expected to be generated for a limited period when trucks and machinery are operating and this will only affect the immediate neighborhoods.

Mitigation measures :

- Employees should be equipped with ear protection equipment such as ear plugs/muffs.
- Employees should be limited to working hours only at most 8 hours per day. Because in most causes noise generated during the day is not quite disturbing as compared during the night when most people are sleeping.
- Noise pollution should be addressed and mitigated at an early stage of construction phase.
- Proper and timely maintenance of all machineries.
- Machineries should be switched off when not in use

- Noise levels should not equal or exceed 85dBA for workers working an 8 hour shift (according to ISO 18000)

3. VEGETATION LOSS

Identified Impact	Effect						Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score			
Vegetation loss Unmitigated	Short term	1	Localized	1	Slight impact	1	Definite	4	7
Mitigated	Short term	1	Localized	1	Slight impact	1	Definite	4	7

Currently the proposed site of the filling station is partially an open area with less vegetation. However, there are several *Pechuel Leoschea Leubnitinziae* (Bitter Busch), two *Hyphaene petersiana* (Makalani Palm) and four *Vachelia Erioloba* (The Camel thorn) observed on the site. It is advised to incorporate the *Vachelia Erioloba* species in the development of the service station , since is one the listed protected species in Namibia .

Mitigation measures :

- Project activities must be kept within the boundary so that no further disturbances are done on outside areas unless they are vegetation close to the site proximity that can hinder the development.
- *Vachelia Erioloba* must be incorporated in the development plan of the service station.

4. IMPACT ON SOIL

Identified Impact	Effect						Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score			
Soil Unmitigated	Short term	1	Localized	1	Slight impacts	1	Definite	4	7
Mitigated	Short term	1	Localized	1	Slight impacts	1	Definite	4	7

Soil movement is common in construction projects. During the construction phase there will be clearance of vegetation but soil will be disturbed by activities like excavations. However, the impact on soil is expected to be localized and of low environmental significance. The listed below mitigation measures should be effectively implemented so as to reduce the probability of soil degradation.

Mitigation measures:

- After completion of construction the surrounding area where the extra soil and remaining construction material should be cleared and the leveling to be done so that the original condition is restored so that it does not disturbs natural drainage.
- Proper care should be taken so that there is no spill that would cause soil contamination.
- Hazardous waste properly handled and sent for disposal to appropriate disposal areas.
- The management to maintain records of contaminated waste on a regular basis.
- Re surface open areas during the decommissioning stage and introduce appropriate vegetation

5. SURFACE/GROUNDWATER CONTAMINATION

Identified Impact	Effect					Risk or Likelihood	Score	Overall Significance	
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact				
Groundwater contamination Unmitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4

Leakages from equipment and machinery might occur during the construction phase which might end up affecting surface/ground water. Construction activities are expected to last for a short duration.

Mitigation measures:

- Chemicals used during construction e.g. paint and paint remover might pose a risk. Care must be taken to avoid contamination of soil and groundwater.
- Proper toilet facilities should be installed at the construction site or alternative arrangements made.
- Encourage water reuse or recycling during the construction
- The contractor shall ensure that there is no spillage when the toilets are cleaned or during normal operation and that the contents are properly removed from site.
- Fuel (diesel and petrol) and oil containers shall be in good condition and placed in a bunded area or on plastic sheeting covered with sand (temporary bunding).
- Storm water should be controlled on the site by compiling and implementing a storm water management plan.

6. GENERATION OF WASTE

Identified Impact	Effect						Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score			
Generation of waste Unmitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4

During the construction phase, waste might be generated from domestic waste and construction wastes like empty cement bags, painting containers etc. The impact is expected to be short term, the severity to be slight and the overall significance to be low.

Mitigation measures :

- Contaminated wastes in the form of soil, litter, building rubble and other material must be disposed off at an appropriate disposal site.
- Strictly, no burning of waste on the site or at the disposal site is allowed as it possess environmental and public health impacts;
- Waste handling procedures must be cleared properly with the relevant waste contractors and the construction contractor should be informed about this.
- To avoid contaminating the soil and underground ecosystem, no wastewater should be disposed on soil.

7. TRAFFIC IMPACTS

Identified Impact	Effect						Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score			
Traffic impacts Unmitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4

The site is adjacent to C46 main road of Outapi-Ruacana. Construction related activities are expected to have a slight impact on the movement of traffic along the C46 main road. If mitigation measures are put into action, the probability of traffic congestion and accidents happening will be unlikely and the significance will be low.

Mitigation measures:

- No diversion of traffic or closure of the road is expected
- To place temporary signage, warning road users on the C46 of construction activities ahead.
- During construction, the responsible contractor must ensure that all drivers employed have valid driver's licenses of vehicle types they are employed for and that they have experience in driving those vehicles.
- The contractor must ensure that there is always a supervisor on site to ensure that no driver under the influence of alcohol or narcotics is driving company vehicles.

7.5.2 SOCIO-ECONOMIC IMPACTS ASSOCIATED WITH CONSTRUCTION PHASE

1. OCCUPATIONAL HEALTH AND SAFETY

Identified Impact	Effect						Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score			
O.H.S Unmitigated	Short term	1	Localized	1	Moderate impacts	2	May occur	2	6
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	1

OHS hazards which are likely during the construction phase include dust, noise, occupational stress and falling from heights. Dust emitted during the construction phases can cause lung diseases to employees. Dust suppression measures should therefore be used during the short time of construction phase. Additionally, too much work pressure on employees can result into high level of stress which can consequently result into accidents.

Mitigation measures :

- Safety offer to be stationed at the site
- Safety signs stating DANGER, WARNING or CAUTION should be put up when necessary
- Induction to be given to all the new members on site
- Conduct Hazard identification and risk assessments
- Comply with all Health and Safety standards specified in the Labour Act .
- Provide all staff on site with personal protective equipment (helmets, gloves, respirators, work suits, earplugs, goggles and safety shoes where applicable).

- Safety talks to be done every day before commencement of work especially on fire and electrical safety and other precautions that are vital for safe construction work.
- Reduce noise exposure by isolating noisy equipment and rotate tasks
- Provisions of First Aid Box and trained person in first aid.
- Provisions of immediate accident/incident reporting and investigation.
- Safety Posters and slogans should be exhibited at conspicuous places
- Dust suppression measures

2. HERITAGE IMPACT

Identified Impact	Effect						Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score			
Heritage impact Unmitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4

There are no known heritage areas or artifacts deemed to be impacted by the construction.

Mitigation measures :

- During construction, the contractor might come across archaeological features or objects that possess cultural values. If archaeological remains or objects with cultural values (e.g. Pottery, bones, shells, ancient clothing or weapons, ancient cutlery, graves etc) are uncovered on the surrounding, it should be barricaded off and the relevant authorities should be contacted immediately.

3. SAFETY AND SECURITY

Identified Impact	Effect					Score	Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact				
Safety & security Unmitigated	Short term	1	Localized	1	Moderate impacts	2	May occur	2	6
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4

During the construction phase, there will be an increase of people in the area, which could lead to an increase in crime and prostitution in the surrounding areas. Safety and security impact is expected to be short term given that construction related activities will be conducted for a limited duration.

Mitigation measures :

- Unauthorized people should not be allowed near or around the site
- Equipment housed on site must be placed in a way that does not encourage criminal activities.
- For safety and security reasons it is recommended that the entire site be fenced-off and security personnel be employed to safeguard the premises and to avert criminal activities.
- Relevant safety signs should be clearly displayed.

4. RISK AND SPREAD OF HIV/AIDS

Identified Impact	Effect						Risk Likelihood	or	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score				
HIV/AIDS Unmitigated	Permanent	4	Nationally	3	Severe impact	4	May occur	2	13	
Mitigated	Long term	3	Localized	1	Slight impact	1	Unlikely	1	6	

It is well known that projects are associated with the spread of HIV/AIDS. The fact that people will be coming from different locations and meeting at one place can result in anti-social behaviours like prostitution hence the spread of HIV/AIDS. Therefore it is very important to implement the mitigation measures so as to reduce the spread of HIV/AIDS. If educational campaigns are carried out, it will bring full awareness to employees about the virus hence reducing the spread of the virus. It is essential to note that if all the listed below mitigation measures are implemented an HIV/AIDS free workforce will be achieved within the first month of the commencement of the project.

Mitigation measures:

- Contractor should allocate time for the employees to visit their families thus during the construction phase to prevent multi relationships which can aid in the spreading of HIV/AIDS if one of them is infected.
- Sensitization campaign to the staff on HIV/AIDS and other STDs,
- Free distribution of condoms on site

7.5.3 POTENTIAL IMPACTS OF THE PROJECT DURING OPERATION:

1. FIRE AND EXPLOSIONS

Identified Impact	Effect					Risk or Likelihood	Score	Overall Significance	
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact				
Fire and explosions Unmitigated	Short term	1	Localized	1	Severe impact	4	May occur	2	8
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4

Fire and Explosion can happen during the operation phase. Hydrocarbons are volatile under certain conditions and their vapors in specific concentrations are flammable. If precautions are not taken to prevent their ignition, fire and subsequent safety risks may arise. An integrated fire prevention plan should be drafted before “start-up” of the facility. 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).

Mitigation measures :

- Sufficient water should always be available in case of fire for firefighting purposes.
- Fire fighting trainings
- Good housekeeping such as the removal of flammable materials including rubbish, dry vegetation, and hydrocarbon-soaked soil from the vicinity of the filling station.
- The Emergency Response Plan should be implemented and should address the potential spills and workers should be trained on the actions that are to be taken if such an events is to occur;

- Regular inspections should be carried out to inspect and test, firefighting equipment.
- Fuel tanks should be placed away from potential neighboring fire points. Equip the filling station with firefighting equipment.
- All fire precautions and fire control at the filling station must be in accordance with SANS 10089-1:1999, or better. A holistic fire protection and prevention plan is needed.
- solely include the availability of firefighting equipment, but more importantly, it involves premeditated measures and activities to prevent, curb and avoid conditions that may result in fires.
- An emergency evacuation point should be marked out clearly
- Petrol attendants and all staff must undergo basic training on how to prevent fire, fight fire and to use the fire-extinguishers facilities on site.
- Fire plan required to be set up and be readily available for the staff.

2. SURFACE/GROUNDWATER CONTAMINATION.

Identified Impact	Effect						Risk Likelihood	or	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score				
Groundwater contamination Unmitigated	Short term	1	Study area	2	Moderate impact	2	May occur	2	7	
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4	

The northern part of Namibia normally experience floods during heavy rains and there are also shallow pans called Oshanas. The Oshanas (shallow pans) are filled with rainwater. The water is mostly used by the animals for drinking. There are no Oshana nearby the envisaged filling station. During the operation phase, spillages might occur when offloading fuel into the storage tanks and when filling vehicles. Moreover, it is very expensive to clean-up the pollution, therefore it will be vital to implement the mitigation measures so as to avoid contamination of water. However the risk is low hence risks of such an impact can be lowered through proper training of staff and installation of suitable containment structures.

Mitigation measures:

- Install oil interception system.
- Install leak detection system.
- Install isolating surface drainage system.
- Implement integrity tests on the tanks.
- Concrete slabs /interlocks to cover the ground.
- Proper toilet facilities should be constructed

- Use of containment
- Empty containers of chemicals should not be dumped anywhere, all the garbage should be collected by the garbage collectors
- Overfilling of the tanks may also take place and proper monitoring of the product levels in the tanks must take place to eliminate overfilling
- Additional guidelines to the prevention of potential leakages and/or spillages that could lead to groundwater pollution include:
 - All fuelling should only be conducted on surfaces provided for this purpose;
 - The condition of the fuel reticulation system will have to be checked regularly and repaired to prevent leakages;
 - Proper training and induction of operators must be conducted
 - Any spillage of more than 200 liters must be reported to the relevant authorities and remediation instituted (refer to section 49 of the Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990))

Equipment and materials to deal with spill clean-up must be readily available on site and staff must be trained in the usage of these products

3. AIR QUALITY (EMISSIONS)

Identified Impact	Effect						Risk Likelihood	or	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score				
Air quality Unmitigated	Short term	1	Study area	2	Moderate impact	2	May occur	2	7	
Mitigated	Short term	1	Study area	2	Slight impact	1	May occur	2	6	

During the operation phase fuel will be offloaded from the road tanker trucks to the tanks and also to the customers, this can affect the air quality. Hydrocarbon vapors will normally be released during delivery as liquid displaces the gaseous mixture in the tanks. Hydrocarbons are a class of compounds primarily composed of carbon and hydrogen. hydrocarbons are one of the substances that can contribute to the global warming which can cause the depletion of the ozone layer. When the ozone layer is thinned gases can escape from the atmosphere and cause diseases such as respiratory orders and can reduce the photosynthetic rates in plants.

Mitigation measures:

- Vent pipes should be placed in such a manner as to prevent impact on potential receptors.
- Regular check tests and audits
- All venting systems and procedures have to be designed according to SANS standards and placed in a sensible manner.
- Vehicle idling time shall be minimized by putting up educative signs

4. HYDROCARBON WASTE

Identified Impact	Effect						Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score			
Hydrocarbon waste Unmitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4

Liquid waste in the form of oils, petrol and diesel is normally the potential waste generated at filling stations. Fuel spillages during off-loading into the underground tanks are a potential risk.

Mitigation measures :

- Construct oil/water separator
- This impact can be reduced through proper training of the operators.
- All spills must be cleaned up immediately and if spill is more than 200L, it must be reported to the Ministry of Mines and Energy.
- The presence of an emergency response plan and suitable equipment is advised, so as to react to any spillage or leakages properly and efficiently.
- Proper monitoring of the product levels in the tanks must take place to eliminate overfilling.

5. GENERAL WASTE

Identified Impact	Effect						Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score			
General waste Unmitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4

During the operation phase, litter in the form of papers and plastics is likely to be produced. In general, the impact of waste is expected to be localized and it will be of low significance if mitigation measures are implemented.

