ENVIRONMENTAL ASSESSMENT (EA) FOR MINERALS EXPLORATION ON AN EXCLUSIVE PROSPECTING LICENSE (EPL) NO. 6134, ||KHARAS REGION

Project Information	
Project title	Exclusive Prospecting License (EPL) No. 6134, ||Kharas Region
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EXECUTIVE SUMMARY

Geo Namib Minerals cc propose to undertake exploration and drilling activities on Exclusive Prospecting License (EPL) 6134 to explore for mineral limestone. The EPL is situated approximately 100 km west of Keetmanshoop along the national railway line and B4 highway to the port of Lüderitz in the //Kharas Region. The EPL covers a surface area of 49460.1777 Hectares and is situated in private and communal owned land. The commodities for the EPL are base and rare metals as well as industrial minerals. The targeted rocks in EPL 6134 are the limestones of the Nama Group, and these are being targeted for prospecting of cement and industrial lime quality limestone and siliceous rocks.

This report documents the assessment of potential impacts from the proposed exploration. The preliminary findings within this Scoping Report indicate that potential impacts will be of medium to low significance. These potential impacts can be further mitigated by effective implementation of Environmental Management Plan (EMP). Based on the information provided in this report, Candy Consulting cc is confident that the identified risks associated with the proposed development can be reduced to acceptable levels, given that the measures recommended in the EMP are implemented and monitored effectively. It is therefore pleaded that the proposed project is granted Environmental Clearance, and for the proponent to adhere to conditions of the Environmental Clearance Certificate.

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LIST OF ABBREVIATIONS

BID ……. Background Information Document

COVID-19 ……. Coronavirus disease

CV ……. Curriculum Vitae

DEA……. Department of Environmental Affairs

EA……Environmental Assessment

EAP……...Environmental Assessment Practitioner

ECC……. Environmental Clearance Certificate

EIA ……...Environmental Impact Assessment

EMA…… Environmental Management Act

EMP ……. Environmental Management Plan

EPL……. Exclusive Prospecting License

GN……...Government Notice

GPD ……. Namibia's Gross Domestic Product

I&APs ……. Interested and Affected Parties

MET……. Ministry of Environment, Forestry and Tourism

MME……Ministry of Mines and Energy

NDP5……National Development Plan 5

NSA……Namibia Statistics Agency

1. INTRODUCTION

Geo Namib Minerals cc (The Proponent) proposes to undertake mineral (limestone exploration activities on Exclusive Prospecting License (EPL) No. 6134 in //Kharas Region. The commodities for the EPL are base and rare metals, industrial minerals. The targeted rocks in EPL 6134 are the limestones of the Nama Group, and these are being targeted for prospecting of cement and industrial lime quality limestone and siliceous rocks.

The EPL is situated approximately 100 km west of Keetmanshoop along the national railway line and B4 highway to the port of Lüderitz in //Kharas Region. It covers a surface area of 49460.1777 Hectares. The location of the EPL No. 6134 is shown in Figure 1.

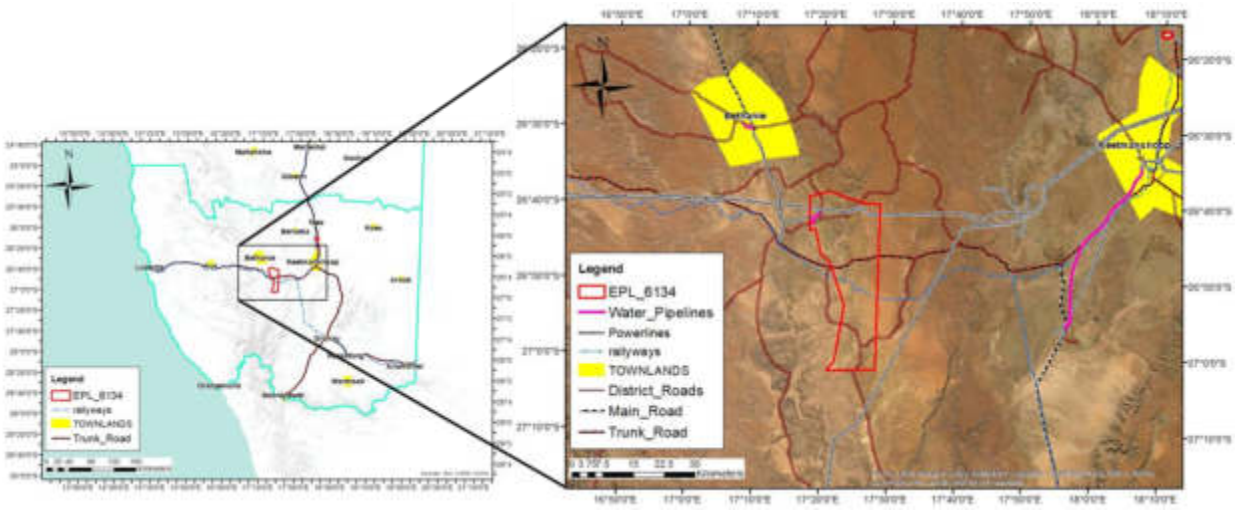

Figure 1: Locality of EPL 6134.

1.1 The Need for an Environmental Assessment (EA)

Under the 2012 Environmental Impact Assessment (EIA) Regulations of the Environmental Management Act (EMA) No. 7 of 2007, the proposed development is a listed activity that may not be undertaken without an Environmental Clearance Certificate (ECC). In particular, the proposed activity is listed under the following relevant sections:

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

3.2 Other forms of mining or extraction of any natural resources whether regulated by law or not.
3.3 Resource extraction, manipulation, conservation and related activities.

8.1 The abstraction of ground or surface water for industrial or commercial purposes.

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

9.2 Any process or activity which requires a permit, license or other form of authorization, or the modification of or changes to existing facilities for any process or activity which requires an amendment of an existing permit, license or authorization or which requires a new permit, license or authorization in terms of a law governing the generation or release of emissions, pollution, effluent or waste.

In order to fulfil the requirements of the EMA and its 2012 EIA Regulations, Geo Namib Minerals cc appointed Candy Consultancy cc an independent Environmental Consulting company to conduct an Environmental Assessment (EA) (which includes public consultation) and submit the required documents as part of an application for an ECC in terms of the EMA and its Regulation. The findings of the EA process are incorporated into this report and together with the Environmental Management Plan (EMP) will be submitted accompanied by an application for ECC to the Environmental Commissioner in the Department of Environmental Affairs (DEA), Ministry of Environment, Forestry and Tourism (MEFT).

1.2 Need and Desirability of the Project

Namibia's Vision 2030 and National Development Plan 5 (NDP5) both recognize a need for, and place significant value on economic growth and employment creation. Mining is one of the main contributing sectors to Namibia's Gross Domestic Product (GPD), accounting for 25%. Limestone is well known for its commercial uses and is thus sought after. Amongst other uses, Limestone is

used in the manufacturing of cement as well as sewage and water purification. In order to mine/extract these minerals from the earth, a proper reconnaissance, prospecting, exploration and ore reserve determination need to be done.

These processes are followed to determine/ensure that the mineral ores are worth mining, for economic gains (commercially viable). The unique applications of these minerals to everyday have drawn the attention of investors worldwide to invest into exploration activities and eventual mining of mineral ores. The proposed exploration activities, and potential mining activities will contribute to economic emancipation at local, regional and national level at economy at large. It is for these reasons that the project is needed in the area and expected to make a positive impact on improving the livelihood of the surrounding communities.

1.3 Scope of Work

This scoping study was carried out in accordance with the Environmental Management Act (7 of 2007) and its Regulation of 2012 (GG No. 4878 GN No. 30).

This report provides the following:

Description	**Section of the Report**
Introduction	Chapter 1
Project description	Chapter 2
Project alternatives considered	Chapter 3
Legal framework	Chapter 4
Environmental baseline	Chapter 5
The public consultation process	Chapter 6

The identification of potential impacts, impacts description, assessment, mitigation measures.	Chapter 7
Recommendations and Conclusions to the report	Chapter 8

2. PROJECT DESCRIPTION

The proposed activity on the respective EPL 6134 will entail the following:

1. Exploration and drilling at various locations in each target area to be carried out as soon as the Environmental Clearance Certificate has been granted. This will help establish the thickness and depth consistency of the limestone deposits, as well as to identify structures (e.g., faults) which may be water bearing.

2. Test quarrying and bulk sampling by means of blasting and bulk sampling in selected areas to be carried out. Bulk limestone samples from different areas to be subjected for further geochemical testing and calcination. Calcinated lime to be subjected for further quality control tests to better quantify the quality of the resultant lime.

3. Ground electromagnetic and/ or resistivity survey to help delineate open geological structures (e.g., faults, major bedding planes, dykes, etc.) which may bare groundwater. This data will be used to generate target sites for groundwater exploration and drilling.

2.1 Project History

Limestone has been mined in the Keetmanshoop district since the 19th century. Several old kilns still remain on the farms e.g., Simplon and the neighboring Buchholzbrunn. It is believed that some of them were built and run by the Schutztruppe between 1904 and 1908 (Geo Experts Consulting Services CC). EPL 6134 is owned by Geo Namib Minerals cc. The proponent wishes to invest in the exploration of the EPL for the mineral limestone.

2.2 Description of Activity

Mineral exploration activities usually comprise of two phases, i.e., first phase also referred to as non-invasive/destructive prospecting or exploration methods. This phase entails the process of information gathering through methods such as geological field mapping, ground geophysical survey, soil or water sampling, airborne geophysical surveys, ground truthing and analysis of data obtained from these activities. The second phase is referred to as invasive (drilling), and it is determined by the exploration results obtained from the first phase. The proposed exploration activity will be conducted in two phases similar to the approach outlined above.

The list of anticipated associated activities and equipment for exploration drilling are as follows:

• Drilling rig equipment, including support truck(s);

• 4x4 vehicle(s);

• Reverse Circulation and Diamond drill rig(s);

• Compressor and generator(s); and

• Fuel to power the drill rigs.

2.2.1 Site Location and Jurisdiction

As mentioned earlier, the EPL 6134 is located in ||Kharas Region of Namibia, approximately 100 km west of Keetmanshoop along the national railway line and B4 highway to the port of Lüderitz (Figure 1). The coordinates for the polygon of the EPL area are summarized in Table 2. Access to the property is provided by the railway, the B4 highway, the D3900 district gravel road, and several farm access gravel roads as shown in Figure 1.

Table 1: Site Location details

Location	100 km west of Keetmanshoop along the national railway line and B4 highway to the port of Lüderitz
Area size	49460.1777 Hectares
Constituency	Kosis Constituency
Regional Administration:	||Kharas Regional Council
Nearest Town	Keetmanshoop (80 km West)

Table 2: Approximate UTM coordinates (Zone 33J) of EPL 6134 boundaries.