Mitigation measures :

- Strictly, no burning of waste on the site or at the disposal site ,as it possess environmental and public health impacts;
- Place bins around the filing station
- Waste should be dumped at an authorized designated area
- Regular inspection of the site
- Separation of waste should clearly indicated.

6. OCCUPATIONAL HEALTH AND SAFETY RISKS

Identified Impact	Effect						Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score			
O.H.S Unmitigated	Short term	1	Localized	1	Moderate impacts	2	May occur	2	6
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4

Skin inflammation and occupational stress are hazards which are likely to be encountered during the operational phase. The filing station can cause some physical risks to personal health. Too much work pressure on employees can result into high level of stress which can consequently result into incidents/accidents.

Mitigation measures :

- Conduct Hazard identification and risk assessments
- All Health and Safety standards specified in the Labour Act should be complied with.
- Provide all staff on site with protective equipment
- Train workers how to use adequately the equipment
- Trainings on occupational health and safety
- Safety talks to be done every day before commencement of work
- Implementation of Behavior Based Safety System
- Provisions of First Aid Box and trained person in first aid.
- Any leakage/spillage shall be immediately attended and provision of urgent cleaning.
- Work area will be monitored to maintain work environment free from any hazards.
- Provision of adequate and maintenance of Fire Extinguishers at site

- Provisions of immediate accident/incident reporting and investigation.
- Safety Posters and slogans should be exhibited at conspicuous places

7. TRAFFIC MANAGEMENT

Identified Impact	Effect					Score	Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact				
Traffic impacts Unmitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4

During the operation phase, traffic impacts are expected to be of low significance from the main road, C46 because an entry and exit road will be included in the design of the filing station. Additionally, authorization will be given by roads authority. An entrance and exit way will prevent congestion and accidents at the filing station. If mitigation measures are put into action, the probability of traffic congestion and accidents happening will be unlikely and the significance will be low.

Mitigation measures :

- Entry and exit way to be included at design stage
- Proper signage to warn vehicles about the construction on the C46 road due to heavy vehicle movement.
- Drivers should adhere to all the traffic rules

8. SAFETY AND SECURITY

Identified Impact	Effect						Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score			
Safety and Security Unmitigated	Short term	1	Localized	1	Moderate impact	2	May occur	2	6
Mitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5

During operation phase, robbers might be attracted especially during the night given that filling stations operate 24 hours.

Mitigation measures:

- Employing security officers.
- Install CCTV cameras.
- No keeping of the safe keys on site
- Emergency numbers should be displayed clearly at the filling station

9. CUMULATIVE IMPACTS

Identified Impact	Effect						Risk Likelihood	or	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score				
Cumulative impacts Unmitigated	Long term	3	Localized	1	Moderate impact	2	May occur	2	8	
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4	

During the operational phase there might be cumulative impacts. Fuel is going to be off-loaded which can result in the release of hydrocarbon vapors which have an impact of reducing the air quality and also causing fires and explosions. Hydrocarbon vapors if released in the atmosphere can also cause global warming, reduction of photosynthesis in plants and can cause cancer in the long run.

Mitigation measures:

- All possible sources of ignition in the entire area should be eliminated
- Sufficient water should always be available in case of fire for firefighting purposes.
- Vent pipes should be placed in such a manner as to prevent impact on potential receptors.
- Regular check tests

7.5.5 POSITIVE ECONOMIC IMPACTS

1. EMPLOYMENT CREATION

Identified Impact	Effect						Risk Likelihood	or	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score				
Employment creation Unmitigated	Long term	3	Regional	3	Very beneficial	8	Definite	4	18	
Mitigated	Long term	3	National	3	Very beneficial	8	Definite	4	18	

The fuel retail facility will create employment opportunities both during construction and operation phases. This in the long run will generate wealth and improve livelihoods of people. The type of jobs will range from skilled, semi-skilled and unskilled and locals will be recruited. During the construction phase, contractors, sub-contractors and service providers are going to be employed. During the operation phase people will also be employed and the jobs will range from fuel attendance, manager, supervisors, cashiers etc.

Enhancement required:

- Employ locals in all casual labour in the construction and operation phase
- When recruiting, the responsible contractor is to ensure gender equality is taken into consideration that both men and women are employed equally and treated equally.
- Equity, transparency, to be put into account when hiring and recruiting

- In terms of human resource development and capacity building, the contractor is to enforce training programs that skilled workers should always train unskilled workers when necessary, in order for them to enhance their performances and to gain more knowledge that they might demonstrate at other levels in future.

2. ACCESSIBILITY OF FUEL.

Identified Impact	Effect					Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact			
Accessibility of fuel Unmitigated	Long term	3	National	3	Very beneficial	8	4	18
Mitigated	Long term	3	National	3	Very beneficial	8	4	18

The filling station project will bring positive impacts such as availability of fuel. Moreover, a mini-shop which sells a variety of fast foods will also be constructed. Therefore the development of a filling station will greatly benefit the local residents at the same time by passers. The probability of fuel supply is going to be definite, the severity will be very beneficial and the overall significance will be very high.

Enhancement required:

- Maintain a consistent supply of fuel

3. IMPROVEMENT OF GENERAL WELFARE

Identified Impact	Effect						Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score			
Improvement of general welfare Unmitigated	Long term	3	Regional	3	Very beneficial	8	Definite	4	18
Mitigated	Long term	3	National	3	Very beneficial	8	Definite	4	18

The project has a high probability of improving the general welfare for the local population. The locals will benefit during the life span of the project. It is essential to note that priority in terms of employment will be given to locals hence creating a high possibility for the locals to get more money and improve their livelihoods.

Enhancement required:

- First preference will be given to the locals during employment
- The proponent will be engaged in community projects
- The proponent will give employees market related salaries; this will improve the lives of the people

4. GOVERNMENT REVENUES

Identified Impact	Effect					Score	Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact				
Government revenues Unmitigated	Long term	3	National	3	Very beneficial	8	Definite	4	18
Mitigated	Long term	3	National	3	Very beneficial	8	Definite	4	18

According to the law of Namibia, operating companies are to pay taxes. The proponent will definitely pay tax to the government hence this will benefit the nation at large given that money generated from taxes is diverted to the public by the government.

Mitigation measure:

- The proponent will pay taxes as stipulated by the law of Namibia.

5. ECONOMIC DEVELOPMENT

Identified Impact	Effect					Score	Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact				
Creation of a hub for future developments in the area Unmitigated	Long term	3	National	3	Very beneficial	8	Definite	4	18
Mitigated	Long term	3	National	3	Very beneficial	8	Definite	4	18

Mitigation measure:

- The proponent should participate in community development programs.

7.6 IMPACTS ASSOCIATED WITH DECOMMISSIONING PHASE

The decommissioning phase of the filling station project is difficult to visualize at this point in time. However impacts associated with this phase will be similar to that of the construction phase. The possibility of spillages happening if tanks are not properly emptied is high therefore it is needed for a professional contractor from the oil industry and an environmental office to carry such duties. The used tanks should be disposed off at a suitable landfill site in order not to cause harm to the environment or human beings and animals.

Noise might occur during this stage as bulldozers will be used to demolish structures. Moreover during the decommissioning phase, precaution must be taken to avoid employees from being injured and at most prevent death cases. Furthermore the site should be rehabilitated (planting of grass and trees on the site). An Environmental Impact Assessment should also be conducted..

7.7 OVERALL SITE SENSITIVITY

Fire and explosions, cumulative impacts and HIV/AIDS falls under the range of moderate environmental significance when unmitigated. This implies that these impacts require mitigation yet they are not sufficient by themselves to prevent the implementation of the project. Other stated impacts remain of low significance which implies that mitigations are required but the impacts by themselves are not sufficient even in combination with other low impacts to prevent the commencement of development.

Table 13: Environmental Impacts Assessment Summary.

Impact	Effects								Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of Impact	Score	Likelihood	Score	
NEGATIVE IMPACTS									
Unmitigated Dust generation	Short term	1	Localized	1	Slight impact	1	Definite	4	7
Mitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5
Unmitigated Noise	Short term	1	Localized	1	Slight impact	1	Definite	4	7
Mitigated	Short term	1	Localized	1	Slight impact	1	Probable	3	6
Vegetation loss Unmitigated	Short term	1	Localized	1	Slight impact	1	Definite	4	7
Mitigated	Short term	1	Localized	1	Slight impact	1	Definite	4	7
Unmitigated Soil impact	Short term	1	Localized	1	Slight impacts	1	Definite	4	7
Mitigated	Short term	1	Localized	1	Slight impacts	1	Definite	4	7

Impact	Effects								Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of Impact	Score	Likelihood	Score	
Groundwater contamination Unmitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4
Generation of waste Unmitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4
OHS Unmitigated	Short term	1	Localized	1	Moderate impacts	2	May occur	2	6
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4
Safety & security Unmitigated	Short term	1	Localized	1	Moderate impacts	2	May occur	2	6
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4
Heritage Unmitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4

Impact	Effects								Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of Impact	Score	Likelihood	Score	
HIV and AIDS proliferation. Unmitigated	Permanent	4	Nationally	3	Severe impact	4	May occur	2	13
Mitigation	Long term	3	Localized	1	Slight impact	1	Unlikely	1	6
Traffic impacts Unmitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4
OPERATION PHASE									
Fire & explosion Unmitigated	Short term	1	Localized	1	Severe impact	4	May occur	2	8
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4
Groundwater contamination Unmitigated	Short term	1	Study area	2	Moderate impact	2	May occur	2	7
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4
Air quality Unmitigated	Short term	1	Study area	2	Moderate	2	May occur	2	7

Impact	Effects								Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of Impact	Score	Likelihood	Score	
					impact				
Mitigated	Short term	1	Study area	2	Slight impact	1	May occur	2	6
Hydrocarbon waste unmitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4
General waste Unmitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4
OHS Unmitigated	Short term	1	Localized	1	Moderate impacts	2	May occur	2	6
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4
Traffic management unmitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4
Safety & security Unmitigated	Short term	1	Localized	1	Moderate	2	May occur	2	6

Impact	Effects								Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of Impact	Score	Likelihood	Score	
					impact				
Mitigated	Short term	1	Localized	1	Slight impact	1	May occur	2	5
Cumulative impacts Unmitigated	Long term	3	Localized	1	Moderate impact	2	May occur	2	8
Mitigated	Short term	1	Localized	1	Slight impact	1	Unlikely	1	4
POSITIVE IMPACTS									
Employment creation	Long term	3	Regional	3	Very beneficial	8	Definite	4	18
Mitigated	Long term	3	National	3	Very beneficial	8	Definite	4	18
Accessibility of fuel Unmitigated	Long term	3	National	3	Very beneficial	8	Definite	4	18
Mitigated	Long term	3	National	3	Very beneficial	8	Definite	4	18
Improvement of general welfare Unmitigated	Long term	3	Regional	3	Very beneficial	8	Definite	4	18
Mitigated	Long term	3	National	3	Very	8	Definite	4	18

Impact	Effects								Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of Impact	Score	Likelihood	Score	
					beneficial				
Government revenues Unmitigated	Long term	3	National	3	Very beneficial	8	Definite	4	18
Mitigated	Long term	3	National	3	Very beneficial	8	Definite	4	18
Creation of a hub for future developments in the area Unmitigated	Long term	3	National	3	Very beneficial	8	Definite	4	18
Mitigated	Long term	3	National	3	Very beneficial	8	Definite	4	18

7.8 ENVIRONMENT MANAGEMENT AND MONITORING PLAN

An EMP has been compiled to seek a pro-active route by addressing all potential identified impacts before they result in adverse impacts to the environment. Management and monitoring options are highlighted and elaborated in detail to allow minimizing negative impacts to the receiving environment as well as facilitating the observation of sustainable development practices.

The EMP acts as a separate on site document, which can be used during the various phases (planning, construction, operational and decommissioning) of development. All contractors and sub-contractors participating in the project should be made aware of the contents of the EMP, and to plan their activities accordingly in an environmentally approach. Periodic review of the EMP should be compulsory and to maintain good environmental standards.

The formulated EMP complements the findings of the EIA and ensures that mitigation measures are made binding on the owner of the facility as well as all contractors during all the phases.
See Appendix E for the EMP.

CHAPTER EIGHT: CONCLUSIONS AND RECOMMENDATIONS

In general, the filing station project will pose limited environmental risks. Nonetheless major impacts which are mainly associated with filing stations are fire and explosions, hydrocarbon waste (spillages) which can consequently contaminate surface/groundwater. This can however be overcome by close follow-up and implementation through the recommendation in the Environmental Management Plan. It is vital to note that all environmental risks can be minimized and managed through implementing preventative measures and good management systems. This project is associated with positive impacts such as creation of jobs and increase in government revenue. The below recommendations have been brought forward.

8.1 RECOMMENDATIONS OF PRACTITIONER

Nam Geo-Enviro Solution recommendations Ketu Two Thousand Service Station CC Trading the following:

- The projects mitigation measures should be incorporated during all phases.
- Construct the filing station according to the SANS 10089-1:1999, or better standards
- Installation of monitoring wells at the filing station
- Periodic sampling/monitoring of waste water from the oil/water separator pit during operation phase
- It is recommended that environmental performance be monitored regularly to ensure compliance and that if any "fault" occur, corrective measures and precautions be taken if necessary.
- Environmental audits by an independent environmental consultancy must be carried out during the construction and operational so as to monitor environmental compliance. The monitoring and audit reports should accompany the application for renewal of the environmental clearance certificate after 3 years.
- A safety officer to be based on site all the phases .