GPS Coordinates boundaries
• 7050181.21 m S / 728949.75 m E • 7051313.02 m S / 733887.04 m E • 7048296.08 m S / 742224.71 m E • 7048231.29 m S / 746076.24 m E • 7007790.46 m S / 744806.86 m E • 7007610.51 m S / 732801.79 m E • 7009961.87 m S / 734704.10 m E • 7023669.71 m S / 737184.11 m E • 7034083.28 m S / 733837.19 m E • 7035939.74 m S / 731543.99 m E • 7042233.81 m S / 730280.10 m E • 7041914.21 m S / 728900.58 m E

In terms of land ownership, EPL 6134 overlies the following commercial farms:

- Totem No. 92
- Feldschuhhorn West No. 90
- Feldschuhhorn East No. 88
- Sandverhaar No. 116
- Kesslersbrunn No. 78
- Kanas No. 77
- Klein Kanas No. 117 and
- Kosis No. 72 – communal land
- Schnepfenriver No. 73

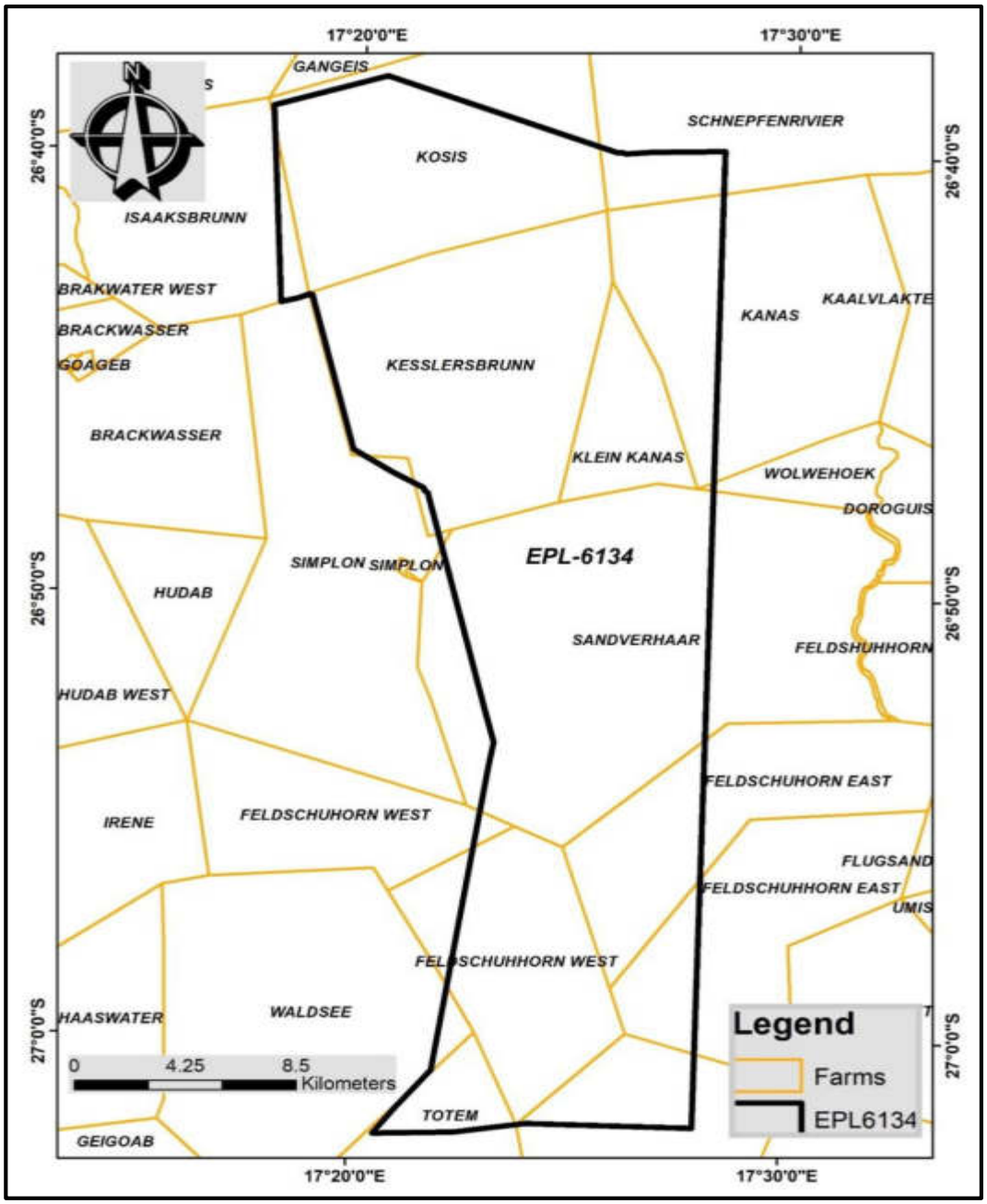

Figure 2: A spatial overview of the commercial farms EPL 6134 overlies.

2.3 Drilling Works and Resources

The drilling will be done by an appointed drilling contractor, and it is expected that they will have their own workforce (drilling crew). However, some three to four people may be temporarily employed to carry out other exploration drilling related works. The extra workforce would include

geologist(s), field assistant, health and safety officer(s) and logistics officer. It is anticipated that the workforce will be housed in temporary site camps throughout the drilling period.

2.3.1 Exploration Drilling Process

The proposed exploration drilling is aimed at obtaining as much data as possible on the geology of the area in the subsurface. This will also aid in identifying the presence of the mineral ores of interest that can be evaluated to economically feasible resources. During the invasive phase, target areas that may accommodate base metals, will be defined and delineated and this is where drilling will be conducted the type of drilling to be employed for the proposed project is currently unknown, as this entirely depends on the geological unit of the area. The typical drilling methods used for mineral exploration is either reverse circulation or Diamond Core drilling.

Due to the existence of a lodge on the Farm Sandverhaar No. 160 and the farming activities with game as well as the sensitive nature of the area, the farm owner will not agree to any bulk sampling by way of blasting. ''He believes blasting will have an irreparable effect on business activities and the game on the Farm which will result in severe losses''. – Mr Mouton , 18 January 2022

2.3.2 Power and Water Supply

It is anticipated that power supply required for drilling will be supplied by generators and/or electric drives. Water required for drilling works will be sourced from local boreholes. However, local boreholes are said to have low groundwater potential / yields. If there will be no sufficient water supply in the project area, water for drilling will be trucked or piped from elsewhere, outside the exploration site.

3. PROJECT ALTERNATIVES CONSIDERED

Alternatives are defined as: "different means of meeting the general purpose and requirements of the activity" (Environmental Management Act (2007) of Namibia (and its regulations (2012)). This chapter will highlight the different ways in which the project can be undertaken and to identify the alternative that will be the most practical but least damaging to the environment.

Various alternatives have been identified in terms of the proposed exploration drilling and its related activities. The most significant alternatives considered are; no-go option, location, services infrastructure and exploration drilling methods. The above-mentioned alternatives considered for the proposed activity are discussed in the following subchapters.

3.1 No-Go alternative

The "No-Go" alternative is the option of not proceeding with the activity, which typically implies a continuation of the status quo. Should the proposed works on the EPL be discontinued, none of the potential impacts (positive and negative) identified would occur.

Furthermore, the EPL will remain unused, i.e., the potential mineral ores occurring within the EPL will remain unexplored and depending on the exploration findings, unmined. This would also mean that the potential employment creation from exploration works and eventually mining will not occur. Therefore, no local, regional and national economic contribution from EPL 6134.

Should the proposed drilling works be discontinued, the current land use for the proposed site will remain unchanged. In considering the proposed project, the 'no-go' option cannot be the preferred alternative.

3.2 Project Location

The exact location of the exploration activities on the EPL is not defined yet. However, the location which allows for the least environmental and social harm is the preferred option. Additionally, the proposed drilling activity is an exercise to determine whether the mineral is available in the area and thus the exploration will not occur on the entire EPL area. The EPL location is also determined by the potential mineral ores in an area, which is geology specific. This will be determined during phase 1 of the exploration activities such as surface mapping and sampling. The preference of an

EPL also depends on the individual or company interested in utilizing the EPL through exploration and eventually mining. With this type of activity, it is impossible to find an alternative location for the project because the presence of mineral ores to be explored is area specific, which is primarily determined by the site geology. Therefore, the site of interest would be the only viable location to undertake the proposed exploration and drilling activities.

3.3 Services Infrastructure

In terms of the services that may be required for the proposed drilling works, their alternatives are presented in Table 3 below.

Table 3: Services that may be required for the proposed drilling works and their alternatives

Services	Proposed source	Alternative source
Water	Water to be sourced from local existing boreholes in the area	Piping water from other sources outside of the project area. This would be done to augment local water supplies
Power (electricity) for drilling	Generators	Solar
Power for cooking	Gas stoves	Fire wood
Worker's accommodation	Campsite on the Farm	Accommodation in the nearest town which is Bethanie and Keetmanshoop.
Road (site accessibility)	Accessed from B4 highway from Keetmanshoop	
Waste Management		

Sewage	Portable toilet – these are easily transportable and have no direct impact on the environment and ecology (if properly disposed)	Ventilated improved pit (VIP) latrine. This would be best suited at the contractors' camp
Services	**Proposed source**	**Alternative source**
Domestic waste	Onsite waste bins, regularly emptied at the nearest landfill	Driving waste to the nearest town landfill which is in Keetmanshoop
Drilling waste (chemicals)	Waste generated is to be transported to and disposed of at an appropriate facility in the nearest town equipped for the disposal of hazardous waste – Kupferberg landfill site in Windhoek	

3.4 Exploration drilling methods

The commonly used method in exploration drilling is diamond core drilling. However, another method used is reverse circulation drilling which is often the preferred method.

3.5 Conclusions on the Considered Alternatives

The alternatives considered for the project are summarized as follow:

- **No-go vs. continuation of the proposed project**: The no-go alternative is not considered to be the preferred option. Should the proposed works on the EPL be discontinued none of the potential impacts (positive and negative) identified would occur. Furthermore, the current land use for the proposed site will remain unchanged.

- **Project location**: The location of the EPL is determined by the potential mineral ores in an area, which is geology specific. No alternative location is considered viable due to the

site determination resulting from the presence of mineral ores to be explored which is area specific, and primarily determined by the site geology.

- **Services Infrastructure**: Water for the proposed activity is to be sourced from boreholes in the area. However, it has been indicated that the boreholes have low yields in which case water would have to be trucked to the site from elsewhere. Increased use of solar technologies is promoted within the development, where it cannot be successfully employed the use of generators would be required. Domestic and hazardous waste are to be disposed of appropriately as per National waste management policy. No alternative route for access is available, and as such the available route should be utilized. Portable toilets are to be made available at the drilling site and the contractor's camp and these are easily transportable and have no direct impact on the environment and ecology (if properly disposed).

- **Exploration drilling method**: The reverse circulation method is often the preferred method, as it produces a sample of rock cuttings rather than a sample of rock core as produced by diamond core drilling. Reverse circulation drilling is also relatively insensitive to ground conditions thus making it easier to penetrate any soil type (Northspan Explorations Ltd, 2019). This drilling method does not usually require a lot of site preparation. It often only requires truck-mounted rigs and one or two support vehicles to transport the drill rods and air compressor (NSW Mining, 2013). However, "the drilling method and size of the drilling hole depends on the type of rock and the information sought" (NSW Mining, 2013).

4. LEGAL REQUIREMENTS: LEGISLATION, POLICIES AND GUIDELINES

A review of the applicable and relevant Namibian legislation, policies and guidelines to the proposed development are given in this chapter. This review serves to inform the project Proponent, Interested and Affected Parties and the decision makers at the Department of Environmental Affairs and Forestry of the requirements and expectations, as laid out in terms of these instruments, to be fulfilled in order to establish the proposed prospecting and exploration activities.

4.1 The Environmental Management Act (No. 7 of 2007)

This EIA was carried out according to the Environmental Management Act (EMA) and its Environmental Impact Assessment (EIA) Regulations (GG No. 4878 GN No. 30). The EMA stipulates requirements to be met including documentation of the whole EIA process in order to obtain an ECC to undertake certain listed activities. For the proposed activities of Geo Namib, the following Regulations apply:

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

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

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

4.2 Minerals (Prospecting and Mining) Act No. 33 of 1992

To provide for the reconnaissance, prospecting and mining for, and disposal of, and the exercise of control over, minerals in Namibia; and to provide for matters incidental thereto.

The Proponent should ensure compliance with the conditions set in the Minerals Act regarding exploration works. The legal obligations that are relevant to the proposed activities of EPL6134 are presented in Table 4 below.

Table 4: Applicable and relevant Namibian and international legislations, policies and guidelines conducted during the EA process

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Environmental Management Act (EMA) No. 7 of 2007	Requires that projects with significant environmental impacts are subject to an environmental assessment process (Section 27). Details principles which are to guide all EAs.	The EMA and its regulations should inform and guide this EA process.
Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878)	Details requirements for public consultation within a given environmental assessment process (GN 30 S21). Details the requirements for what should be included in a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15).	
The Constitution of Namibia Act No. 1 of 1990	According to Legal Assistance Centre (LAC), there is no clear right to health in the Namibian Constitution. But under the Article 95 of the Namibian Constitution that deals with Principles of State Policy, the Namibian Constitution states, "the state shall enact legislation to ensure consistent planning to raise and maintain an acceptable standard of living for the country's people" and to improve public health.	The Proponent should ensure compliance with the conditions set in the Act.
Public and Environmental Health Act no. 1 of 2015	This Act make provision with respect to matters of public health in Namibia. By promoting public health and wellbeing; prevent injuries, diseases, and disabilities; protect individuals and communities from public health risks; encourage community participation in order to create a healthy environment; and provide for early detection of diseases and public health risks.	The Proponent should ensure compliance with the conditions set in the Act, especially in terms of COVID-19 regulations and other disease control measures.