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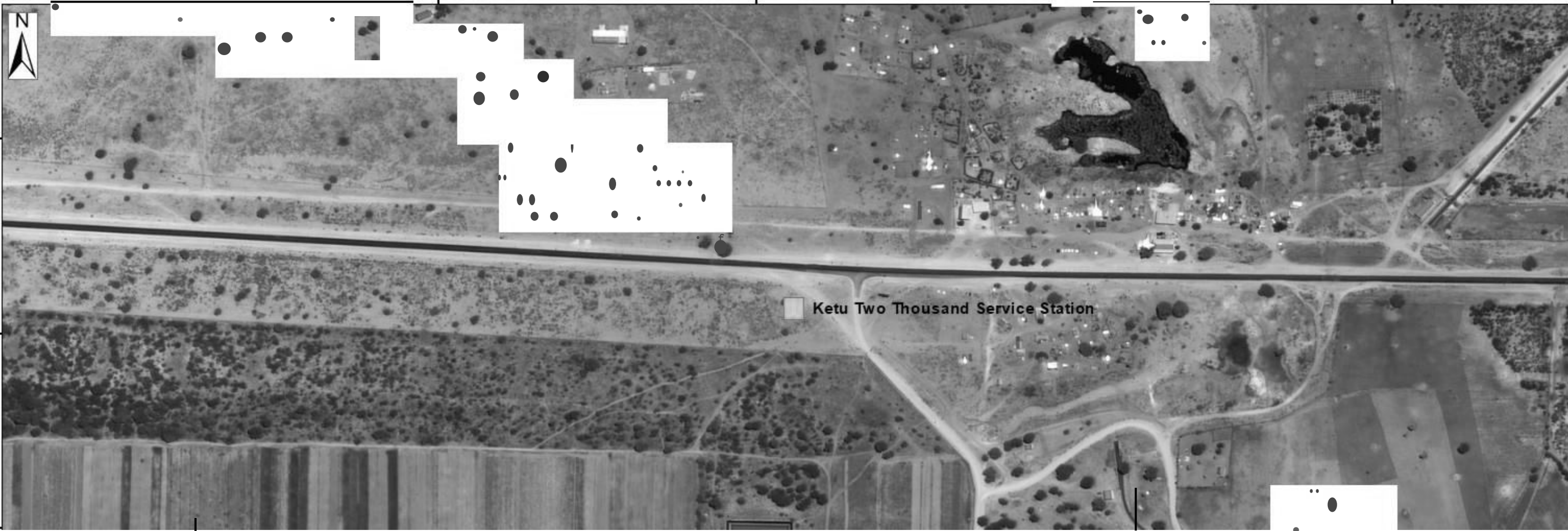
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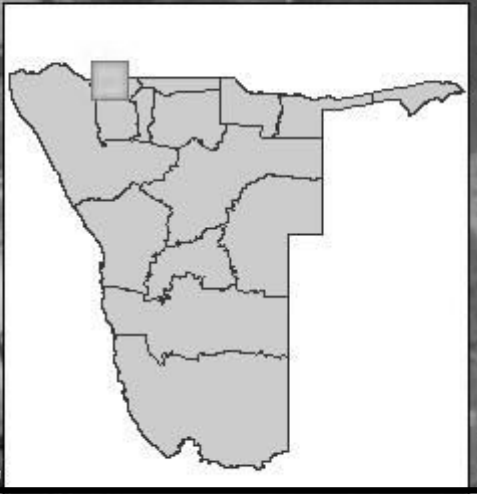
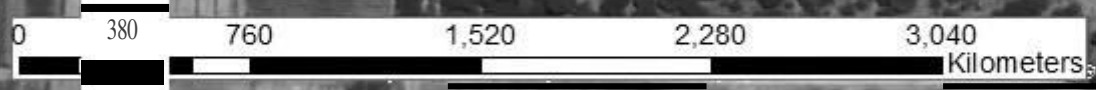
List of Appendices

Appendix A

Maps(Site location, Hydrology & Vegetation)



Ketu Two Thousand Service Station

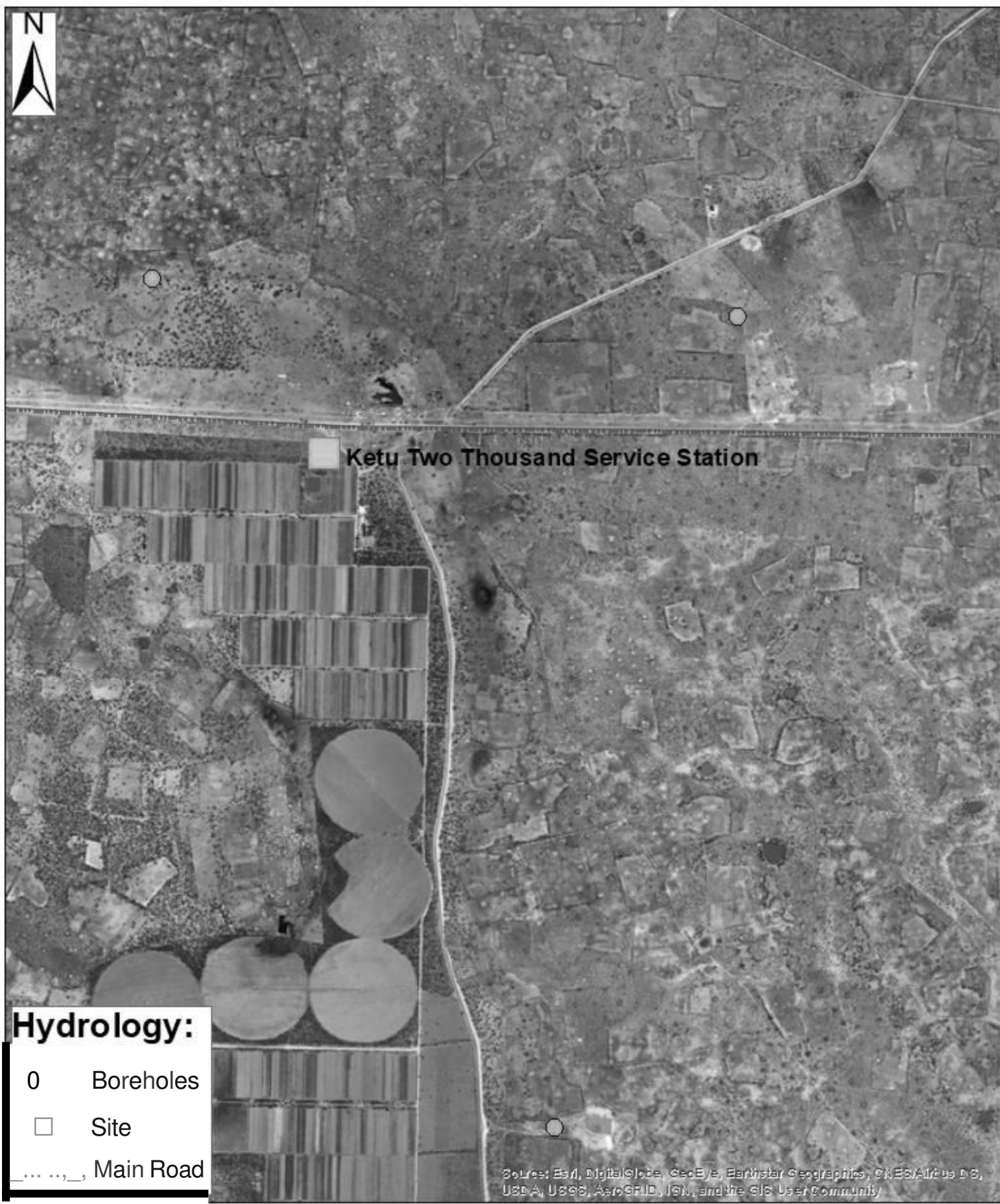


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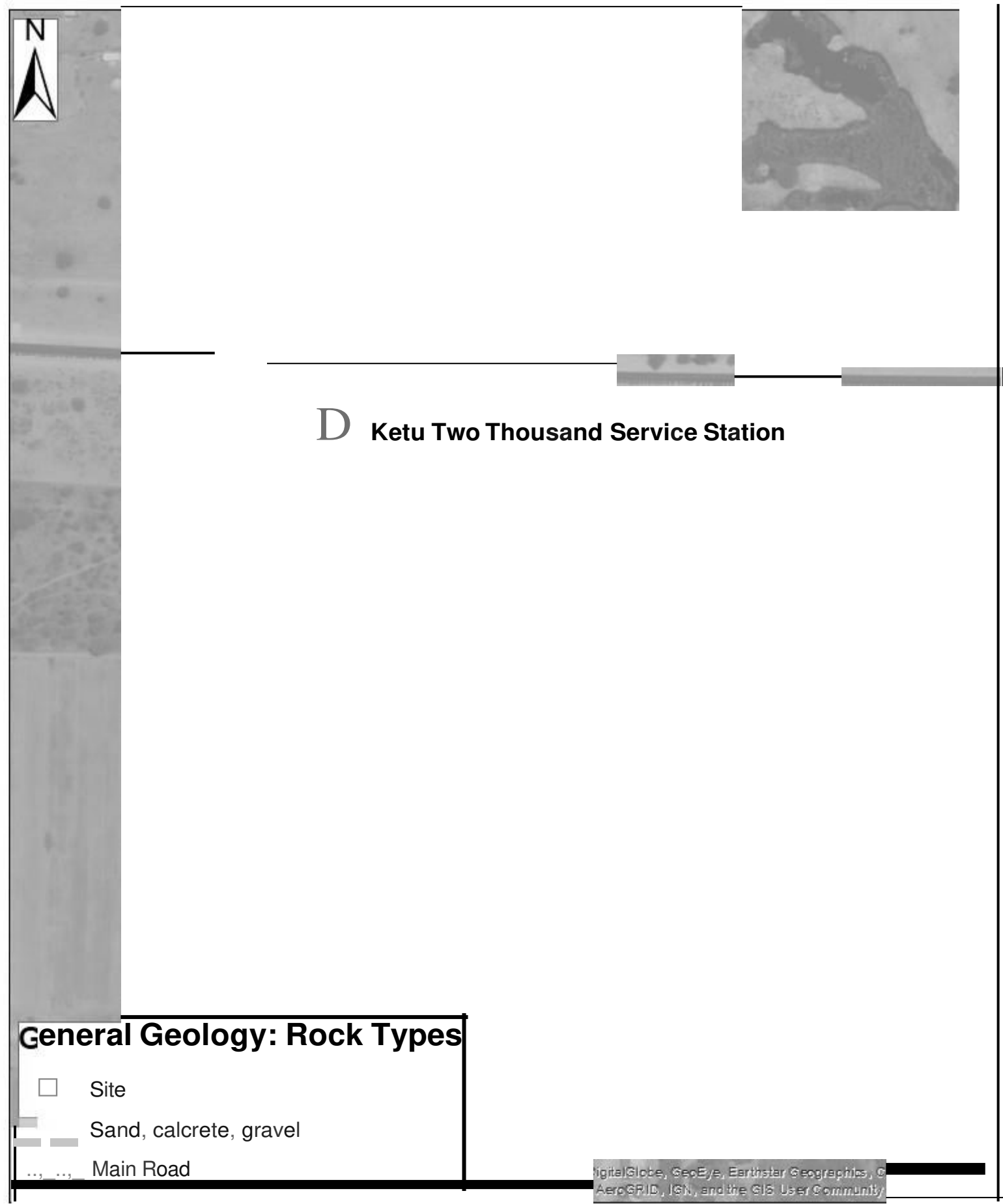
Ketu Two Thousand Service Station
Etunda Village
Omusati Region
S-17.419127 and E14.528140

Data Source:
Ministry of Land and Resettlement,
Ministry of Agriculture
Water and Forestry, NGS
Coordinate System: GCS WGS1984
Datum: WGS1984
Unit: Degree