Water Act No. 54 of 1956	The Water Resources Management Act 11 of 2013 is presently without regulations; therefore, the Water Act No 54 of 1956 is still in force: • Prohibits the pollution of water and implements the principle that a person disposing of effluent or waste has a duly of care to prevent pollution (S3 (k)). • Provides for control and protection of groundwater (S66 (1), (d (ii)). Liability of clean-up costs after closure/abandonment of an activity (S3 (l)).	The protection of ground and surface water resources should be a priority during the drilling works.
Water Resources Management Act No.11 of 2013	The act provides for the management, protection, development, use and conservation of water resources; and provides for the regulation and monitoring of water services and to provide for incidental matters. The objects of this Act are to: Ensure that the water resources of the country are managed, developed, used, conserved and protected in a manner consistent with, or conducive to, the fundamental principles set out in Section 66 - protection of aquifers, Subsection 1 (d) (iii) provide for preventing the contamination of the aquifer and water pollution control (Section 68).	
Soil Conservation Act No. 76 of 1969	The Act makes provision for the prevention and control of soil erosion and the protection, improvement and conservation of soil, vegetation and water supply sources and resources, through directives declared by the Minister.	Duty of care must be applied to soil conservation and management measures must be included in the Environmental Management Plan

Nature Conservation Ordinance No.4 of 1975	To consolidate and amend the laws relating to the conservation of nature; the establishment of game parks and nature reserves; the control of problem animals; and to provide for matters incidental thereto.	The Proponent should ensure that their activities do not in any way compromise the wildlife in the area of operations and the ordinance requirements are adhered to.

Legislation/Policy/ Guideline	**Relevant Provisions**	**Implications for this project**
Agricultural (Commercial) Land Reform 1995 (Agricultural (Commercial) Amendment Act No. 1 of 2014))	To provide for the acquisition of agricultural land by the State for the purposes of land reform and for the allocation of such land to Namibian citizens who do not own or otherwise have the use of any or of adequate agricultural land, and foremost to those Namibian citizens who have been socially, economically or educationally disadvantaged by past discriminatory laws or practices; to vest in the State a preferred right to purchase agricultural land for the purposes of the Act; to provide for the compulsory acquisition of certain agricultural land by the State for the purposes of the Act; to regulate the acquisition of agricultural land by foreign nationals; to establish a Lands Tribunal and determine its jurisdiction; and to provide for matters connected therewith.	The Proponent should ensure that relevant regulations set under this Act are adhered to.

Forestry Act No. 12 of 2001	The Act provides for the management and use of forests and related products / resources. It offers protection to any living tree, bush or shrub growing within 100 metres of a river, stream or watercourse on land that is not a surveyed erven of a local authority area. In such instances, a licence would be required to cut and remove any such vegetation.	There are some shrubs and trees within the proposed site to be explored. Protection of biodiversity shall be mainstreamed in all exploration and drilling work.
	These provisions are only guidelines.	
Atmospheric Pollution Prevention Ordinance No. 11 of 1976	This ordinance provides for the prevention of air pollution.	Measures should be instituted to ensure that dust emanating from drilling activities is kept at acceptable levels.
Public Health Act No. 36 of 1919	Section 119 states that "no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health."	The Proponent and all its employees and contractors should ensure compliance with the provisions of these legal instruments.
Health and Safety Regulations GN 156/1997 (GG 1617)	Details various requirements regarding health and safety of laborers.	
The Regional Councils Act No. 22 of 1992	This Act sets out the conditions under which Regional Councils must be elected and administer each delineated region. From a land use and project planning point of view, their duties include, as described in section 28 "to undertake the planning of the development of the region for which it has been established with a view to physical, social and economic characteristics, urbanization patterns, natural resources, economic development potential,	The relevant Regional Council are considered to be I&APs and must be consulted during the Environmental Assessment (EA) process. The ||Kharas Regional Council is the responsible Regional Authority of the area in which the proposed activity will be

	infrastructure, land utilization pattern and sensitivity of the natural environment."	undertaken, therefore should be consulted for this EA.
Labour Act No. 11 of 2007)	The Act aimed to consolidate and amend the labour law; to establish a comprehensive labour law for all employers and employees; to entrench fundamental labour rights and protections; to regulate basic terms and conditions of employment; to ensure the health, safety and welfare of employees; to protect employees from unfair labour practices. Ministry of Labour (MOL) is aimed at ensuring harmonious labour relations through promoting social justice, occupational health and safety and enhanced labour market services for the benefit of all Namibians.	The Proponent should ensure that the proposed activity does not compromise the safety and welfare of workers.
Minerals (Prospecting and Mining) Act No. 33 of 1992	To provide for the reconnaissance, prospecting and mining for, and disposal of, and the exercise of control over, minerals in Namibia; and to provide for matters incidental thereto.	The Proponent should ensure compliance with the conditions set in the Minerals Act regarding exploration and drilling works.

5. ENVIRONMENTAL BASELINE

5.1 Biophysical environment

5.1.1 Topography, Geology and Hydrogeology

The Keetmanshoop area is typical of the Nama-Karoo Basin. This area accommodates a large, flat lying plateau which dominates much area of southern Namibia (Mendelsohn, Jarvis, Roberts, & Robertson, 2002). The landscape is extremely barren and rocky (Ministry of Agriculture, Water and Forestry, 2011). The Project area is located within the catchment of the south-flowing Konkiep River, the largest tributary of the Fish River (Christelis and Sarma, 2017). Elevation within the catchment varies from more than 1,650 metres above mean seal level (mamsl) (in the north) to around 238 mamsl (in the south / at the confluence of the Konkiep with the Fish River). Inselbergs within the catchments have an elevation exceeding 1,700 mamsl with the highest point at 1,927 mamsl. Several tributaries join the Konkiep River, of which the major tributaries in the Project area include the Kuibis and the Gurib Rivers. All of the rivers within the catchment are ephemeral and flow in response to the mainly summer rains. Due to the thin soil and limited vegetation cover, the infiltration capacity is exceeded rapidly, resulting in rapid flow and in flash floods.

The local geology consists of outcrops with black limestone located on the top, underlain by a clay rich marl (occurring as a schist in tectonised areas) and then gravel (occurring as quartzite in tectonised areas). Most of the license area is covered by shale/sandstone sequence and black limestone of late Namibian age (Huns member of the Nama Group) (Geo Experts Consulting Services CC). According to Christelis and Sarma, (2017) the geology of the area consists predominantly of lithological sedimentary units of the Nama Group, with some more recent Quaternary deposits along parts of the Konkiep, Gurib, and Sandverhaar Rivers (the Sandverhaar River is referred to as the Koriseb in some maps; according to the Atlas of Namibia, the Koriseb River can be found in the adjacent catchment and is a tributary of the Kanas River).

Christelis and Sarma, (2017) further reported that within the Project area, the Nama sediments are further sub-divided into three subgroups, i.e., the Kuibis, the Schwarzrand, and the Fish River Subgroups. Their study indicated that the lithology within the western part of the Project area comprises rock types of the lower Kuibis Subgroup that consists mainly of quartzites with lenses of shales and dolomites. The Schwarzrand Subgroup, that overlies the Kuibis further to the east,

consists primarily of shales, sandstones, and black lime-stones. The Fish River Subgroup that overlies the Schwarzrand Subgroup in the eastern part of the Project area consists of red quartzites and shales.

Figure 3: Rock types on site, *Source*: Ondigo 2022

In terms of groundwater, the area falls under the Orange-Fish basin which is located in south-central Namibia and defined mainly by surface catchments of the Orange and Fish River (Bittner Water Consult CC, 2004). “In some areas, mostly along the western basin margin, the boundary deviates slightly from the surface water catchment, where groundwater basins and geological formations are considered as more critical criteria for the definition of the basin” (Bittner Water Consult CC, 2004). Keetmanshoop has a surface water scheme fed by the Naute Dam, whereas smaller towns like Bethanie rely on groundwater extracted from aquifers in Nama sediments (Department Water Affairs; Ministry of Agriculture and Land Reform; Geological Survey of Namibia; Ministry of Mines and Energy; Federal Institute of Geoscience and Natural Resources, 2011).

According to Christelis and Sarma, (2017) findings, the Project area is hosted in hardrock aquifers where it has been affected by faulting. The overall groundwater potential in the general area is moderate to poor, with no aquifer having a uniformly high potential. Two out of four aquifers with relatively higher potential were identified and these include: i) the Fish River Subgroup sandstone units exposed in the eastern part of the Project area as a north-south band with a shallow easterly

dipping trend; and ii) the limestone of the Schwarzrand Subgroup; the sandstone units are affected by NNE and NW trending fractures. Other aquifers include: the Namibian age basement rocks and Kuibis Subgroup rocks exposed in the western part of the Project area (with variable and lower yields), and the Karoo Supergroup rocks (Dwyka and Ecca Groups) tillite, shale and dolerite that are exposed to the east (with the lowest groundwater potential in the area).

5.1.1.1 Groundwater Vulnerability

According to Christelis and Sarma (2017), the groundwater vulnerability assessment (taking into account depth to groundwater, borehole yield and aquifer potential, thickness of soil cover, and groundwater quality), provides guidance for the planning (design and location) for site construction, in case of the present project for drilling explorations. Since the soil cover is minimal within the majority of the Project area, with the exception of the alluvial cover along the river channels, it was not considered as a variable in deciding on the vulnerability. The groundwater in the Project area is of varying quality. According to the previous study on the project site, the areas of better water quality are located on portions of Farms Simplon and Sandverhaar and to the west of Buchholzbrunn whilst, the lowest water quality can be found within the area of the Goageb Siding (Christelis & Sarma, 2017).

Christelis and Sarma (2017) further reported that, the Fish River Subgroup sandstone aquifers and major river channels with shallow groundwater are regarded as areas with a "high" vulnerability. This means if there are accidental hydrocarbon spills at the surface it could potentially affect the groundwater quality. Similarly, the Schwarzrand Subgroup aquifer has equivalent potential to the Fish River in terms of yield, but it has a higher salinity groundwater as a result it was rated lower in terms of the vulnerability. The Kuibis Subgroup rocks were categorised as lower due to the lower groundwater potential in terms of yield and water quality whereas, Karoo Supergroup rocks have the lowest groundwater potential and are classified as "low" in terms of groundwater vulnerability. The relative vulnerability to groundwater contamination is shown in Figure 3 below.

The Farm owners of Sandverhaar pointed out that water is an extremely rare commodity in that part of the country, and further stated drilling more boreholes can completely deplete the current water source and contaminate''. Keeping this in mind, the proposed exploration activity is fully

aware of the water scarcity in the region and thus, the farms within the EPL are not expected to be adversely affected by the proposed development. It is anticipated that if there will be no sufficient water supply in the project area, water for drilling will be trucked or piped from elsewhere, outside the exploration site.