- Hydrology:**
- Boreholes
 - Site
 - Main Road

Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



- General Geology: Rock Types**
- Site
 - Sand, calcrete, gravel
 - Main Road

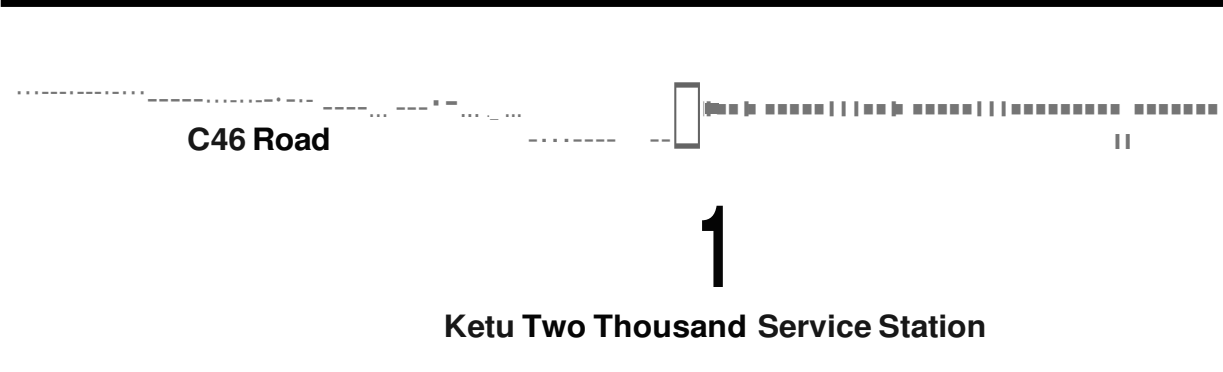
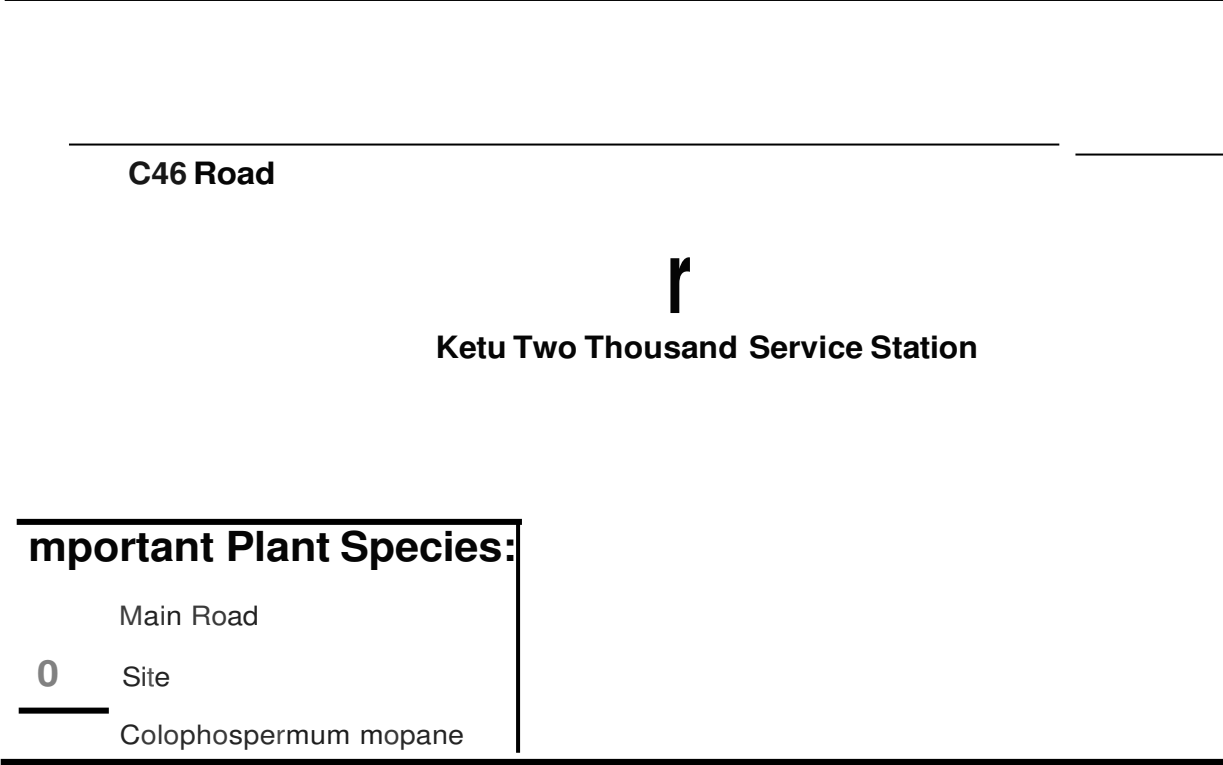
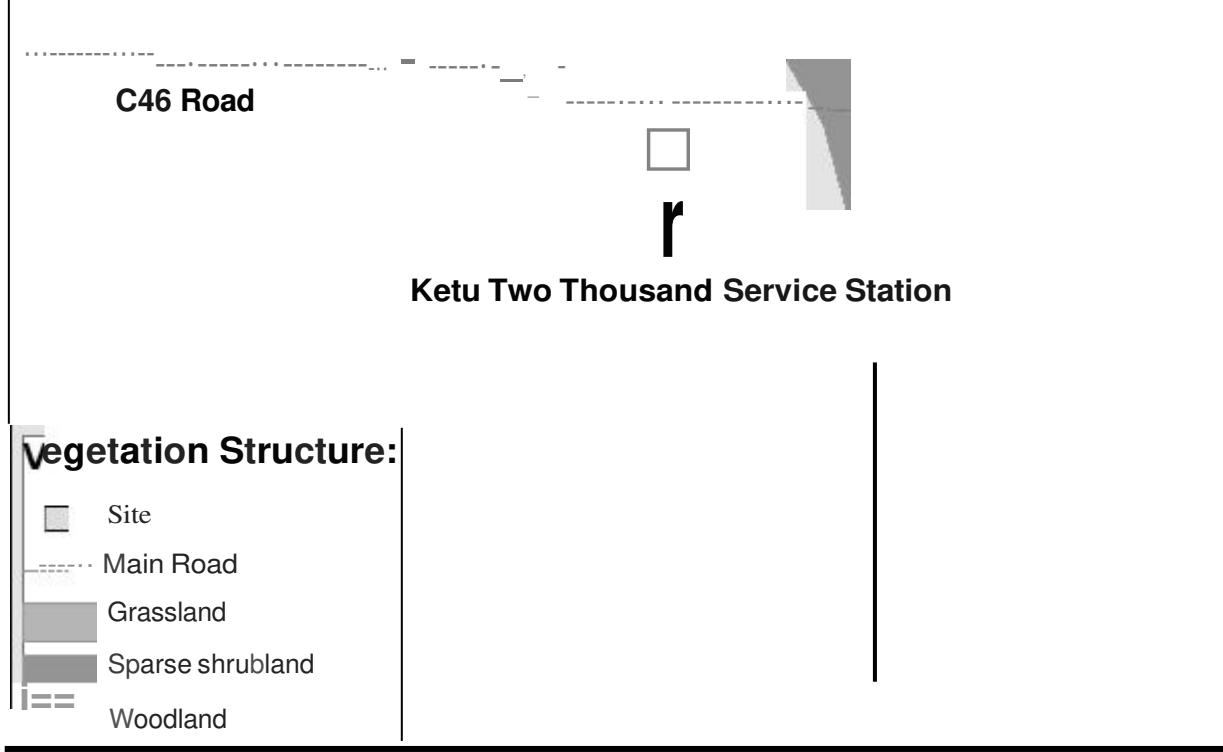
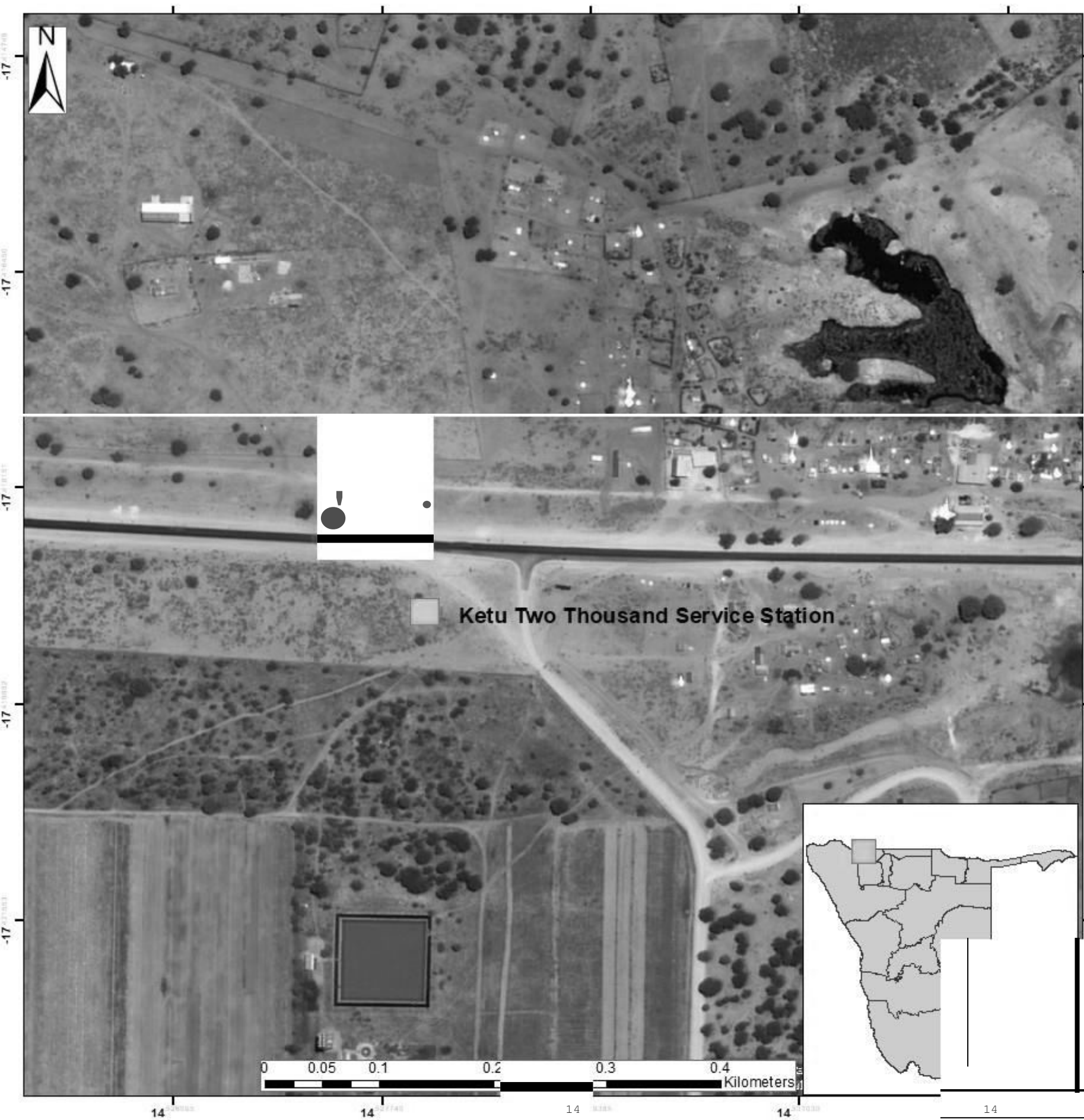
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Datum: WGS1984
Unit: Degree

Plant Diversity:

- Main Road
- Site
- High medium
- Low medium

Appendix B

Public Participation Process(BID, Advert and Register)

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR THE CONSTRUCTION AND OPERATION OF KETU TWO THOUSAND SERVICE STATION AT ETUNDA VILLAGE, OMUSATI REGION



BACKGROUND INFORMATION DOCUMENT (BID)

PURPOSE OF THE DOCUMENT

The purpose of this BID is to brief Interested and affected parties (I&APs) about the EIA that is being conducted for the proposed service station for Ketu Two Thousand Service Station CC.

In addition to supporting information about the proposed project and the EIAs this BID also provides I & APs with the opportunity to

- Register as stakeholders in the public participation process and
- Comment on and make contributions to the proposed project

The EIA will identify and evaluate potential impacts, recommend measures to avoid or reduce negative impacts and to enhance positive impacts. The EIA decision making authority is the Ministry of Environment and Tourism.

Please register by 11 October 2019

When you register you will be included on the stakeholder database and receive further documents for comments when they are available. Complete and submit the enclosed comment sheet, write a letter, call or email the Public Participation Office

A Public meeting has been scheduled to take place as follow:

Date: 04 October 2019

Time:12:00 AM

Venue: At Etunda Irrigation scheme gate

Public Participation Office

Nam Geo-Enviro Solution
P.O Box 3343
Windhoek
Tel/ Fax 264 61 402246

Email: ppp@geoenvirosol.co.za

BACKGROUND

Ketu Two Thousand Service station CC proposes to construct and operate a service station at Etunda Village, at the junction of C46 main road of Ruacana - Outapi, Omusati Region. The proposed service station will consist of two (2) underground tanks, of Diesel (50 ppm and Petrol (ULP)) each with the capacity of 46m³. Suitable dispensing pumps and fuel network will be constructed according to the Ministry of Mines and Energy specified standards for fuel service stations.

The proponent is conducting an EIA for the above mentioned project in a bid to abide with Namibian laws which promote environmental sustainability such as the Environmental Management Act (2007).

MOTIVATION FOR PROJECT

The motivation for Namibia to support the project is economic and strategic in nature. The project has the potential to benefit the country, society and surrounding communities both directly and indirectly. Direct economic benefits will be derived from wages, taxes and profits. Indirect economic benefits will be derived from the procurement of goods and services and the increased spending power of employees through the creation of new jobs at the service station.

Fuel will be easily accessible in Etunda and nearby villages.

The objectives of the EIA include:

- To determine the potential environmental impacts derived from the construction, operation and decommissioning phase of the project.
- To consult with key, interested and affected stakeholders so that their concerns are considered in the formulation and implementation of the EMP.
- To comply with Namibia's relevant laws, policies and regulations.
- To propose alternative measures where it is noticed that adverse effects may occur.
- To set up an EMP that will govern all activities of the project for the better protection of the environment.

The development will also pave way for community development

The project will go under three phases namely: construction, operation and probably decommissioning phase. During construction phase, there will be building of structures and installation of tanks. During operation phase, fuel will be sold to customers and during decommissioning phase the site will be rehabilitated.

Conclusively, the establishment of the service station in Etunda Village is necessary as it will ensure additional fuel supply in the area.

SPORT

gaines ano country.



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**ENVIRONMENTAL IMPACT ASSESSMENT
NOTICE TO ALL INTERESTED AND AFFECTED PARTIES**

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE CONSTRUCTION AND OPERATION OF KETU TWO THOUSAND SERVICE STATION AT ETUNDA VILLAGE, OMUSATI REGION

Notice is hereby served to inform all potentially Interested and/or Affected Parties that an application will be made to the Environmental Commissioner in terms of Environmental Management Act (No. 7 of 2007) and the Environmental Assessment Regulations (2012) for the following intended activity: -

Proponent: Ketu Two Thousand Service Station CC.

Project Name & Description: Construction and Operation of Ketu Two Thousand Service Station.

Project Location: The proposed site is located at the junction of C46 main road of Ruacana -Outapi, at Etunda Village, Omusati Region.

Nam Geo Enviro Solution has been appointed by Ketu Two Thousand Service Station CC as an independent environmental practitioner to conduct an Environmental Impact Assessment for the proposed construction and operation of the fuel retail facility.

Environmental Consultant: Nam Geo-Enviro Solutions (NGS)

All Interested and Affected Parties (I&APs) are encouraged to register with this study, submit your name and contact details. Background Information Document (BID) can be requested from the environmental consultant.

A public meeting has been scheduled to take place as follows:

Date: 04 October 2019
Time: 12:00 AM
Venue: At Etunda Irrigation Scheme gate.

Submit all your issues, comments and opinions to Nam Geo-Enviro Solutions by 11 October 2019.

Contact person: Ms. Martha Dumeni
Tel/Fax: +264 61 402 246,
Email: ppp@geoenvirosol.co.za

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Some of the biggest names in the sport have cemented their legendary status by adding to their career medal haul at the IAAF World Athletics Championships Doha 2019.

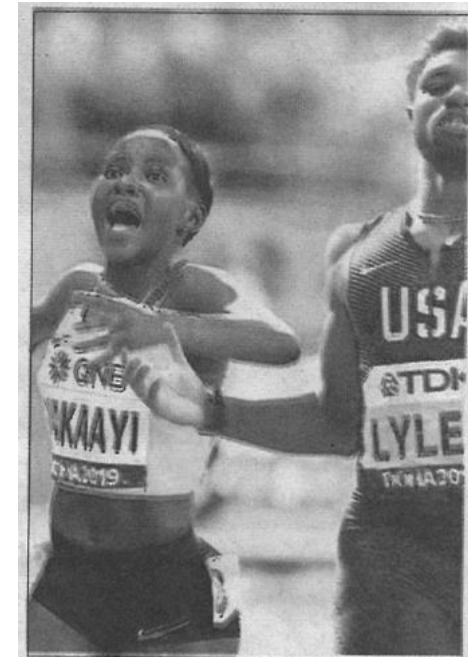
But along with the established stars, several new names have emerged over the first five days of competition at the Khalifa International Stadium.

Having dominated the event on the international circuit over the past two years, USA's Noah Lyles became the youngest ever winner of the men's 200m at the World Championships, earning his maiden senior global title on Tuesday with a 19.83 run.

"Don't say I'm the new Bolt," said Lyles. "I'm me. If you like me, I'll happily entertain you. It's my time." Earlier that evening, Lyles' teammate and fellow 22-year-old Donovan Brazier broke the championship and North American records to win the 800m in 1:42.34.

"I've said all season that my goal was to get the gold here and to break this record, and that's what I did," said Brazier, who had a winning margin of 1.13. "It means the world to me. To be world champion at 22 years old, I can't believe it."

The women's 800m had a surprise winner in the form of Uganda's Halimah Nakaayi. The 24-year-old pro-



duced the performance of her life to pass the pre-race favourites on the home straight, winning in 1:58.04. Compatriot Winnie Nanyondo, the fourth-place finisher, joined Nakaayi on a lap of honour, stopping every now and again to perform a celebratory dance.

"They will be very happy back home in Uganda, especially in the central part," said Nakaayi. "They are dancing now. It is a historic day."

Windhoek undertakes risk assessment survey

The team... Windhoek Municipality chief of emergency management Raymond Kapia, strategic executive for economic development and community services Fillemori Hambunda and chief executive officer Robert Kahimise with the enumerators.



■ Selma Ikela

development and community services Fillemori Hambunda told the media that for them to come up with policies and budget to minimize the risk in the community they need to do a risk assessment.

Hambunda said policies and practices for the disaster risk assessment should be based on an understanding of the

elements out there that would want to misuse this opportunity, so also be vigilant. We have correct number of... City Police to call (061-302 302) if you are in doubt," said Hambunda.

He explained that the community risk assessment also provides a basis for the development of disaster risk reduction action plans and resource allocation. "We



ENVIRONMENTAL IMPACT ASSESSMENT
NOTICE TO ALL INTERESTED AND AFFECTED PARTIES

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE CONSTRUCTION AND OPERATION OF KETU TWO THOUSAND SERVICE STATION AT ETUNOA VILLAGE, OMUSATI REGION

Notice is hereby served to inform potentially interested and/or affected parties that an application for Environmental Impact Assessment (EIA) has been made to the Environmental Commissioner in terms of the Environmental Management Act (No. 7 of 2007) and the Environmental Assessment Regulations (2012) regarding the proposed activity:-

Proponent: Ketu Two Thousand Service Station CC.

Project Name & Description: Construction and Operation of Ketu Two Thousand Service Station.

Project Location: The proposed site is located at the junction of C48 main road or Ruacana - Outapi, at Erunda Village, Omusati Region.

Nam Geo-Enviro Solution has been appointed by Ketu Two Thousand Service Station CC as an independent environmental practitioner to conduct an Environmental Impact Assessment for the proposed construction and operation of the fuel retail facility.

Environmental Consultant: Nam Geo-Enviro Solution (NGS)

All interested and affected parties (I&APs) are encouraged to register with this study, submit your name and contact details. Background Information Document (BIO) can be requested from the environmental consultant.

A public meeting has been scheduled to take place as follows:

Date: 04 October 2019
Time: 1:00 AM

Venue: At Etunoda Irrigation Scheme gate.

Submit your issues, comments and opinions to Nam Geo-Enviro Solution by 11 October 2019.

Contact person: Ms. Martha Dumeni
Tel/Fax: +254 61 402 216
E-mail: ppp@geonviro.co.za

WINDHOEK - The City of Windhoek has called on residents to permit their enumerators into their homes as it is busy carrying out two-month community risk assessment. Phase 2 of the community risk assessment started on September 17 and is expected to continue until November 7.

Some passengers trying to get home have reported queues and disruption at airports, while others complain they have been left in the dark about what happens next.

in any case,' he said on the BBC's Today programme.

The company's large debts and High Street-focused business made it a poor candidate for survival, he said.

Overall, Operation Matterhorn will cost the taxpayer around £100m, he

whether company directors were properly motivated to "sort such matters out".

'I feel completely devastated'

Ruth Morse, from Halesowen, West Midlands, was due to marry her partner in Cyprus on 8 October, but now doubts the wedding will go ahead.

She booked the whole event through Thomas Cook, including the decorations, the cake, wedding venues and a private bar.

And of the 44 guests due to attend, about 25 booked their flights and accommodation through the travel agent.

"At the moment, Thomas Cook have not been in contact, so we are in the dark,' Ruth says.

"I know we are protected by Atol, but I'm unsure about the things we bought from third parties through Thomas Cook, like the decorations. They cost me £4,000.'

Ruth says she had planned her "dream wedding" for two years. What makes it doubly hard is that much

How will holidaymakers get home?

While an estimated 150,000 Britons are affected by Thomas Cook's collapse, the company has a further 350,000 to 450,000 customers abroad, some of whom have been affected.

In Germany, OQe of Thomas Cook's main markets, insurance companies will help organise the response to its collapse.

UK customers will be brought home "as close as possible". To their booked return date, the Department for Transport (DfT) has said.

The DfT added that a "small number" of passengers might need to book their own flight home and reclaim the costs.

Customers have been urged not to cut short their holiday or go to the airport without checking the website for more information about their return journey.

The CAA is also contacting hotels accommodating Thomas Cook customers, who have booked as part of a package, to tell them that the cost of their accommodation will be covered by the government's Air Travel Trust Fund and Air Travel Organiser's Licence scheme (Atol).

Tim Johnson, policy director of the CAA, told BBC News that customers whose future holidays had been cancelled would be informed of how they can claim a refund on the website.

Business Secretary Andrea Leadsom has said she will write to the Insolvency Service urging them to "fast-track" their investigation into the circumstances surrounding Thomas Cook's going into liquidation.

The investigation will also consider the conduct of top directors, who have been paid a combined £20m in salaries and bonuses since 2014.

A Cabinet spokesman said: "People will rightly look at the size of bonuses to some of the directors and have serious concerns about that.

"There's a broader issue at play about collapsing firms and director pay and we are looking that more broadly as a government!" -BBC

We are relocating.

As part of our commitment to improve our service to you, Bank Windhoek Marlental Branch is relocating and will be closed from **14h00 on 27 September 2019** and reopen for business on **30 September 2019** at the new premises.

Our New Location:

**Stand 208
Dr Sam Nujoma Ave.
Marlental**

We apologise for any inconvenience our relocation may have caused.

For more information, please contact us on **+264 63245200**

0 Bank Windhoek
member of Coprilcom Group



ENVIRONMENTAL IMPACT ASSESSMENT
NOTICE TO ALL INTERESTED AND AFFECTED PARTIES

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE CONSTRUCTION AND OPERATION OF KUTU TWO THOUSAND SERVICE STATION AT ETUNDA VILLAGE, OMSUSA REGION

Notice is hereby given to all interested and/or affected parties that an application will be made to the Environmental Commissioner in terms of the Environmental Management Act (No. 7 of 2007) and the Environmental Assessment and Regulator's Act (No. 1 of 2012) for the following intended activity:

Proposed: Construction and Service Station CC.

Project Name & Description: Construction and Operation of Kutu Two Thousand Service Station.

Project Location: The proposed site is located at the Junction of C48 main road of Ruocana - Outapi, at Etunda Village, Omsusa Region.

Nam Geo Enviro Solution has been appointed by Kutu Two Thousand Service Station CC as an independent environmental practitioner to conduct an Environmental Impact Assessment for the proposed construction and operation of the fuel retail facility.

Environmental Consultant: Nam Geo-Enviro Solutions (NGS)

All interested and affected parties (I&APs) are encouraged to register with this study, submit your name and contact details. Background Information Document (BID) can be requested from the environmental consultant.

A public meeting has been scheduled to take place as follows:

Date: 04 October 2019
Time: 12:00 AM
Venue: At Etunda Irrigation Schemes gala.

Submit all your issues, comments and opinions to Nam Geo-Enviro Solutions by 11 October 2019.

Contact person: Ma. Martha Oumoni
Tel/Fax: +264 61 402 246,
Email: ppp@gaoenvirosol.co.za

REGISTER FOR INTERESTED AND AFFECTED PARTIES FOR THE PROPOSED CONSTRUCTION AND OPERATION OF KETU TWO THOUSAND SERVICE STATION AT ETUNDA VILLAGE, OMUSATI REGION

NO	Name of participant	Organisation/Affiliation if applicable	Contact details		
			Telephone	Address	Signature
1	Indapo K. Selma	Labourer	081285b"?...6<;>	Etunda	
2	Tate Lazarus Cornelius	Pensioner	081221::J" 01+	V'U net o.	
3	Mr. T. N. K. Ainima	Self-Employed	0818753813	Fenawa	
4	Kapika Paulus Keitso	Farmer	0412746359	Fenawa	
5	BOVO Nambwa	Driver	0812331359	Fenawa	
6	Inesesia Felemando	Ketu 2000 service station	0813696818	Okalongo	
7	Angula gwasmas	Green scheme Driver	0919070205	Etunda	
8	michael letisia		0812953974	Etunda	
9	SHILONGO Andelino		0814378658	Etunda	
10	SOLA MUPANE	Mini Market	0812952006	Etunda	
11	JOSUA Mwetupunga	Ketu 2000 SERVICE STATION	0816397199	ETUNDA	
12	Dani Gabriel	Farmer	0816458618	Etunda	
13	Martha D	NGS	0416616165	Windhoek	
14	Ndahafa Shindolo	NGS	0817555874	Windhoek	
15	AMUULO THOMAS	OKWASHIWANA	0813061407	ETUNDA	
16	Phillip Ashimbanja	Community member	0812853271	ETUNDA	
17	ELIKIM PAULUS	Community member	0812945650	Etunda	
18	Mabens Kalumbu	Milene womanhood	0813104487	Etawa	
19	HATUTALE D. HALWOOD	FARMER	0812692003	OMAEENE	

Appendix C
Deed of Transfer



REPUBLIC OF NAMIBIA



OMUSATI REGIONAL COUNCIL

Ruacana Constituency Office

Tel: (065) 272133
Fax: (065) 272006
E-mail: ruacanaconst@iway.na
Enquiries: A Shintama
Ref.11/R

P/Bag 523
Outapi
07 August 20ref

Mr. Abner Awene
Engine Namibia

RE: CONFIRMATION LETTER FOR LAND

1. This is to confirm that Ketu 2000 Services Station CC is allocated with a portion of land at Etunda Village in Ruacana Constituency by Uukolonkadhi Traditional Authority.
2. We trust that he will receive your utmost attention at your ability.

Regards,

fu

.zm - a-Or:

Hon. A. Shintama
Regional Councillor



Enq: M.Shoombe

Tel/Cell: 0812910003 / 0814018407

18 July 2019

Letter of Consent: Ketu 2000 Service Station

The Uukolonkadhi Traditional Authority is hereby certifying that Ketu 2000 Service Station CC is given a portion of land at Etunda village in Ruacana Constituency. The area will set up for Service Station. This area is represented by Mr Mwetupunga Josua Sheelongo Natangweya ID 73041910071. The area is about lha.

We have no objection in this case

Siprf
.....A . . . ct

Amunyela Andreas

Chairperson of Uukolonkadhi Traditional Authority

Appendix D

Environmental Management Plan (EMP)

ENVIRONMENTAL MANAGEMENT PLAN

FOR THE PROPOSED CONSTRUCTION AND OPERATION OF KETU TWO THOUSAND SERVICE STATION AT ETUNDA VILLAGE, OMUSATI REGION



NAM GEO-ENVIRO SOLUTION

CONSULTING EARTH GEOTECHNICAL,
ENVIRONMENTAL
& WATER SCIENTISTS



Environmental authorization information


PROJECT:	ENVIRONMENTAL MANAGEMENT PLAN FOR THE PROPOSED CONSTRUCTION AND OPERATION OF KETU TWO THOUSAND SERVICE STATION AT ETUNDA VILLAGE, OMUSATI REGION	
COMPILED FOR:	Ketu Two Thousand Service Station CC P.O Box 18093 Okalongo Onandjaba Cell: +26481639799 Email: jsnmwetupunga2gmail.com	
COMPILED BY:	Nam Geo-Enviro Solution P.O. Box 3343 Windhoek Tel: +264(61) 402246 Fax2email: 088 6554084 Email: info@geoenvirosol.co.za	 Nam Geo-Enviro Solutions

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1. BACKGROUND

Ketu Two Thousand Service Station CC intends to construct and operate a filling station at Etunda village, Omusati Region. Construction and operation of service stations requires an Environmental Impact Assessment. The Environmental management regulation (2012) states all the activities which require an Environmental Impact Assessment and among the listed activities is the hazardous substance treatment, handling and storage where this project is classified under.