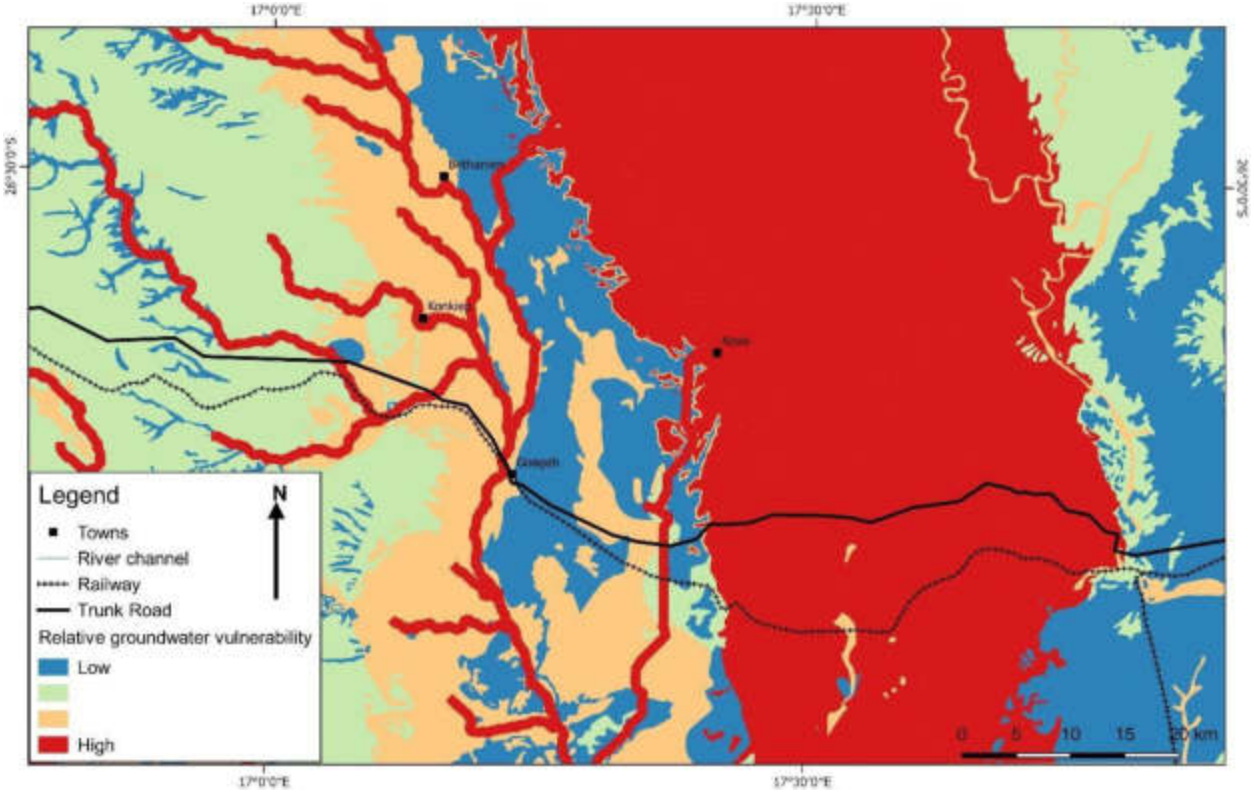

Figure 4: Map showing the relative groundwater vulnerability
Source: Christelis and Sarma, 2017

5.1.2. Climate

The climate in Keetmanshoop is called a desert climate. There is virtually no rainfall during some years throughout the year. This location is classified as BWh by Köppen and Geiger. Annual temperatures range with the maximum temperature of 36 °C and the minimum temperature of 6 °C (Mendelsohn, Jarvis, Roberts, & Robertson, 2002). Rainfall is recorded to fall mostly in the summer months of January, February and March with the average annual rainfall recorded to be

between 100 mm to 150 mm for the subject area (Mendelsohn, Jarvis, Roberts, & Robertson, 2002).

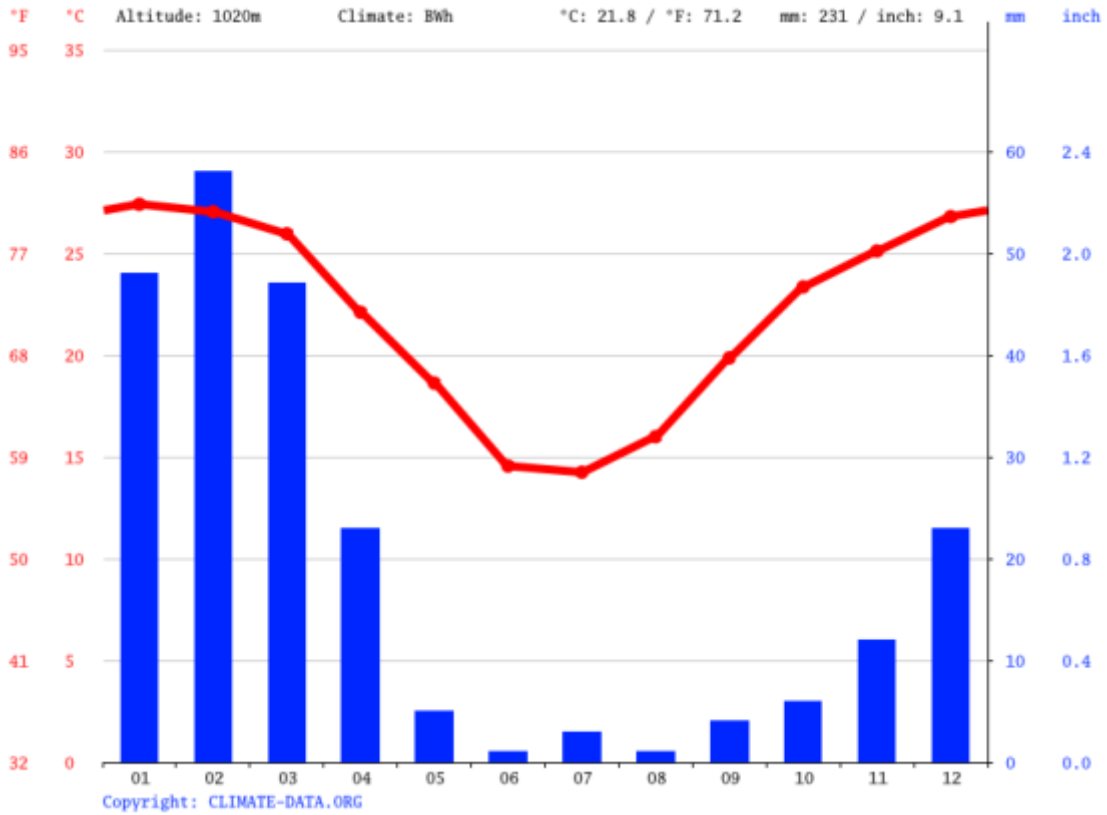

Figure 5: Climate/weather for Keetmanshoop (World Weather Online, 2020)

As depicted in Figure 5, the driest month is June with 1 mm of precipitation. It's however observed that most of the precipitation here falls in February, averaging 58 mm.

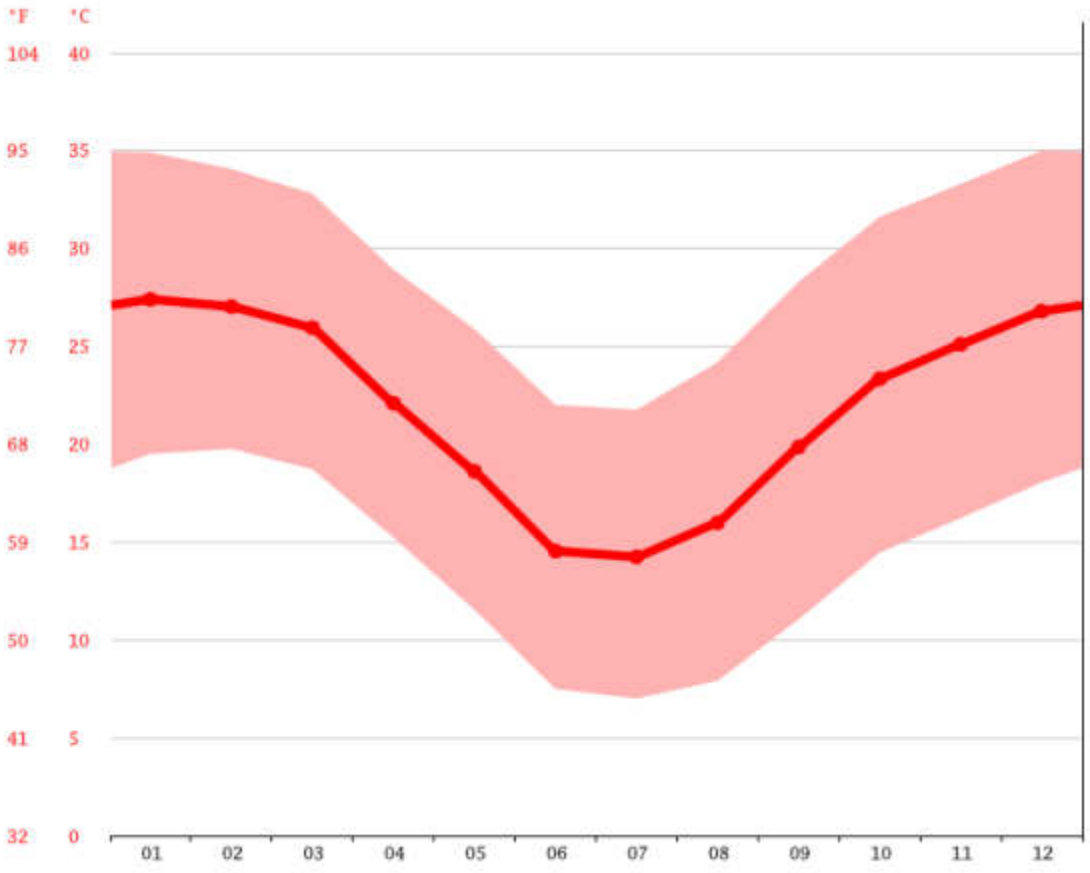

Figure 6: Average monthly temperature for Keetmanshoop (World Weather Online, 2020)

The figure above illustrates that, with an average of 27.4 °C, January is the warmest month. July is the coldest month, with temperatures averaging 14.2 °C.

5.1.3 Terrestrial Ecology

5.1.3.1 Flora

The study area is found within a Desert climate (Mendelsohn, Javis, Roberts, & Robertson, 2002). The general Goageb area is commonly, albeit broadly, referred to as Dwarf Shrub Savannah (Giess, 1971; Mendelsohn *et al*., 2002). The vegetation structure in Goageb area is classified as low shrubs, the average plant production is very low, and the variation in green vegetation biomass is viewed as medium to high (10 to >15%). Bush thickening (encroachment) is not viewed as

problematic in the general area (Bester, 1996; Cunningham, 1998). The risk of farming is viewed as "very high" and the tourism potential is viewed as "medium" (Mendelsohn *et al*., 2002).

The dominant vegetation structure is viewed as "low shrubs" or "sparse shrubland" (Mendelsohn *et al*., 2002). The grass cover consists of a wide variety of grasses of *Stipagrostis* species (e.g., *S. anomala, S. brevifolia, S. obtusa* and *S. uniplumis*) dominating large areas depending on the soil type. Typical "Karoo bushes" characterise this vegetation type and include *Catophractes alexandri*, *Eriocephalus* species and *Rhigozum trichotomum*. By far the present study found one of the most dominant grass species recorded in the area is *Stipagrostis ciliate Var. capensis.* This climax grass is widespread and very common in the dryer regions of central to Southern Namibia as that of the project site (Mannheimer, 2012). It occurs on sandy soil, acting as a sand–binder, because it is both drought tolerant and palatable and also has a high nutritive value even in dry state that is why it is regarded as a valuable grazing resource.

At least 59 species of larger trees and shrubs are known and/or are expected to occur in the general Goageb area; 28 (47.5%) of the 59 species have some kind of protected status (this includes endemic and near endemic species). Nine species (15.3%) are protected by the Forest Act No. 12 of 2001 (two other species are protected by various other Forestry laws (Curtis and Mannheimer, 2005;2009), two species (3.9%) are protected by the Nature Conservation Ordinance No. 4 of 1975, and five species (8.5%) are classified as CITES Appendix 2 species (see Cunnigham, 2018). All species with some form of conservation status are viewed as important, and those with unique habitats and/or limited range such as; *Aloe dichotoma*, *Aloe litoralis*, and *Euphorbia gummifera*.

During the field survey, interestingly, *Parkinsonia aculeata* commonly known as Jerusalem-thorn and *Prosopis* sp. reportedly as alien species were observed along the river areas of which *Prosopis* sp. ''serves as nutritious fodder for the game in dry seasons''. All in all, the most frequently encountered plant species were mainly from the families of; Acanthaceae, Euphorbiaceae, Arecaceae, Aloaceae, Poaceae or Gramineae, Fabaceae, Tiliaceae, Capparaceae and Bignoniaceae. Short-lived annuals, occur after local rainfalls and floods, provide a vital source of food for game grazing within the area. The most important large plant species observed is the large and old *Acacia erioloba* species (primarily those associated with the Gurib River "forest" in the Sandverhaar area).