This Environmental Management Plan (EMP) has been developed to address potential environmental impacts associated with activities of the proposed construction and operation of Ketu Two Thousand filling station. The EMP has been developed in terms of the Environmental Management Act (EMA), 2007, the EIA Regulations – 2012, the EIA policy of 1995 and international environmental treaties and conventions binding Namibia.

According to the Environmental Management Act (2007) and its Regulations (2012), development of listed projects require an Environmental Clearance Certificate as specified in the following sections of the Act shown in **Table 1** below.

Table 1: Listed Activities relevant to the project

ACTIVITY	RELEVANT SECTIONS
Hazardous substance treatment, handling and storage.	9.4 The storage and handling of 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.

Nam Geo-Enviro Solution has been consulted by Ketu Two Thousand Service Station CC to conduct an EIA and to develop an Environmental Management Plan (EMP) for the proposed service station and to apply for an Environmental Clearance Certificate with the Directorate of Environmental Affairs under the Ministry of Environment and Tourism-Namibia.

1.1 PROJECT ACTIVITIES

The project will undergo three phases which are construction, operation and perhaps decommissioning. The construction, operation and perhaps decommissioning will involve:

Table 2: Project phases and activities.

Construction Phase	Operational phase	Decommissioning phase
<ul style="list-style-type: none"> - Land preparation. - Transportation of construction material - Excavation for reticulations(pipelines); • Installation of fuel tanks, oil/water separator interception and relevant material - Construction of the service station - Electricity and water connection - Testing and commissioning 	<ul style="list-style-type: none"> - Fuel distribution - Off-loading of fuel - Dispensing of fuel into vehicles - Yard cleaning - Corrective Maintenance (Replacing of non-functioning equipment) 	<ul style="list-style-type: none"> - Removal of infrastructures - Transportation off-site - Site rehabilitation and landscaping

2. EMP AIMS AND OBJECTIVES

The Environmental Management Plan (EMP) aims to take a pro-active route by addressing potential problems before they occur. The objectives of the EMP are therefore;

- To outline mitigation measures in order to manage environmental and socio-economic impacts associated with the project

- Provide a framework for implementing the management actions recommended in the EIA for construction, operational and decommissioning phases of the activities associated with the development of the proposed service station
- To ensure that the project will be developed and operated according to the stipulated requirements of Namibia Environmental Management Act (No 7 of 2007)
- To ensure that the project will comply with relevant environmental legislations of Namibia and other requirements throughout its construction and operational phase

NB. All Contractors and sub-contractors taking part in any of the phases should be made aware of the contents of the EMP and of the Environmental Impact Assessment (EIA), so that they can plan their activities accordingly in an environmental sound manner.

3. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

Legislations are used as guiding tools during the development of an EMP. The proponent will be required to abide to different policies, laws, regulation relating to the project. The Environmental Management Act No. 7 of 2007 is the primary custodian of the environment which aims to; promote the sustainable management of the environment and the use of natural resources by establishing principles for decision making on matters affecting the environment; to establish the Sustainable Development Advisory Council; to provide for the appointment of the Environmental Commissioner and environmental officers; to provide for a process of assessment and control of activities which may have significant effects on the environment; and to provide for incidental matters.) However this section does not only focus on the EMA, but also looks at other relevant legislatives. **Table 3** below indicate the relevant legislatives related to the project.

Table 3: Relevant legislation and policies for the service station.

Aspect	Legislation	Relevant Provisions	Relevance to the Project
The Constitution	Namibian Constitution First Amendment Act 34 of 1998	<ul style="list-style-type: none"> • “The State shall actively promote and maintain the welfare of the people by adopting policies that are aimed at maintaining ecosystems, essential ecological processes and the biological diversity of Namibia. It further promotes the sustainable utilisation of living natural resources basis for the benefit of all Namibians, both present and future.” (Article 95(I)). 	<ul style="list-style-type: none"> – Through implementation of the environmental management plan, the proposed service station operations will ensure conformity to the constitution in terms of environmental management and sustainability.
Environmental	Environmental Management Act 7 of 2007	<ul style="list-style-type: none"> • Requires that projects with significant environmental impacts are subject to an environmental assessment process (Section 27). • Requires for adequate public participation during the environmental assessment process for interested and affected parties to voice their opinions about a project (Section 2(b-c)). • According to Section 5(4) a person may not discard waste as defined in Section 5(1)(b) in any way other than at a disposal site declared by the Minister of Environment and Tourism or in a manner prescribed 	<ul style="list-style-type: none"> • The EMA will guide the process of the EIA. • The public and relevant authorities were consulted during the process of public participation as per the requirement of the act

		<p>by the Minister.</p> <ul style="list-style-type: none"> • Details principles which are to guide all EIAs 	
	EMA Regulations (2012)	<ul style="list-style-type: none"> • Details projects which cannot be undertaken without an EIA • Details requirements for public consultation within a given environmental assessment process • Details the requirements for what should be included in a Scoping Report and an EIA report 	<ul style="list-style-type: none"> • This project is listed under activities which cannot be undertaken without an EIA. • This Act and its regulations should inform and guide this EIA process.
	Forest Act (2001) and Regulations (2015)	<ul style="list-style-type: none"> • The Act and Regulations requires that all harvesting of trees and wood, anywhere in Namibia is governed by this Act and regulations. • The Act also governs activities which take place in classified forests, namely State Forests, Forestry Management Areas and Community Forests as well as non-classified forest areas. • The harvesting permit is issued by the administrators of the act which is the Directorate of Forestry (DoF) in the Ministry of Agriculture, Water and Forestry (MAWF). • Inspection of the area where the harvesting will take place has to be done before the issuing of the permit 	<ul style="list-style-type: none"> • The proponent shall apply for a Harvesting Permit which is required for any tree cutting and/or harvesting of wood in an area greater than 15 hectares per annum as stated under Section 22 (1), 23 (1), 24 (2&3) and 33 (1&2) of the Forest Act (Act 12 of 2001).

		<ul style="list-style-type: none"> Where applicable the permit can be renewed every three months 	
	Pollution and Waste Management Bill (draft)	<ul style="list-style-type: none"> This bill defines pollution and the different types of pollution. It also points out how the Government intends to regulate the different types of pollution to maintain a clean and safe environment. The bill also describes how waste should be managed to reduce environmental pollution. Failure to comply with the requirements is considered an offence and punishable. 	<ul style="list-style-type: none"> The project should be conducted in a manner which is advised by the bill so as to minimize the generation of waste at the site. A waste management strategy that follows recycling, reuse and reducing will be commissioned throughout the operations.
	Soil Conservation Act 76 of 1969	<ul style="list-style-type: none"> This acts makes provision for combating and for the prevention of soil erosion, it promotes the conservation, protection and improvement of the soil, vegetation, sources and resources of the Republic of Namibia. 	<ul style="list-style-type: none"> Service stations are mainly associated with spillages which can end up contaminating soil. This document aims at guiding the proponent during construction, operation and perhaps decommissioning so as to prevent soil erosion and contamination during operation.
	Hazardous Substance	<ul style="list-style-type: none"> Provisions for hazardous waste are amended in this act as it provides “for the control of substances 	<ul style="list-style-type: none"> The proponent shall separate waste at site.

	Ordinance 14 of 1974	which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances; to provide for the prohibition and control of the importation, sale, use, operation, application, modification, disposal or dumping of such substance; and to provide for matters connected therewith”	<ul style="list-style-type: none"> The proponent shall ensure that all possible “hazardous” categorised substances and waste shall be handled by a certified hazardous waste handler.
	Atmospheric Pollution Prevention Ordinance 11 of 1976;	<ul style="list-style-type: none"> The Act requires that there is need to register a controlled area with certificate to operate air polluting activities. The retail license covers all elements and requirements of this Act. 	<ul style="list-style-type: none"> The proponent shall apply for a retail license from the Ministry of Mines and Energy.
Water	Water Act 54 of 1956	<ul style="list-style-type: none"> The Water Resources Management Act 24 of 2004 is presently without regulations; therefore, the Water Act No 54 of 1956 is still in force: A permit application in terms of Sections 21(1) and 21(2) of the Water Act is required for the disposal of industrial or domestic wastewater and effluent. Prohibits the pollution of underground and surface 	<ul style="list-style-type: none"> Service stations are associated with spillages which can contaminate ground water or surface water hence this act will be of importance especially during operation phase.

		<p>water bodies (S23(1)).</p> <ul style="list-style-type: none"> • Liability of clean-up costs after closure/ abandonment of an activity (S23(2)). • Protection from surface and underground water pollution 	
Health and Safety	<p>Labour Act (No 11 of 2007) in conjunction with Regulation 156, 'Regulations Relating to the Health and Safety of Employees at work'.</p>	<ul style="list-style-type: none"> • 135 (f): "the steps to be taken by the owners of premises used or intended for use as factories or places where machinery is used, or by occupiers of such premises or by users of machinery about the structure of such buildings of otherwise to prevent or extinguish fires, and to ensure the safety in the event of fire, of persons in such building;" (Ministry of Labour and Social Welfare). • This act emphasizes and regulates basic terms and conditions of employment, it guarantees prospective health, safety and welfare of employees and protects employees from unfair labour practices. 	<ul style="list-style-type: none"> • The proponent will be obliged to create a safe working environment for the employees. This will include applying appropriate hazard management plans and enforcing Occupational Health and Safety (OHS) management systems to contractors.
	<p>Public Health and Environmental Act, 2015</p>	<p>– A person who intends to conduct on a premises activities which generate special, industrial, hazardous or infectious waste must be registered for that purpose with the local authority concerned</p>	<ul style="list-style-type: none"> • The service station shall obtain an authorization letter from Uukwaluudhi Traditional Authority and Omusati Regional Council

		<ul style="list-style-type: none"> - (3) A person or local authority engaged in activities contemplated in subsection (1) or (2) must ensure that the waste generated on the premises concerned is kept and stored <ul style="list-style-type: none"> (a) under conditions that causes no harm to human health or damage to the environment; and (b) In accordance with applicable laws. - (4) All waste contemplated in this section must be stored in approved containers and for the maximum period determined by the head of health services or the chief health officer. 	
Oil and Gas	Petroleum Products & Energy Act (1990)	<ul style="list-style-type: none"> - The Act requires that for the operation of the Service station a retail license has to be obtained from the relevant ministry - Adding on the Act requires incident reporting of major spillages occurring on site for pollution control. 	<ul style="list-style-type: none"> • The service station shall apply for a retail license from the Ministry of Mines and Energy
	South African National Standards SANS 10089-3	<ul style="list-style-type: none"> • Part 3: The installation of underground storage tanks, pumps/dispensers and pipe work at service stations and consumer installations. 	<ul style="list-style-type: none"> - The service station has to be constructed according to SANS standards.

4. ENVIRONMENTAL MANAGEMENT PLAN IMPLEMENTATION FRAMEWORK

4.1 ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN ADMINISTRATION AND TRAINING

There is a strong need to clearly outline the roles and responsibilities of all stakeholders to ensure that the EMP is fully implemented. There is also a need for the proponent to appoint an overall responsible person (Environmental Control Officer) to ensure the successful implementation of the EMP. The Environmental Control Officer needs to have qualifications and knowledge in environmental management /sciences, and understanding of EMP administration.

Under the management actions, each action is allocated to a responsible entity to ensure that the specific action is managed and documented properly. All key role players such as contractors who will be involved during the construction of the service station must be informed about the contents of this EMP and activities to be undertaken to mitigate the potential impacts identified.

4.2 ROLES AND RESPONSIBILITIES

4.2.1 Proponent (Ketu Two Thousand Service Station CC)

Overall responsible for all financial and manpower obligations to implement this EMP. The proponent is responsible for the appointment of other personnel responsible for the implementation and operation of this EMP.

4.2.2 Competent and Monitoring authority (The Department of Environmental Affairs: Ministry of Environment and Tourism)

Responsible for the review and approval of the EMP documents, including regular auditing for compliance to the approved EMP framework.

4.2.3 Site Manager

Required in carrying out the overall responsibility for the implementation of the EMP to ensure that all required resources and mechanisms for environmental management are in place.

4.2.4 Health Safety and Environmental Site Officer (HSEO)

Required to take responsibility of all environmental issues (waste management) and safety of employees. The HSEO should record and report all incidents on site.

4.2.5 Environmental Control Officer (ECO)

Required to take independent responsibility of the implementation of this EMP. ECO is contracted to conduct periodic auditing of the site, compilation of all reports to be submitted to MET:DEA for renewal of the environmental clearance certificate.

4.3 MANAGEMENT OF ENVIRONMENTAL ASPECTS AND IMPACTS

Service stations are associated with spillages which have a consequence of contaminating water sources, underground water and soil. Waste management is also among the issues which need more attention. The following guidelines give clarity on some of the issues.

4.3.1 Hydrocarbons management

If any spillage occurs, contaminated soil shall be collected in a holding tray or drum and disposed at a licensed hazardous waste site. Any spillage of more than 200 litres must be reported to the Ministry of Mines and Energy as per the Petroleum Products Act.

Ketu Two Thousand Service Station CC shall take all reasonable measures to prevent surface or groundwater pollution from the release of oils and fuels. In addition, sufficient space should be left in fuel storage tanks to allow fuel expansion and to prevent leakage of fuel from the fuel storage facility.

4.3.2 Access routes and work sites

Fuel tanker trucks will access the proposed service station via the C46 road (Outapi -Ruacana road). An access road shall be put from the C46 road to the site; therefore an application for an access road should be applied from the Roads Authority. Roads should be clearly marked with

signs prior to construction activities beginning, together with designated turning points and construction lay down areas.

4.3.3 Site management

Construction and maintenance staff should be educated and informed of their environmental obligations. Meaningful penalties for damages should be stipulated, and the main contractor should be held responsible for all transgressions. Areas outside this designated working zone shall be considered “no go” areas. The contractor should carry out air and noise pollution control checks so as to be aware of the level of dust and noise emitted respectively.