It has been reported that some of the trees may be hundreds of years old and they serve as habitat for a variety of species (e.g., cavity dwellers such as bats, birds, and reptiles and roosting/nesting sites for large raptors).

All in all, the general project area has a “low to medium” plant diversity (between 100 and 149 species), although “hotspots” have a higher diversity (e.g., more than 500 species around Aus) the endemism throughout the area is viewed as “low” (between two and five species) (Mendelsohn, *et al*., 2002). The plant endemism in the general Goageb area is between one and ten species, depending on the locality, these estimates are limited to “higher” plants only (Simmons 1998a). As per site observations and findings by Simmons (1998a) the greatest variants affecting the plant diversity in the area are habitat and climate, this is evident as the highest plant diversity is generally associated with high rainfall areas.

Figure 7 : Some of the plant species observed on the proposed project site
Source: L. Ondigo 2022

5.1.3.2 Area of sensitivity

The field observations in the project site reported that the farms and the surrounding areas will not be highly affected if all the mitigation measures are implemented as shown in the EMP (see Appendix H). On the contrary, the area around farm Sandverhaar No. 116 and 200 was reported to have extensive sensitive sites within the EPL. Farm Sandverhaar No. 116 consist of a Game lodge that is approximately 14 years, Lithop Research Foundation and farming and tourist site. *The owner of the Sandverhaar farm No. 116 stated that he doesn't want anything to do with the proposed project as it will destroy everything, he has invested all these years. He further pointed out the effects of dust that will have immerse impact on his game and lodge.*

Whereas, in the Sandverhaar NO. 200 four different types of ecosystems were recorded namely; the Riverine system, Dunes, Small canyons and Rocky area. Amongst the four ecosystems the riverine was ranked to be in high risk from the proposed exploration activities, the ranking was

based on the vegetation status, the sensitivity nature of the area and biodiversity. Previously it seems like the road bridge across the Gurib River (i.e., historic road construction between Keetmanshoop and Lüderitz), has influenced the flow of the river – i.e., channeled the river and consequently negating the original "floodplain like" spread of water in the area – with much mortalities of the larger trees evident in the general area (Cunningham, 2018). *Due to the sensitivity nature of the riverine ecosystem, it's rich biodiversity and a site with the oldest abundant Acacia erioloba species that serves as a keystone species in the area, it is thus recommended to conserve this particular site due to its ecological, environmental and economic benefits.*

All in all, the field survey has pointed out farm Sandverhaar No. 116 and 200 to consist major sensitive sites that might be potentially disturbed by the proposed explorations of EPL 6134. Even though, some farms within the EPL might not be affected there will be a need of mitigation measures to be implemented in order to ensure sustainable development and conservation of the environment.

5.1.3.2 Fauna

The fauna is divided into three main categories mainly repltiles, mammals, and birds.

Reptiles: Previous study reported at least 57 species of reptiles are expected to occur in the general Goageb area of which 26 species (45.6%) are endemic (Cunningham, 2018). All the endemic species are classified as "secure", except for the *Homopus solus* commonly known as the Nama padloper which is indeterminate; protected game and the desert mountain adder *Bitis xeropaga* which is insufficiently known. Under Namibian legislation, the Bushmanland tent tortoise *Psammobates tentorius veroxii*, leopard tortoise *Stigmochelys pardalis* and rock monitor *Varanus albigularis* are classified as vulnerable while, the Nama padloper, leopard tortoise, Bushmanland tent tortoise, and rock monitor as protected game.

The 57 species expected to occur in the general Goageb area consist of at least: three tortoises (one endemic and two vulnerable), 19 snakes (one blind snake, two thread snakes, and 16 typical snakes) (of which nine species (47.4%) are endemic), nine skinks (two endemic), six old world lizards (two endemic), one plated lizards (endemic), two girdled lizards (both endemic), one flat

lizard (endemic), one monitor lizard, three agamas (one endemic), one chameleon, and 11 geckos (of which seven (63.6%) are classified as endemic) (Cunningham, 2018).

Cunningham, (2018) indicated that the most important reptile species expected from the general Goageb area include: the endemic Nama padloper; the leopard and Bushmanland tent tortoises; the desert mountain adder; and the monitor lizard. Besides the above information, it should be noted that reptiles are poorly documented group of animals, especially in Namibia, and more species may occur in the general Goageb area. None of the important reptile species is expected to be adversely affected by the proposed development.

Mammals: The extensive study conducted by Cunningham, (2018) estimated at least 62 species of mammals to be known and/or are expected to occur in the general Goageb area. Of the 62 species, six species (9.7%) are classified as endemic. Under Namibian legislation, the Angolan wing-gland bat *Cistugo seabrae*, Cape grey mongoose *Galerella pulverulenta*, and the black-footed cat *Felis nigripes* are classified as rare, two species are reported as indeterminate namely; the black-footed cat and Cape grey mongoose. The study further reported six species as vulnerable (aardwolf *Proteles cristatus*, brown hyena *Hyaena brunnea*, cheetah *Acinonyx jubatus*, African wild cat *Felis lybica*, bat-eared fox *Otocyon megalotis*, and Cape fox *Vulpes chama*), two species as specially protected game (Hartmann's mountain zebra *Equus zebra hartmannae* and klipspringer *Oreotragus oreotragus*), four species as protected game (aardvark *Orycteropus afer*, cheetah, leopard, and ratel *Mellivora capensis*), five species as insufficiently known (Angolan wing gland bat, Rüppell's Pipistelle *Pipistrellus reuppellii*, hairy-footed gerbil *Gerbillurus paeba*, aardwolf, and brown hyena), three species as huntable game (greater kudu *Tragelaphus strepsiceros*, gemsbok *Oryx gazella*, and springbok *Antidorcas marsupialis*), four species as problem animals (rock hyrax *Procavia capensis*, chacma baboon *Papio ursinus*, caracal *Caracal caracal*, and black-backed jackal *Canis mesomelas*), six species as peripheral (aardwolf, brown hyena, leopard, bat-eared fox, and Rüppell's Pipistelle), one species not listed (white-bellied house bat *Scotophilus leucogaster*), and one species as invasive alien (house mouse *Mus musculus*).

At least 17 species (27.4%) of the mammalian fauna that occur and/or are expected to occur in the general Goageb area are represented by carnivores of which two species are viewed as rare,

and six species as vulnerable. Of the 16 species (25.8%) of rats and mice, four species (25%) are endemic. One (9.1%) of the 11 bats species (17.7%) is viewed as endemic and rare.

The most important species reported from the general Goageb area are those that are classified as vulnerable (cheetah, leopard, black-footed cat, and Hartmann's mountain zebra) and near threatened (African straw coloured fruit-bat, and brown hyena) by the International Union for the Conservation of Nature and Natural Resources (IUCN) (2018) and the two species classified as rare (Angolan wing-gland bat, and Cape grey mongoose) under the Namibian legislation. It should be noted that many of these species do not occur in the area throughout the year, but pass through depending on environmental conditions (e.g. Hartmann's mountain zebra) and prey movement (e.g. cheetah and leopard) (Cunningham, 2018).

All in all, the field survey reported some animals such as Oryx, Springboks, Kudus, mountain Zebras, Blue wilde beast, Red beast, Steinbok, Chackals, Rabbits, Baboons and the Namibian blue Ostriches that occurs within the proposed project area. It was however concluded that none of the important mammal species is expected to be adversely affected by the proposed exploration project.

Birds: Previous studies in the general Goageb area have report at least 131 species of terrestrial ["breeding residents"] birds (excluding all the aquatic species, extralimital breeders, and migrant species) occur and/or could occur at any time (Maclean 1985, Tarboton, 2001, and Hockey *et al*., 2006). The most important bird species known and/or expected to occur in the general Goageb area are those classified by the IUCN (2018) as critically endangered (white-backed vulture *Gyps africanus*), endangered (Ludwig's bustard *Neotis ludwigii*, lappet-faced vulture *Aegypius tracheliotos*, and black harrier *Circus maurus*), vulnerable (martial eagle *Polemaetus bellicosus*, and secretarybird *Sagittarius serpentarius*) and near threatened (kori bustard *Ardeotis kori*, and Sclater's lark *Spizocorys sclateri*).

Also those classified under the Namibian legislation as endangered (Ludwig's bustard, white-backed vulture, black harrier, booted eagle Aquila pennatus, and martial eagle *Polemaetus bellicosus*), vulnerable (African fish eagle *Haliaeetus vocifer*, lappet-faced vulture *Aegypius*

tracheliotos, and secretarybird) and near threatened (Cape eagle owl *Bubu capensis*, kori bustard *Ardeotis kori*, Verreaux's eagle *Aquila verreauxii*, peregrine falcon *Falco peregrinus*, marabou stork *Leptoptilos crumeniferus*, and Sclater's lark) (Simmons *et al*., 2015). The endemic rosy-faced lovebird *Agapornis roseicollis* (the only one of the 14 endemic species in Namibia expected to occur in the general area) is also important although it is common and widespread throughout much of Namibia. None of the important bird species is expected to be adversely affected by the proposed project.

5.1.4 Archaeological and Anthropological Resources

The following archaeological report was complied by Mr. Henry Nakale and Dr Mowa Eliot (*please refer to the full report in Appendix I*).

A reconnaissance survey was carried out over EPL 6134 to locate and record their most important archaeological features on the 14th and 15th of January 2022 in the Karas Region. A total of seven archaeological/heritage sites were recorded within EPL 6134 on farm Sandverhaar No. 166 to be specific during the field survey. The site locations are set out together with brief remarks on their significance (*see Appendix I*). The vulnerability of the sites is given in terms of their distance from the explorations target area. Although some sites are not within the exploration targeted area or within EPL 6134 there are some that are very close to the explorations target and may require mitigation measures to be taken to ensure their conservation. However, the field survey did not find any high-risk heritage resources with a potential to be disturbed by the proposed explorations on other farms or the other part of EPL 6134.

The area around farm Sandverhaar No. 116 and 200 on EPL 6134 has extensive sensitive archaeological remains of early colonial era activities as mentioned above. These include a number of graves as well as important and unique evidence of limestone-processing. With all that evidence, it is it is possible that subsurface remains will be exposed during site preparation and explorations.

The significance rating of these sites is referred to in Table 1 (*see in Appendix I*) and ranges from 1 (disturbed or secondary occurrences), to 4 and 5 (multi-component and major sites). They are considered as high value archaeological or heritage resources. In terms of their vulnerability rating,

most of the sites are rated 1 (not threatened) although two high value sites are rated 4 and 5 (a high likelihood or direct and certain threat of impact) andthese sites will require mitigation measures.

The proposed exploration project on EPL 6134 will affect an area of relatively high archaeological/heritage significance on farm Sandverhaar No. 116 only, and the project may threaten some archaeological assets worthy of mitigation measures. This report provides only a phase 1 survey and assessment of the project which can be followed by a phase 2 mitigation exercise if required.

5.2 Social Environment

5.2.1 Social Demographics

According to Namibia Statistics Agency (2011), the population of //Kharas Region is 19 447 (9 970 females and 9 477 males). //Karas is the least densely populated region (0.5 persons per km^2) in Namibia. The //Karas Region is subdivided into seven political constituencies: Berseba (population: 10,589), Karasburg (now Karasburg East and West; population: 16,470), Keetmanshoop Rural (population: 7,219), Keetmanshoop Urban (population: 19,447), Lűderitz (now !Naminűs; population: 13,859), and Oranjemund (population: 9,837).

There are three main languages spoken in the //Karas Region namely: Afrikaans (36%), Oshiwambo (27%), and Nama/Damara (23%) (NSA, 2013).

The literacy rate was estimated at 90% (vs 84% in 2001). In 2011, around 11% of the population above the age of 15 had never attended school, around 9% was attending school, and about 78% had left school. (NSA, 2014a).