4.3.4 Staff management

The Contractor must ensure that their employees have suitable personal protective equipment, are properly trained and that a fire fighting and a first aid officer is onsite.

4.3.5 Waste management

The developer shall remove all waste off-site to designated licensed disposal site. Sufficient bins or containers to store any solid or liquid waste produced shall be provided on site. The bins and containers should be weatherproof and scavenger-proof.

4.3.6 Fire and safety management

The electrical wiring at the service station should be approved by a qualified electrician who will issue a Certificate of Compliance for these buildings prior to occupation.

Hydrocarbons are volatile under certain conditions and their vapours in specific concentrations are flammable. If precautions are not taken to prevent their ignition, fire and subsequent safety risks may arise.

No fire, whether for cooking or any other purpose, is to be made at the service station during any of the two phases (operational and decommissioning). The proponent shall take all reasonable measures and active steps to avoid increasing the risk of fire through activities on site and prevent the accidental occurrence or spread of fire; and shall ensure that there is sufficient fire-fighting equipment on site at all times. This equipment shall include fire extinguishers. According to SANS (2008), the service station should have portable and mobile

fire-extinguishers which comply with an approved standard, dry chemical powders shall be of a type that complies with SANS 1522 and compatible with the intended application and all fire extinguishers shall be protected from the weather.

5. IMPACT EVALUATION AND MITIGATIONS

5.1 DUST

Impacts	Description	Mitigation measures	Project phase	Responsibility
Dust	Dust might be generated during the construction phase. It is expected to come from frequenting construction vehicles and activities like grading, earthworks, foundation works and other construction related activities.	<ul style="list-style-type: none"> • Soil watering when soil works are being executed and where dust is emitted (use of suppression methods) • People at site should be provided with respirators • Regular monitoring and review to ensure safe operation. 	Construction phase	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Contractors, • Appointed HSEO
Decommissioning phase				
Dust	Dust might be generated during the demolition of structures.	<ul style="list-style-type: none"> • People at site should be provided with respirators. • An EIA before the decommissioning phase. 	Decommissioning phase	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Contractors • Appointed HSEO

5.2 NOISE

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Noise	Earthmoving equipment will be utilized from time to time during the construction phase and noise might be generated. Noise generated is expected to be localized and of low significance.	<ul style="list-style-type: none"> • Employees to be equipped with ear protection equipment such as ear plugs/muffs • Regular servicing of the vehicles and machines and noise levels to be checked during construction phase • Proper and timely maintenance of all machineries. • Proper and timely maintenance of all machineries. • Employees should be limited to working hours only at most 8 hours per day • Noise levels should not equal or exceed 85dBA for workers working an 8 hour shift (according to ISO 18000) 	Construction phase	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Appointed HSEO
Decommissioning phase				
Noise	Noise might be emitted from bulldozers during the	<ul style="list-style-type: none"> • Employees to be equipped with ear protection equipment 	Decommissioning phase	<ul style="list-style-type: none"> • Ketu Two Thousand

	demolition stage.	<ul style="list-style-type: none"> Noise levels to be checked and not to exceed 85dBA for employees working an 8 hour shift. 		Service Station CC <ul style="list-style-type: none"> Contractors, Appointed HSEO
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5.3. GENERATION OF WASTE

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Generation of waste	During the construction phase, waste will be generated from domestic waste and construction wastes like empty cement bags, painting containers etc.	<ul style="list-style-type: none"> Contaminated wastes in the form of soil, litter, building rubble and other material must be disposed off at an appropriate disposal site. Strictly, no burning of waste on the site or at the disposal site is allowed as it possess environmental and public health impacts; To avoid contaminating the soil and underground ecosystem, no wastewater should be disposed on soil 	Construction phase	<ul style="list-style-type: none"> Ketu Two Thousand Service Station CC, Contractors Appointed Environmental officer

		<ul style="list-style-type: none"> Waste handling procedures must be cleared properly with the relevant waste contractors and the construction contractor should be informed about this. 		
Decommissioning phase				
Generation of waste	<p>Waste can also be generated during the decommissioning phase when infrastructure will be removed. Waste might be generated in the form of:</p> <p>Contaminated soil Building rubbles Fuel tanks and pipes</p>	<ul style="list-style-type: none"> Contaminated wastes in the form of soil, litter, building rubble and other material must be disposed off at an appropriate disposal site. Tanks and pipelines removed must be disposed off in an appropriate manner by a licensed contractor 	Decommissioning phase	<ul style="list-style-type: none"> Ketu Two Thousand Service Station CC Contractors Appointed Environmental officer

5.4. SURFACE/GROUNDWATER CONTAMINATION

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Surface/groundwater contamination	Leakages from equipment and machinery might occur during the construction phase which might end up affecting surface/ground water. The nearest Oshana is approximately 600 meters. Even though Oshanas are filled during the rainy season, precaution must be taken to avoid contamination of the water bodies.	<ul style="list-style-type: none"> • Care must be taken to avoid contamination of soil and groundwater from paint, paint remover and cement. • Proper toilet facilities should be installed at the construction site or alternative arrangements made. • The contractor shall ensure that there is no spillage when the toilets are cleaned or during normal operation and that the contents are properly removed from site. • Fuel (diesel and petrol) and oil containers shall be in good condition and placed in a banded area or on plastic sheeting covered with sand (temporary bunding). • Storm water should be controlled on the site by compiling and 	Construction phase	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Contractors • Appointed Environmental officer and Safety Officer

		<p>implementing a storm water management plan.</p> <ul style="list-style-type: none"> Storm water should be controlled on the site by compiling and implementing a storm water management plan. 		
Decommissioning phase				
	<p>Groundwater contamination can be caused by leakages and spills of fuel from machinery and heavy-duty vehicles during the decommissioning phase. Removal of fuel storage and associated infrastructures can result in hydrocarbon pollution to the groundwater.</p>	<ul style="list-style-type: none"> A contamination assessment should be carried out before removal of tanks or pipelines. Fuel tanks should be de-gassed before removal and transported Use drip trays when doing maintenance on machinery. Maintenance should be done on dedicated areas with linings or concrete floor. 	Decommissioning phase	<ul style="list-style-type: none"> Ketu Two Thousand Service Station CC Contractors, Appointed Environmental officer and Safety Officer

5.5. IMPACT ON SOILS

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Impact on soil	During the construction phase there will be few clearance of vegetation and soil will be disturbed by activities like excavations. However, the impact on soil is expected to be localized and of low environmental significance	<ul style="list-style-type: none"> • After completion of construction the surrounding area where the extra soil and remaining construction material should be cleared and the levelling to be done so that the original condition is restored so that it does not disturbs natural drainage • Proper care should be taken so that there is no spill that would cause soil contamination • Hazardous waste properly handled and sent for disposal to appropriate disposal areas • The management to maintain records of contaminated waste on a regular basis • Re surface open areas during the 	Construction phase	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Contractors, appointed HSEO

		decommissioning stage and introduce appropriate vegetation		
Decommissioning phase				
	During the decommissioning phase, proper care must be taken when removing and disposing the fuel tanks as this can end up contaminating the soil.	Proper care should be taken so that there is no spill that would cause soil contamination All material should be cleared and the levelling to be done so that the original condition is restored so that	Decommissioning phase	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Contractors • Appointed ECO

		it does not disturbs natural drainage		
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5.6 VEGETATION LOSS

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Vegetation loss	Currently the proposed site of the filling station is partially an open area with less vegetation. However, there are several <i>Pechuel Leoschea Leubnitinziae</i> (Bitter Busch) , two <i>Hyphaene petersiana</i> (Makalani Palm and four <i>Vachelia Erioloba</i> (Acacia) observed on the site. <i>Vachelia Erioloba</i> is protected in Namibia under the Preservation of Trees and Forests Ordinance of 1952 and the Proclamation of the SWA Administration, No.486 in 1972. It is advised to incorporate this species in the development plan of the survive station.	<ul style="list-style-type: none"> • Project activities must be kept within the boundary so that no further disturbances are done on outside areas unless they are vegetation close to the site proximity that can hinder the development. • Forest clearing permits will be acquire from the Ministry of Agriculture, Water and Forestry. to remove the trees. • . <i>Vachelia Erioloba</i> shall be incorporated in the development of a service station. 	Construction phase	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC

5.7. Traffic Impact

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Traffic impact	The site is adjacent to C 46 main road of Outapi -Ruacana. Construction related activities are expected to have a slight impact on the movement of traffic along the C46 main road.	<ul style="list-style-type: none"> • No diversion of traffic or closure of the road is expected • Proper signage to warn vehicles about the construction on the C46 road due heavy vehicle movement. • Drivers should be educated to adhere to all traffic rules. • To place temporary signage warning road users on the C46, of construction activities ahead. • During construction, the responsible contractor must ensure that all drivers employed have valid driver's licenses of the vehicle types they are employed for and that they have experience in driving those vehicles. • The contractor must ensure that there is always a supervisor on site to ensure that no driver under the 	Construction phase	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC

		influence of alcohol or narcotics is driving company vehicles.		
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5.8 SOCIO-ECONOMIC IMPACTS ASSOCIATED WITH THE PROJECT

5.8.1. Occupational Health and Safety

Impacts	Description	Mitigation measures	Project Phase	Responsibility
OHS	OHS hazards which may occur during the construction phase include dust, noise, occupational stress and falling from heights. Dust emitted during the construction phase can cause pneumoconiosis to employees.	<ul style="list-style-type: none"> • Safety offer to be stationed at the site • Conduct Hazard identification and risk assessments • Induction to be given to all the new members on site • All Health and Safety standards specified in the Labour Act should be complied with. • Safety Posters and slogans should be exhibited at conspicuous places (safety signs stating DANGER, WARNING or CAUTION should be put up when necessary) • Provide all staff on site with 	Construction phase	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Contractors • Appointed HSEO

		<p>protective equipment (helmets, gloves, respirators, work suits, earplugs, goggles and safety shoes where applicable).</p> <ul style="list-style-type: none"> • Safety talks to be done every day before commencement of work • Reduce noise exposure by isolating noisy equipment and rotate tasks • Provisions of First Aid Box and trained person in first aid. • Provisions of immediate accident/incident reporting and investigation. • Dust suppression measures. • Induction to be given to all the new members on site . 		
Decommissioning phase				
	During the decommissioning phase, earthmoving equipment will be used on site hence noise might	<ul style="list-style-type: none"> • Equipment and machinery operators should be equipped with ear protection equipment. 	Decommissioning phase	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC

	<p>be emitted. Noise emitted during the decommissioning phase might end up disturbing the business in the vicinity of the service station area.</p>	<ul style="list-style-type: none"> • Operations should be strictly done during working hours (not more than 8 hours per day) • First aid and safety awareness training for contractors. 		<ul style="list-style-type: none"> • Contractors • Appointed HSEO
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5.8.2. Heritage impact

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Heritage impact	There are no known heritage areas or artefacts deemed to be impacted by the construction	<ul style="list-style-type: none"> During construction, the contractor might come across archaeological features or objects that possess cultural values. If archaeological remains or objects with cultural values (e.g. Pottery, bones, shells, ancient clothing or weapons, ancient cutlery, graves etc) are uncovered on the surrounding, it should be barricaded off and the relevant authorities should be contacted immediately. 	Construction phase	<ul style="list-style-type: none"> Ketu Two Thousand Service Station CC

5.8.3. Safety and security

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Safety and security	During the construction phase, different equipment, machinery and material will be used hence security measures should be implemented to safeguard against theft.	<ul style="list-style-type: none"> • Unauthorized people should not be allowed near or around the site • Equipment housed on site must be placed in a way that does not encourage criminal activities. • For safety and security reasons it is recommended that the entire site be fenced-off and security personnel be employed to safeguard the premises and to avert criminal activities. • Relevant safety signs should be clearly displayed. 	Construction phase	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC

5.8.4. Risk and spread of HIV/AIDS

Impacts	Description	Mitigation measures	Project Phase	Responsibility
HIV/AIDS	<p>HIV/AIDS is normally a risk when new projects are being established. During the construction of the service station, subcontractors will be hired by the contractor and the movement of different people to the site can promote anti-social behaviours like prostitution. Moreover, during the construction phase locals will be hired and this will increase their spending power hence this might be a perfect opportunity for sex workers to explore</p>	<ul style="list-style-type: none"> • Contractor should allocate time for the employees to visit their families thus during the construction phase to prevent multi relationships and partners. • Sensitization campaign to the staff on HIV/AIDS and other STDs, • Free distribution of condoms on site 	Construction phase	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • HSEO

5.9 POTENTIAL IMPACTS OF THE PROJECT DURING OPERATION

5.9.1 Fire and Explosion Hazard

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Fire and Explosion Hazard	Fire and Explosion can happen during the operation phase. Hydrocarbons are volatile under certain conditions and their vapours in specific concentrations are flammable. If precautions measures are not taken to prevent their ignition, fire and subsequent safety risks may arise.	<ul style="list-style-type: none"> • Sufficient water should always be available for fire fighting purposes. • Good housekeeping such as the removal of flammable materials including rubbish, dry vegetation, and hydrocarbon-soaked soil from the vicinity of the service station. • Fire fighting trainings • The Emergency Response Plan should be implemented and should address the potential spills. • Regular inspections to inspect and test fire fighting equipment and pollution control measures at the service station. • Fuel tanks should be established 	Operation	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Site manager • HSEO

		<p>away from potential neighbouring fire points.</p> <ul style="list-style-type: none">• All fire precautions and fire control at the service station must be in accordance with SANS 10089-1:2008, or better.• Experience has shown that the best chance to rapidly put out a major fire is in the first 5 minutes. It is important to recognize that a responsive fire prevention plan does not solely include the availability of fire fighting equipment, but more importantly, it involves premeditated measures and activities to prevent, curb and avoid conditions that may result in fires.• There must be an emergency evacuation point		
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5.9.2 Surface/groundwater contamination