5.2.2 Economy

The population by main source of income in the Berseba constituency was: salaries and wages (40.0%); pension (25.0%); and farming (18.0%) (NSA, 2014a). The economic context of the Berseba constituency (or //Karas Region where figures are not available for the constituency) is illustrated by means of economic indicators such as employment, source of income, and main working activities:

During 2011, approximately 61% of the population in the Berseba constituency formed part of the potential labour force (15+ years). Of these persons, about 57% had been absorbed by the economy and was actively working (vs the national average of ~63%); the remainder of the people (43%) was classified as unemployed (NSA, 2014a).

Key industries in the Berseba constituency, in terms of employment, are: agriculture, forestry and fishing (61.7%); construction (8.1%); education (7.3%); and administrative and support service activities (7.0%).

5.2.3 Land Use

The economy of the //Kharas Region is mostly dependent on mining, fishing and agricultural industries (Ministry of Lands and Resettlement, 2011). Tourism and small stock farming are some of the economic activities within the subject area. Small stock farming is the most important agricultural activity within the //Kharas Region.

5.2.4 Services Infrastructure

In terms of existing infrastructure, the following are in place:

- Roads – There is one road running through the respective EPL area namely the B4.
- Water - Water is sourced from local low yielding boreholes in the area.
- Power supply – Powerlines supply electricity to the nearby town Bethanie.

6. PUBLIC PARTICIPATION

6.1 Objective

The public participation process aims to inform a wide range of I&APs/stakeholders about the proposed EPL and the environmental process to be followed. It is a way to allow the public to exchange information and to express their views and concerns on the proposed EPL for which the EIA is being conducted.

The public participation process assists in identifying potential issues and concerns that need to be addressed in the assessment process, opportunity to provide recommendations/suggestions and the formulation of an environmental management plan.

6.2 Process followed Communication with I&APs

As a general practice and in line with environmental impacts assessment regulation, Candy Consultancy cc identified relevant and applicable regional and local authorities, and other interested and affected members of the public. The (pre-identified) I&APs were contacted directly and some were registered as I&APs upon their request (those that were registered after the EA notification via emails). Newspaper adverts of the proposed exploration activities were placed in two widely-read national newspapers in the //Kharas Region (The Republikein and New Era newspapers) and Namibia at large. The project advertisement / announcement ran for two consecutive weeks in four selected days inviting members of the public to register as I&APs and submit their comments/inputs/recommendations on the proposed activities. The summary of pre-identified and registered I&APs is listed in Table 5 below:

Table 5: Summary of Identified IAPs

	Description
List of IAPs	Nampower
	Namwater
	//Kharas Regional Council

	Bethanie Village Council
	Neighbouring Farm Owners and members of the public Ministry of Land Reform and Resettlement

6.2.1 Communication with I&APs

Regulation 21 of the EIA Regulations details steps to be taken during a public consultation process and these have been used in guiding this process.

Communication with I&APs about the proposed development was facilitated through the following means and in this order:

I. Project Environmental Assessment notices, notifying the public of the EIA and inviting I&APs to participate in the EIA process by registering their comments with Candy Consulting cc (email and telephone contacts provided), was placed in the New Era and Republikein newspapers dated 20th, 27th and 31st August 2021, (**refer to Appendix D**).

II. Public notices were placed at Kosis settlement (**refer to Appendix E**) to inform members of the public of the EIA process and register as I&APs as well as submit comments; and direct communication was conducted to inform immediate I&APs for example the owner (Mr. Christo) of the Farm Kesslersbrunn was physically met by the EIA team and was also briefed regarding the public meeting.

III. A public meeting was scheduled and held on 4th September 2021 at Kosis community hall where by the background information document was made available to I&APs that attended the meeting (**refer to Appendix C**). A register for I&APs was produced also including I&APs that requested through email registered and provided with the background information document. (**Refer to Appendix F for photos**)

IV. Email conversation were exchange and meeting held in Windhoek, 7th December 2021 with some of the farm owners in the proposed area and clarification made on the proposed activities and the EIA process.

Finally, the issues that were raised have been recorded; responses provided and are fully presented in the meeting minutes in and incorporated in the environmental report and EMP. The attendance registers and meeting minutes were compiled and are attached as **Appendix F**.

6.3 Public review of scoping report (comments received and concerns raised)

This scoping report was made available for the public review from 01 February 2022 to 09 February 2021. The report was sent by email to all registered I&APs and a copy is available at the Candy Consultancy cc. Please refer to **Appendix I** for a copy of the notification poster informing I&APs of the availability of the scoping report for them to submit their comment, inputs, concerns or issues before a final EIA report was to be finalized.

Apart of issues raised during the public meeting, there was no other comment received by Candy Consultancy cc either via email or any other mode of communication after the EIA advertisement in the newspapers or upon placing public notices in Kosis settlement and ||Kharas regional council. The Draft EIA report together with all its appendices were circulated to all I&APs for review for a period not less than 7 days. There were no comments received during the review phase.

7. IMPACT IDENTIFICATION, ASSESSMENT AND MITIGATION MEASURES

7.1 Impact Identification

Proposed developments/activities are usually associated with different potential impacts, be it positive or negative. For an environmental assessment, the focus is placed mainly on the negative impacts. This is done to ensure that these impacts are addressed by providing adequate mitigation measures such that an impact's significance is brought under control, maximizing the positive impacts of the development is also considered. The potential positive and negative impacts that have been identified from the prospecting activities are listed as follow:

7.1.1 Positive impacts

- Creation of jobs to the locals (primary, secondary and even tertiary employment).
- Skills and capacity development.
- Help boost local economic growth.
- Contribution to regional economic development.
- Open up other investment opportunities.

7.1.2 Negative impacts

- Socio-economic problems.
- Loss of Biodiversity.
- Generation of dust.
- Waste generation.
- Potential health and safety risks.
- Surrounding Soils and water quality impacts.
- Archaeological Impact.
- Noise.
- Resource use, e.g. water

7.2 Impact Assessment Methodology

The impact assessment method used for this project was adopted from previous environmental reports that were compiled by the author and as well as published reports online through research on the suitable project assessment methodology. The identified impacts were assessed in terms of probability (likelihood of occurring), scale/extent (spatial scale), magnitude (severity) and duration (temporal scale) as presented in Table 6, Table 7, Table 8 and Table 9 respectively. In order to enable a scientific approach to the determination of the environmental significance, a numerical value is linked to each rating scale. This methodology ensures uniformity and that potential impacts can be addressed in a standard manner so that a wide range of impacts are comparable. It is assumed that an assessment of the significance of a potential impact is a good indicator of the risk associated with such an impact.

The following process will be applied to each potential impact:

- Provision of a brief explanation of the impact;
- Assessment of the pre-mitigation significance of the impact; and
- Description of recommended mitigation measures.

The recommended mitigation measures prescribed for each of the potential impacts contribute towards the attainment of environmentally sustainable operational conditions of the project for various features of the biophysical and social environment.

The following criteria were applied in this impact assessment:

7.2.1 Extent (spatial scale)

Extent is an indication of the physical and spatial scale of the impact**. Table 6** shows rating of impact in terms of extent of spatial scale.

Table 6: Extent or spatial impact rating

Low (1)	Low/Medium (2)	Medium (3)	Medium/High (4)	High (5)
Impact is localized within the site boundary: Site only	Impact is beyond the site boundary: Local	Impacts felt within adjacent biophysical and social environments: Regional	Impact widespread far beyond site boundary: Regional	Impact extends National or over international boundaries

7.2.2 Duration

Duration refers to the timeframe over which the impact is expected to occur, measured in relation to the lifetime of the project. **Table 7** shows the rating of impact in terms of duration.

Table 7: Duration impact rating

Low (1)	**Low/Medium (2)**	**Medium (3)**	**Medium/High (4)**	**High (5)**
Immediate mitigating measures, immediate progress	Impact is quickly reversible, short term impacts (0-5 years)	Reversible over time; medium term (5-15 years)	Impact is long-term	Long term; beyond closure; permanent; irreplaceable or irretrievable commitment of resources

7.2.3 Intensity, Magnitude / severity

Intensity refers to the degree or magnitude to which the impact alters the functioning of an element of the environment. The magnitude of alteration can either be positive or negative. These were also taken into consideration during the assessment of severity. Table 8 shows the rating of impact in terms of intensity, magnitude or severity.

Table 8: Intensity, magnitude or severity impact rating

Type of criteria	Negative				
	H- **(10)**	**M/H-** **(8)**	**M-** **(6)**	**M/L-** **(4)**	**L-** **(2)**
Qualitative	Very high deterioration, high quantity of deaths, injury of illness / total loss of habitat, total alteration of ecological processes, extinction of rare species	Substantial deterioration, death, illness or injury, loss of habitat / diversity or resource, severe alteration or disturbance of important processes	Moderate deterioration, discomfort, partial loss of habitat / biodiversity or resource, moderate alteration	Low deterioration, slight noticeable alteration in habitat and biodiversity. Little loss in species numbers	Minor deterioration, nuisance or irritation, minor change in species / habitat / diversity or resource, no or very little quality deterioration.

7.2.4 Probability of occurrence

Probability describes the likelihood of the impacts occurring. This determination is based on previous experience with similar projects and/or based on professional judgment. See **Table 9** for impact rating in terms of probability of occurrence.

Table 9: Probability of occurrence impact rating

Low (1)	Medium/Low (2)	Medium (3)	Medium/High (4)	High (5)
Improbable; low likelihood; seldom. No known risk or	Likely to occur from time to	Possible, distinct possibility, frequent. Low to medium risk or	Probable if mitigating measures are not implemented.	Definite (regardless of preventative measures), highly

vulnerability to natural or induced hazards.	time. Low risk or vulnerability to natural or induced hazards	vulnerability to natural or induced hazards.	Medium risk of vulnerability to natural or induced hazards.	likely, continuous. High risk or vulnerability to natural or induced hazards.

7.2.5 Significance

Impact significance is determined through a synthesis of the above impact characteristics. The significance of the impact "without mitigation" is the main determinant of the nature and degree of mitigation required. As stated in the introduction to this chapter, for this assessment, the significance of the impact without prescribed mitigation actions was measured.

Once the above factors (**Table 6, Table 7, Table 8** and **Table 9**) have been ranked for each potential impact, the impact significance of each is assessed using the following formula:

SP = (magnitude + duration + scale) x probability

The maximum value per potential impact is 100 significance points (SP). Potential impacts were rated as high, moderate or low significance, based on the following significance rating scale (**Table 10**).

Table 10: Significance rating scale

SIGNIFICANCE	*ENVIRONMENTAL SIGNIFICANCE POINTS*	*COLOUR CODE*
High (positive)	>60	H
Medium (positive)	30 to 60	M
Low (positive)	<30	L
Neutral	0	N

Low (negative)	>-30	L
Medium (negative)	-30 to -60	M
High (negative)	>-60	H

For an impact with a significance rating of high, mitigation measures are recommended to reduce the impact to a low or medium significance rating, provided that the impact with a medium significance rating can be sufficiently controlled with the recommended mitigation measures. To maintain a low or medium significance rating, monitoring is recommended for a period of time to enable the confirmation of the significance of the impact as low or medium and under control.

The assessment of the exploration phases is done for both pre-mitigation (before implementing any mitigation) and post-mitigation (after mitigations are implemented). The risk/impact assessment is driven by three factors and these are:

Source: The cause or source of the contamination.

Pathway: The route taken by the source to reach a given receptor

Receptor: A person, animal, plant, eco-system, property or a controlled water source. If contamination is to cause harm or impact, it must reach a receptor.

According to Booth (2011), a pollutant linkage occurs when a source, pathway and receptor exist together. The objective with the mitigation measures is to firstly avoid the risk and if the risk cannot be avoided, mitigation measures to minimize the impact are recommended. Once the mitigation measures have been applied, the identified risk will be of low significance.

The impact assessment for this EIA focuses on the three project phases namely; the prospecting, drilling, sampling (and possible analysis) and decommissioning. The potential negative impacts stemming from the proposed activities of EPL 6134 are described, assessed and mitigation measures provided thereof. Further mitigation measures in a form of management action plans will be provided in the Environmental Management Plan.

7.3 Pre-operational Phase Impact Assessment

The main potential negative impacts associated with pre-operational phase is mainly loss of biodiversity:

7.3.1 Impact Assessment of Biodiversity Loss

The subject area does not accommodate significant flora. However, care should be taken during the removal of vegetation for site preparation to ensure minimal disturbance in the area. The envisaged impact at the project site, is thus not of such magnitude and/ or significance that it will have irreversible impacts on the biodiversity and endemism of the area and Namibia at large. The assessment of this impact is presented in **Table 11.**

Table 11: Assessment of the impacts of the drilling activities on biodiversity loss

Extent	Duration	Intensity	Probability	Significance
L - 1	L/M - 2	L - 2	M - 3	L - 15

7.3.1.1 Mitigations and recommendation to biodiversity loss

- Vegetation found on the site, but not in the targeted mining areas should not be removed, but left to preserve biodiversity on the site.
- Environmental awareness on the importance of biodiversity preservation should be provided to the workers.
- Trees with a trunk size of 150 mm and bigger should be surveyed, marked with paint (readily visible) and protected where feasible.

7.4 Operational Phase Impact Assessment

The potential impacts associated with the operational phase of the drilling activities have been identified and assessed in this subchapter. The main impacts identified are in relation to disturbances on fauna, soil and groundwater, waste, social and health and safety. **Temporary potential impacts** identified include dust and noise impacts.

7.4.1 Surrounding Soil and Groundwater

Improper handling, storage and disposal of hydrocarbon products and hazardous materials at the site may lead to soil and groundwater contamination, in case of spills and leakages. The assessment of this impact is presented in **Table 12**.

Table 12: Assessment of the impacts of the drilling activities on soil and groundwater

Extent	Duration	Intensity	Probability	Significance
L - 2	L/M - 1	L - 2	M - 2	L - 10

7.4.1.1 Mitigations and recommendation to soil and groundwater

- Careful storage and handling of hydrocarbons on site is essential.
- Potential contaminants such as hydrocarbons and waste water should be contained on site and disposed of in accordance to municipal wastewater discharge standards so that they do not contaminate surrounding soils and eventually groundwater.
- An emergency plan should be available for major / minor spills at the site during operation activities (with consideration of air, groundwater, soil and surface water) and during the transportation of the product(s) to the site.

7.4.2 Generation of Waste

Prospecting and exploration activities are usually associated with generation of waste of all kinds (domestic and general) and if these are not disposed of in a responsible manner, it will result in the pollution of the site and the surrounding environment. Industrial waste is a given by-product of any exploration operation. Non-biodegradable and biodegradable refuse should be stored in a container and collected on a regular basis and disposed of at a recognized disposal facility. Precautions should be taken to prevent any refuse spreading. The container should be covered with mesh to prevent access by public and animals. Without any mitigation measure, the impact has a

medium significance. The impact will be of low significance from medium, upon implementing the mitigation measures. The assessment of this impact is given in **Table 13**.

Table 13: Assessment of the impacts of the drilling activities on waste

Extent	Duration	Intensity	Probability	Significance
L - 2	L/M - 1	L - 2	M - 2	L - 10

7.4.2.1 Mitigations and recommendation for waste management

- Waste generated on site is to be collected and disposed of daily at the nearest licensed landfill.
- The exploration site(s) should be equipped with separate waste bins for hazardous and general waste/domestic, and this will be correctly and clearly marked to enhance separation of waste at source.

7.4.3 Noise impact

Prospecting and Exploration works (especially drilling) may be a nuisance to surrounding neighbours. Excessive noise can also be a health risk to site workers. Furthermore, the exploration equipment used for drilling and blasting on site is of medium size and the noise level is bound to be limited to the site only, and therefore, the impact likelihood is minimal. Without any mitigations, the impact is rated as of medium significance. In order to change the impact significance from the pre-mitigation significance to low rating, the mitigation measures should be implemented. The assessment of this impact is presented in **Table 14**.

Table 14: Assessment of the impacts of the drilling activities on noise

Extent	Duration	Intensity	Probability	Significance
L - 2	L/M - 1	L - 2	M - 2	L - 10

7.4.3.1 Mitigations and recommendation to noise

- Drilling operations should not take place between dusk and dawn unless otherwise arranged with neighbouring farms in close proximity.

- Exploration hours should be restricted to between 08h00 and 17h00 as during the night noise generated by exploration equipment and the movement of vehicles will be more nuisance to the public and to wildlife in the area.
- When operating the drilling machinery onsite, workers should be equipped and enforced to wear personal protective equipment (PPE) such as earplugs, hand groves, safety boots, safety goggles etc., to reduce exposure.

7.4.4 Potential Health and Safety

Improper handling of exploration materials and equipment may cause health and safety risks such as injuries to workers. The impact is probable and has a medium significance rating. However, with adequate mitigation measures, the impact rating will be reduced to low. The assessment of this impact is presented in **Table 15**.

Table 15: Assessment of the impacts of the drilling activities on health and safety

Extent	Duration	Intensity	Probability	Significance
L - 2	L/M - 1	L - 2	M - 2	L - 10

7.4.4.1 Mitigations and recommendation to Health and Safety

- Drilling operation workers should be provided with awareness training about the risks associated with hydrocarbon handling and storage.
- When working on site, employees should be properly equipped with personal protective equipment (PPE) such as coveralls, gloves, safety boots, earplugs, safety glasses, etc.
- Employees should not be allowed on site if under the influence of alcohol, this means alcohol and drug testing should be enforced.

7.4.5 Generation of Dust

Dust emanating from site access roads when transporting exploration equipment and supply (water) to and from site (time-to-time) may compromise the air quality in the area. Vehicular movements create dust even though it is not always so severe, this impact can be reduced by properly implementing mitigation measures. The assessment of this impact is presented in **Table 16:**

Table 16: Assessment of the impacts of the drilling activities on dust generation

Extent	Duration	Intensity	Probability	Significance
L - 2	L/M - 1	L - 2	M - 2	L - 10

7.4.5.1 Mitigations and recommendation to dust generation

- Dust abatement techniques should be implemented e.g., spraying of water.
- The Proponent should ensure that the exploration schedule is limited to the given number of days of the week, but not every day. This will keep the vehicle-related dust level minimal in the area.

7.4.6 Archaeological and Heritage Resources impacts

The proposed exploration activities are not proposed to take place in an area that has significant archaeological or heritage resources. However, should these be encountered during the exploration activities mitigation measures need to be in place to ensure that these resources are not harmed. The assessment of this impact is presented in **Table 17.**

Table 17: Assessment of the impacts of the drilling activities on archaeological and heritage resources

Extent	Duration	Intensity	Probability	Significance
L - 1	L/M - 1	L - 2	M - 2	L - 8

7.4.6.1 Mitigations and recommendation to archaeological and heritage resources

- All works are to be immediately ceased should an archaeological or heritage resource be discovered.

- When an object believed to be of heritage interest is encountered the National Heritage Council of Namibia (NHCN) should be contacted immediately for advise with regards to removal, packaging and safe transfer/relocation of the potential resource.

7.4.7 Social Environment

The proposed activity may provide employment opportunities for the local people. Additional benefits may arise depending on the agreements reached between the community and the proponent. These include the upgrading of the access road. The assessment of this impact is presented in **Table 18.**

Table 18: Assessment of the impacts of the drilling activities on social environment

Extent	Duration	Intensity	Probability	Significance
L - 3	L/M - 4	L - 2	M - 3	L - 27

7.4.7.1 Mitigations and recommendation to social environment

- Should any job opportunities result it should be made available to the local people in the area where feasible.

7.5 Decommissioning Phase

Once the drilling activities are decommissioned, the main potential impacts are; groundwater pollution and loss of jobs to the people employed by the activities.

7.5.1 Impact on Groundwater

Should the drilling activities be decommissioned, and the exploration area be rehabilitated groundwater pollution may occur if contaminated soils are utilized during rehabilitation. The assessment of this impact is presented in **Table 19.**

Table 19: Assessment of the impacts of decommissioning of drilling activity on groundwater

Extent	Duration	Intensity	Probability	Significance
L - 1	L/M - 2	L/M - 4	L/M - 2	L - 14

7.5.1.1 Mitigations and recommendation on groundwater

- Rehabilitation of the site to acceptable standards should be commenced once exploration work is ceased.
- Landowners should be consulted to indicate acceptance of the rehabilitation.

7.5.2 Impact on Employment

Once the drilling activities are decommissioned those employed on contract basis may lose their jobs. The assessment of this impact is presented in **Table 20.**

Table 20: Assessment of the impacts of decommissioning of drilling activity on employment

Extent	Duration	Intensity	Probability	Significance
L - 1	L/M - 2	L/M - 4	L/M - 2	L - 14

7.5.2.1 Mitigations and recommendation on loss of employment

- The Proponent should inform the employees, of its intentions to end the exploration activities, and the expected date.
- The Proponent should raise awareness of the possibilities for work in other related sectors.

8. RECOMMENDATIONS AND CONCLUSION

8.1 Recommendations

The key potential impacts associated with the proposed exploration and drilling project and its associated activities were identified and assessed. In order to avoid and minimize identified project impacts, mitigation measures were recommended. The significant impacts identified for the project phases on the environmental features are summarized below. These impacts can be reduced or minimized by implementing the mitigation measures outlined under the impact assessment chapter and also management actions plan provided in the EMP chapter.

- **Impacts on biodiversity loss (during pre-operational phase):** There is the possibility of loss of vegetation during the site clearing for the proposed activity. For the proposed method utilized it is not anticipated that much site preparation would be needed. However, the impact can be adequately addressed by the recommendations given under subchapter 7.3.1 and management actions given in the EMP.
- **Impacts on soil and groundwater (during operational and decommissioning phases):** Improper handling, storage and disposal of hydrocarbon products and hazardous materials at the site may lead to soil and groundwater contamination, in case of spills and leakages. Should the drilling activities be decommissioned, and the excavated areas be rehabilitated groundwater may be polluted if contaminated soils are used. The impact can be adequately addressed by the recommendations given under subchapters **7.4.1, 7.5.1** and also management actions given in the EMP.
- **Impacts on waste (during operational phase):** Improper disposal of waste materials at the site may lead to pollution of the site and resultant environmental degradation The impact can be adequately addressed by the recommendations given under subchapters **7.4.2** and also management actions given in the EMP.
- **Impacts of noise (during operational phase):** Exploration activities may increase dust and noise generated around the site area. The impact can be adequately addressed by the recommendations given under subchapter **7.4.3** and also management actions given in the EMP chapter.

- **Impacts on health and safety (during operational phase):** Exploration activities may cause health and safety risks to people operating on the site. The impact can be adequately addressed by the recommendations given under subchapter **7.4.4** and management actions given in the EMP chapter.
- **Impacts of dust (during operational phase):** Exploration activities may increase dust and noise generated around the site area. The impact can be adequately addressed by the recommendations given under subchapter **7.4.5** and also management actions given in the EMP.
- **Impacts on archeological and heritage resources (during operational phase):** The proposed is not taking place in an area that has significant archaeological or heritage resources. However, should these be encountered during the exploration activities mitigation measures need to be in place to ensure that these resources are not harmed. The impact can be adequately addressed by the recommendations given under subchapter **7.4.6** and management actions given in the EMP.
- **Impact on social environment (during operational and decommissioning phase):** The proposed activity may provide employment opportunities for the local people. Additional benefits may arise depending on the agreements reached between the community and the proponent. These include the upgrading of the access road. Once the drilling activities are decommissioned those employed on contract basis may lose their jobs. The impact can be adequately addressed by the recommendations given under subchapter **7.4.7, 7.5.2** and also management actions given in the EMP.

8.2 Conclusions

The potential positive and negative impacts stemming from the proposed exploration activities were identified, assessed and mitigation measures made thereof. The mitigation measures recommended in this report and management action plans provided in the EMP, can be deemed sufficient to avoid and/or reduce/minimise the risks to acceptable levels. Candy Consultancy cc is therefore confident that these measures are sufficient and thus recommends that the proponent be issued with the Environmental Clearance Certificate to enable the exploration work on EPL 6134. However, the Environmental Clearance Certificate should be issued on condition that the provided

management measures and action plans are effectively implemented. Most importantly, monitoring of the environmental components described in the impact assessment chapter should be conducted by the Proponent in compliance with conditions and guidelines of applicable Competent Authorities. This is to ensure that all potential impacts identified in this study and other impacts that might arise during implementation of activities are properly identified and addressed timely. Lastly, should the Environmental Clearance Certificate be issued, the Proponent will be expected to be compliant with its conditions as well as legal requirements governing the mineral exploration and related activities.