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Surface/groundwater contamination	During the operation phase, spillages might occur when offloading fuel from the trucks and when dispensing fuel to customer vehicles. Precaution measures should therefore be taken so as to prevent contamination of water .	<ul style="list-style-type: none"> • Risks of such an impact can be lowered through proper training of staff and installation of suitable containment structures • Install oil interception and leak detection systems. • Install isolating surface drainage system. • Implement integrity tests on the tanks. • Concrete slabs/interlocks to cover the ground. • Proper toilet facilities • Empty containers of chemicals should not be dumped anywhere, all the garbage should be collected by the city garbage collectors. • Overfilling of the tanks may also take place and proper monitoring of the product levels in the tanks must take 	Operation	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Contractors • Site manager • Appointed HSEO

		<p>place to eliminate overfilling</p> <ul style="list-style-type: none"> • Equipment and materials to deal with spill clean-up must be readily available on site and staff must be trained in the usage of these products • Spillage control procedures must be in place according to SANS 10089-1:2008 and SANS 100131-2 standards, or better, The condition of the fuel reticulation system will have to be checked regularly and repaired to prevent leakages; • Any spillage of more than 200 litres must be reported to the relevant authorities and remediation instituted (refer to section 49 of the Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990)) • The condition of the fuel reticulation system will have to be checked regularly and repaired to prevent 		
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		leakages; <ul style="list-style-type: none">• Proper training and induction of operators must be conducted		
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5.9.3. Air quality

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Air quality	<p>During the operation phase fuel will be off-loaded into the tanks for storage consequently this can affect the air quality. Hydrocarbon vapours will normally be released during off-loading as liquid displaces the gaseous mixture in the tanks. Hydrocarbons are a class of compounds primarily composed of carbon and hydrogen and there are major components of oil, natural gas and pesticides. These substances contribute to the greenhouse effect and global warming, depletion of the ozone, increase occurrences of cancer, respiratory disorders and reduce the rate photosynthetic in plants.</p>	<ul style="list-style-type: none"> • Vent pipes should be placed in such a manner as to prevent impact on potential receptors • Vehicle idling time shall be minimised by putting up educative signs. All venting systems and procedures have to be designed according to SANS standards and placed in a sensible manner. • Regular check tests and audits • Vehicle idling time shall be minimized by putting up educative signs 	Operation	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Site manager • Appointed HSEO

5.9.4 Hydrocarbon waste

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Hydrocarbon waste	Liquid waste in the form of oils, petrol and diesel is normally the potential waste generated at the service station. Hydrocarbon waste is flammable hence it can cause fires. It can also contaminate underground water bodies.	<ul style="list-style-type: none"> • Construct oil/water separator • This impact can be reduced through proper training of the operators. • All spills must be cleaned up immediately and if spill is more than 200 L, it must be reported to the Ministry of Mines and Energy. • The presence of an emergency response plan and suitable equipment is advised, so as to react to any spillage or leakages properly and efficiently. • Proper monitoring of the product levels in the tanks must take place to eliminate overfilling. 	Operation,	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Site manager • Appointed HSEO

5.9.5 General waste

Impacts	Description	Mitigation measures	Project Phase	Responsibility
General waste	During the operation phase, litter in the form of papers and plastics is likely to be produced. In general, the impact of waste is expected to be localized and it will be of low significance if mitigation measures are implemented.	<ul style="list-style-type: none"> • Strictly, no burning of waste on the site or at the disposal site ,as it possess environmental and public health impacts; • Place bins around the service station • Separation of waste should clearly indicated. • Waste should be dumped at an authorized designated area • Regular inspection of the site 	Operation,	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Site manager • Appointed HSEO

5.9.6 Risk of Occupational Health and Safety

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Risk of OHS	During the operation phase, hazards which are likely to be encountered include fire, explosion, occupational stress and skin related diseases like dermatitis.	<ul style="list-style-type: none"> • Conduct Hazard identification and risk assessments • All Health and Safety standards specified in the Labour Act should be complied with. • Provide all staff on site with protective equipment • Train workers how to use adequately the equipment • Trainings on occupational health and safety • Safety talks to be done every day before commencement of work • Implementation of Behaviour Based Safety System • Provisions of First Aid Box and trained person in first aid. • Any leakage/spillage shall be immediately attended and provision of urgent 	Operation	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Site manager • Appointed HSEO

		<p>cleaning.</p> <ul style="list-style-type: none">• Work area will be monitored to maintain work environment free from any hazards.• Provision of adequate and maintenance of Fire Extinguishers at site• Provisions of immediate accident/incident reporting and investigation.• Safety Posters and slogans should be exhibited at conspicuous places		
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5.9.7 Traffic impact

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Traffic impact	<p>During the operation phase, traffic impacts are expected to be of low significance because an entry and exit road will be included in the design of the service station. The Roads Authority will have to approve the design. An entrance and exit way will prevent congestion and accidents at the service station. If mitigation measures are put into action, the probability of traffic congestion and accidents happening will be unlikely and the significance will be low.</p>	<ul style="list-style-type: none"> • Entry and exit way to be included at design stage • Drivers should be educated to adhere to all traffic rules. • Proper signage to warn vehicles about the construction on the C46 road due to heavy vehicle movement. 	Operation	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Site manager

5.9.8 Safety and Security

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Safety and Security	During operation phase, robbers might be attracted especially during the night given that service stations operate 24 hours	<ul style="list-style-type: none"> • Employing security officers • Install CCTV cameras • No keeping of safe keys on site • Emergency numbers should be displayed clearly at the filling station 	Operation	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Site manager

5.9.9 Cumulative

Impacts	Description	Mitigation measures	Project Phase	Responsibility
Cumulative	During the operational phase there might be cumulative impacts. Fuel is going to be off-loaded which can result in the release of hydrocarbon vapours which have an impact of reducing the air quality and also causing fires and explosions. Hydrocarbon vapours if released in the atmosphere can also cause global warming, reduction of photosynthesis of plants and cancer.	<ul style="list-style-type: none"> • All possible sources of ignition in the entire area should be eliminated • Sufficient water should always be available in case of fire for fire fighting purposes. • Vent pipes should be placed in such a manner as to prevent impact on potential receptors. • Regular check tests 	Operation phase	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Contractors • Site manger • Appointed HSEO

5.10 POSITIVE ECONOMIC IMPACTS

5.10.1 Employment creation

Impacts	Description	Enhancement Required	Project Phase	Responsibility
Employment creation	It is definite that jobs will be created during the life span of the project. The type of jobs will range from skilled, semi-skilled and unskilled and locals will definitely be recruited. During the construction phase, contractors, sub-contractors and service providers are going to be employed. During the operation phase people will also be employed and the jobs will range from fuel attendance, manager, supervisors, cashiers etc.	<ul style="list-style-type: none"> • Employ locals in all casual labour in both phases • When recruiting, the responsible contractor is to ensure gender equality • Equity, transparency, to be put into account when hiring and recruiting • Implementation of training programs so as to train the unskilled workers in order for them to enhance their performances and to gain more knowledge that they might demonstrate at other levels in future. 	Construction & Operation phase	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC • Appointed Human Resource Department

5.10.2 Accessibility of fuel

Impacts	Description	Enhancement Required	Project Phase	Responsibility
Accessibility of fuel	The service station project will bring positive impacts such as availability of fuel. Moreover, a mini-shop which sells a variety of fast foods will also be constructed. Therefore the development of a service station will greatly benefit the local residents at the same time by passers. The probability of fuel supply is going to be definite, the severity will be very beneficial and the overall significance will be very high.	<ul style="list-style-type: none"> Maintain a consistent supply of the stated products 	Operation	<ul style="list-style-type: none"> Ketu Two Thousand Service Station CC Appointed Sales department.

5.10.3 Improvement of general welfare for locals

Impacts	Description	Enhancement Required	Project Phase	Responsibility
Improvement of general welfare for the local population.	The project has a high probability of improving the general welfare for the local population. The locals will benefit during the life span of the project and the extent of benefiting can reach to regional level.	<ul style="list-style-type: none"> • First preference is to be given to the locals during employment. • The proponent is to be engaged in community projects. • The proponent is to give employees market related salaries; this will improve the lives of the employees. 	Operation	<ul style="list-style-type: none"> • Ketu Two Thousand Service Station CC

5.10.4 Economic Developments

Impacts	Description	Enhancement Required	Project Phase	Responsibility
Creation of a hub for future developments in the area	The new service station can pave way for development of the area.	<ul style="list-style-type: none"> The proponent should participate in community development programs. 	Operation	Ketu Two Thousand Service Station CC & local business people

5.10.5. Government revenue

Impacts	Description	Enhancement Required	Project Phase	Responsibility
Payment of taxes	The proponent will have to pay tax which will indirectly benefit the whole country.	<ul style="list-style-type: none"> The proponent should pay tax as stipulated by the law of Namibia. 	Operation	<ul style="list-style-type: none"> Ketu Two Thousand Service Station CC Appointed contractors

6. DECOMMISSIONING AND TANK REMOVAL/REPLACEMENT PHASES

The decommissioning of tanks should be overseen by a professional from the oil industry and the Environmental Officer. The old tanks should be disposed off at a suitable landfill site and disposal certificates provided.

During the decommissioning phase of the service station or replacement of tanks, a contamination assessment will be carried out. This assessment will be used to determine whether any contamination of the site has occurred and if so whether it presents any additional risk to human health and the environment. The contaminated area should be remediated to acceptable levels.

6.1 POSSIBLE DECOMMISSIONING ACTIVITIES

- Demolition of building structures
- Removing of equipment off site
- Removal of associated infrastructures such as storage tanks,
- Rehabilitation of the site

7. ENVIRONMENTAL MONITORING

An environmental monitoring plan provides a delivery mechanism to address the adverse environmental impacts of a project during its execution, to enhance project benefits and to introduce standards of good practice to be adopted. An environmental monitoring plan is important as it provides useful information and helps to assist in detecting the development of any unwanted environmental situation, and thus, provides opportunities for adopting appropriate control measures. From the monitoring point of view, the important parameters are water quality and air. The suggested monitoring details are outlined in the following sections.

IMPACT	RECEPTORS	TYPE OF MONITORING	FREQUENCY
Ground water contamination	Underground aquifers	<ul style="list-style-type: none"> • Inspections on underground tanks for possible leakages • Conduct regular vacuum tests • Tests on the nearby boreholes 	<ul style="list-style-type: none"> • Quarterly • Any time when high discrepancies in fuel reconciliation
Surface Water Contamination	Flood channels, Subsidiary streams, sea and dams	<ul style="list-style-type: none"> • Testing of “grey water” from oil/water separator pit before discharge into sewer lines or flood channels 	<ul style="list-style-type: none"> • Regularly as required
Fire and explosion	Environment Humans and property)	<ul style="list-style-type: none"> • Regular inspections should be carried out to inspect and test firefighting equipment. • Fire drills • Regular servicing of firefighting equipment 	<ul style="list-style-type: none"> • Quarterly • Twice a year • Annually
O.H.S	Employees	<ul style="list-style-type: none"> • Site inspection • Conducting Hazard and Risk Assessments • Safety procedures evaluation. • Health and safety incident monitoring 	<ul style="list-style-type: none"> • Daily
Hydrocarbon wastes	Environment.	<ul style="list-style-type: none"> • Inspection of pumping installations • Monitoring of the 	<ul style="list-style-type: none"> • Daily • Daily

		<p>oil/water separator</p> <ul style="list-style-type: none"> • Vacuum testing on underground fuel tanks • Proper training of fuel attendance. • Spillages more than 200L should be reported to the Ministry of Mines and energy • Proper spill clean-up kits on site 	<ul style="list-style-type: none"> • Quarterly • Every time there is a new employee
Generation of waste (solid)	Land	<ul style="list-style-type: none"> • Site inspection on housekeeping • Regular collection of waste by the council 	<ul style="list-style-type: none"> • Daily
Air quality (dust)	Employees	<ul style="list-style-type: none"> • Inspections 	<ul style="list-style-type: none"> • Daily
Air quality (emissions)	Employees, Atmosphere	<ul style="list-style-type: none"> • Air quality tests 	<ul style="list-style-type: none"> • Annually

8. CONCLUSIONS

The above Environmental Management Plan, if properly followed and implemented, will help to minimise unfavourable impacts on the environment. Where impacts occur, instant action must be taken to reduce the increase of effects related with these impacts. To ensure the importance of this document to the specific stage of project, it needs to be reviewed throughout all phases especially when there is a change in a mitigation measures.

The Environmental Management Plan should be used as an on-site reference document during all project phases and auditing should take place in order to determine compliance with the EMP for the proposed site. Parties responsible for transgression of the EMP should be held responsible for any rehabilitation that may need to be undertaken.

Nam Geo-Enviro Solution

October 2019

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Water Resources Management Act 11 (2013)

Appendix E

Cv of EAP



occupation

- Environmental scientist

Education

- Bachelor of Science (Environmental Biology)
Honours degree (University of Namibia)

Martha Dumeni

Key Experiences:

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- Environmental Assessment & Management
- Water, Ecology, Climate & Livelihoods
- Project Planning and Management

Project Experience

2017- Environmental monitoring and evaluation report

Operation of existing bulk storage facility for petroleum products in Grootfontein, Otjozondjupa region: Namibia.

2017- Environmental monitoring and evaluation report

Operation of existing le Platz Service Station in Tsumeb, in Oshikoto region: Namibia.

2017- Environmental monitoring and evaluation report

Operation of existing . Oshakati Engen Service station in Oshakati, Oshana region: Namibia.

2017- Environmental monitoring and evaluation report

Operation of existing Super Jakaranda Service Station in Otjiwarongo, Otjozondjupa region: Namibia.

2017- Environmental monitoring and evaluation report

Operation of existing Northwest Service Station in Usakos, Erongo region: Namibia.



Nam
Geo-Enviro
Solutions

EMPLOYMENT RECORD

2019 -Present Nam Geo-Enviro Solutions Environmental Scientist

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

_____ Date: 25 October 2019

Signature of staff member or authorized representative of the staff