9. REFERENCES

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10. APPENDICES

APPENDIX A: COPY OF ENVIRONMENTAL CLEARANCE CERTIFICATE APPLICATION (FORM 1)

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ANNEXURE 1
FORMS

Form 1

REPUBLIC OF NAMIBIA

ENVIRONMENTAL MANAGEMENT ACT, 2007

(Section 32)

APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE

PART A: DETAILS OF APPLICANT

1. Name: (person or business) CANDY CONSULTANCY CC
2. Business Registration / Identity No. CC/2016/02702
(if applicable)
3. Correspondence Address: 55226, ROCKY CREST, WINDHOEK
4. Name of Contact Person: GABRIEL JOSEPH
5. Position of Contact Person: LEAD CONSULTANT
6. Telephone No.: 0813796858
7. Fax No.: 0886336841
8. E-mail Address : (if any) CandyConsultancy@gmail.com

☐ Tick (☐) the appropriate box

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PART B: SCOPE OF THE ENVIRONMENTAL CLEARANCE CERTIFICATE

1. The environmental clearance certificate is for:

☐ MINERALS EXPLORATIONS ON EXCLUSIVE PROSPECTING LICENSE
☐
☐

2. Details of the activity(s) covered by the environmental clearance certificate:

[Note: Please attach plans to show the location and scope of the designated activity(s), and use additional sheets if necessary:

Title of Activity: MINERALS EXPLORATIONS ON EPL No. 6134, WALVIS BAY
Nature of Activity: MINING
Location of Activity: WALVIS BAY GEO COORDINATES -22.666667, 17.833333
Scale and Scope of Activity: MEDIUM ACTIVITIES INCLUDES; DRILLING, QUARRYING AND BULK LIMESTONE SAMPLING.

PART C: DECLARATION BY APPLICANT

I hereby certify that the particulars given above are correct and true to the best of my knowledge and belief. I understand the environmental clearance certificate may be suspended, amended or cancelled if any information given above is false, misleading, wrong or incomplete.

GABRIEL JOSEPH — LEAD CONSULTANT
Signature of Applicant — Full Name in Block Letters — Position

on behalf of CANDY CONSULTANCY CC AND GEO NAMIBIA MINERALS — 25/02/2021
Date

8/23/2021 Gmail - Your application is verified

Gmail

candy consultancy <candyconsultancy@gmail.com>

Your application is verified

1 message

Ministry of Environment and Tourism <eie@met.gov.na>
To: Candy Consultancy cc <candyconsultancy@gmail.com>

Sat, Aug 21, 2021 at 10:12 AM

REPUBLIC OF NAMIBIA
Ministry of Environment, Forestry & Tourism

2021-08-21

Dear Candy Consultancy cc,

This email serves to inform you that your application **APP-002916** has been verified

Taking the following into considerations:

- Location of the project
- Polution potential
- Scale of operation of the project

Please upload the following documments.

- Scoping Report
- EMP
- Consent letter or support doc from relevant Authority
- Proof of Consultation (Minutes, Newspaper adverts, etc)
- Project Site Area (map) with clear coordinates, e.g -22.664250° 14.551275°
- Curriculum Vitae of designated EAP to manage the assessment process as per Regulation 3 & 4

Please login onto our portal to upload required documents, if any
https://eia.met.gov.na

Thank you

Phillip Troskie Building

APPENDIX B: CONSULTANT CV's

Name of Consultant: **Gabriel Joseph**

Profession: **Environmental Health Practitioner/ Field Epidemiologist**

Date of Birth: **01/11/1988**

Nationality: **Namibian**

Membership in Professional bodies: **Allied Health Professional Councils of Namibia**

Key Qualifications:

Master of Philosophy in Environmental Management, key experiences include the following:

- Develop management system in Environmental Management and occupational Health and Safety
- Conduct Environmental Impact Assessments (EIAs) and Environmental plans
- Advices Institutions on occupational Health and Safety matters
- Emergency Preparedness and Response

Education		
Name of the Institution	Date attended	Degree Obtained/Certification
Polytechnic of Namibia	2011	B.Sc. Environmental Health Sciences
Stellenbosch University, SA	2014	PGD. Environmental Management
Emory University, USA	2015	Applied Epidemiology Certificate
Stellenbosch University	2017	Mphil. Environmental Management
University of Namibia	2018-2019	MSc. Applied Field Epidemiology and Laboratory Management
University of Delaware	2021	Leadership certificate in Civic Engagement (Mandela Washington Fellowship for young African Leaders)

Employment Record:

World Health Organization| NAPHS Consultant, August 2021-Date

Duties:

- Conduct a desk review of all relevant National Action Plan for Health Security (NAPHS) documents and related aspects
- Facilitate the integration of the NAPHS plan into the national health sector plan.
- Prepare and organize consultation visits to key stakeholders to collect data on national context for implementing the NAPHS
- Facilitate stakeholders mapping and engagement for resource mobilization required for implementing the NAPHS
- Participate in the monitoring & evaluation of IHR core capacities and periodical reporting on the NAPHS implementation in Namibia
- Provide technical guidance to the ministry of Health on activities related Emergency preparedness and response

Candy Consultancy cc| Lead Environmental Consultant, 2015 till to date

Duties:

- Develop management system in Environmental Management and occupational Health and Safety
- Conduct Environmental Impact Assessments (EIAs), Environmental plans and Public Health related research
- Advices Institutions on occupational Health and Safety matters
- Tender Documentation and Contract Administration for Services

Ministry of Health| Field Epidemiologist, 2017- August 2021

Duties:

- Oversee the implementation of an International Health Regulations in Namibia
- Emergency preparedness and response planning

- Conducting research and disease surveillance
- Technical advice and support on Emergency Preparedness and response during disease outbreak
- Managing and facilitate the operations of the Public Emergency Operation Centre
- Coordinate inter-sectoral collaboration with all relevant stakeholders on Emergency preparedness and response

Ministry of Health| Chief Environmental Health Practitioner, 2014-2017
Duties:

- Policies revision and development
- Standards setting
- Implementation co-ordination of International Health Regulations in Namibia
- Emergency preparedness and response planning
- Conducting research and disease surveillance
- Export and Import control to prevent public health hazards internationally
- Technical advice and support on Emergency Preparedness and response during disease outbreak
- Facilitate and coordinate port health trainings
- Inter-sectoral collaboration with all relevant stakeholders on Emergency preparedness and response

National Health Training Centre| Physics Lecturer, 2016-2017

Duties:

- Lecturing Health Physics for Environmental Health First Year Students
- Prepare lessons and continual assessments (test and assignment and examination) for students

Lüderitz Town Council |Environmental Officer 2012-2014

Duties:

- Managing waste collection team and oversee the collection of household waste throughout Lüderitz town
- Oversees and provide guidance in the effective control of all types of solid waste and removal of all types of domestic refuse.
- Supervises and administers the refuse collection by contractors.
- Monitors on a daily basis the sanitation situation in informal settlements and consult with the community on environmental issues and good sanitation practices.
- Organise clean-up campaigns with schools and general public in town

- Develop and manage waste management tools/system e.g Lüderitz Waste Management Plan
- Conduct health education programmes at school and pre-primary schools.
- Identifies and assesses risks from health hazards of the workplace and control safety structures and programmes of industries.
- Conduct port health inspection in foreign vessels to prevent the spread of diseases into Lüderitz town.
- Scrutinising building plans for approval
- Conduct Environmental auditing and review Environmental Impact Assessment projects within Lüderitz Constituency

Nnenesi Kgabi Consultancy |Assistant Researcher, January 2012 - March 2012

Duties:

- Conduct interviews on Generation of waste, Classification, Storage, Transportation, Disposal, Treatment, Legislation, and Awareness of electronic and hazardous waste throughout the Country (Namibia).

- Interpret and analyse collected date through Statistical Package for Social Sciences (SPSS)

Languages:

English: Excellent proficiency in all aspects
Oshiwambo: Excellent proficiency in all aspects
Afrikaans: Basic user in all aspects

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this data correctly describe me, my qualifications, and experience.

Gabriel Joseph
31/01/2022

Name of Consultant: **Lilian Kerosi Ondigo**

Profession: **Environmental Biologist**

Date of Birth: 02 October 1994

Nationality: Kenyan

Membership in Professional bodies: Namibian Youth Biodiversity Network

Key Qualification:

Bachelor Degree (Honours) Environmental Biology and Geology. Key experiences include the following:

- Conducting research on-site by taking measurements and monitoring
- Data collection, analysing, and presentation.
- Aid in developing wildlife management strategies, engendering plans for environmental conservation and preservation.
- Preparing and writing project proposals for organizations.
- Environmental education awareness

Education		
Name of the Institution	Date attended	Degree Obtained/Certification
University of Namibia	2012-2016	Bachelor Degree (Honours) Environmental Biology and Geology
University of Namibia	2017-2021	Master of Science in Biology

Employment Record:
Environmental Assessment Practitioner at Candy Consultancy cc (2018- date)
Duties:

- Undertaking field assessments depending on whether the assessment focuses on the social or ecological context
- Undertaking interviews with communities and heritage assessments to inform social I/APs
- Ecologically focused EIAPs using scientific research methods to collect species data
- Fauna and Flora identification
- Reporting findings and recommending whether development or activity goes ahead or not
- Conducting administrative work

- Carrying field survey and preparing EIA reports

Volunteer at the National Museum of Namibia (Natural science) (April 2020-Nov 2020)
Duties:

- Assisted with administrative activities
- Collected and organized and interpreted field data
- Developed and organized new collections to expand and improve educational and research facilities
- Maintained Museum database

Volunteer at the National Botanic Research Institute (2018-2019)
Duties:

- Assisted with administrative activities
- Demonstrated initiative and leadership by managing the base for periods of time when the supervisor was out of the office
- Developed vegetation mapping using a specialized software (QGIS)
- Database management, ensuring data entry and maintenance was carried out accurately and in compliance with the organizational code of practice.
- Conducted biodiversity assessment and monitoring of endangered species
- Specimen collection and mounting
- Giving herbarium presentations
- Scientific curation techniques
- Issuing plant permits, seed cleaning and sowing (exchange at Namib trees)
- Scientific report writing and presentation
- Assisting researchers with different research projects

FPM Consulting Services, January 2017 - October 2018
Duties:

- Assisted with administrative activities
- Planning and execution of environmental field studies and impact assessment
- Conduct fieldwork and survey to document the number and spread of various species according to tested ecological sampling techniques.
- Collect, analyse and interpret data from sites of potential development

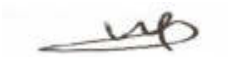
Languages:

English: Excellent proficient in all aspects

Afrikaans: Basic user in all aspects

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this data correctly describe me, my qualifications, and my experience.



Lilian Kerosi Ondigo, 01/02/2022

Name of the consultant: **Mr. Ferdinard Mwapopi**

Profession: **Environmental Management Specialist**

Date of Birth: **13.12.1981**

Nationality: **Namibian**

Membership in Professional bodies:

Nominated National Member for the UNFCCC Roster of Expert and received training on climate change reporting and reviewing (2014 – present)

Member of the National Biodiversity Strategy and Action Plan (NBSAP) for Namibia

Key Qualifications:

Mr. Ferdinand Mwapopi has more than 8 years of experience working in the private and public sector in Namibia, to improve environmental management practice, promote efficient and sustainable utilization of natural resources and contribute towards the achievement of sustainable development goals. Currently, he is working as a consultant in a role of a project coordinator for the Resource and Mobilization Project at the Ministry of Environment and Tourism. He is also lead consultant and director for FPM Environmental Consulting as well as consultant for Candy Consultancy where amongst other things perform Environmental Impact Assessment and Environmental Management Plan tasks. Ferdinand has worked in the environmental sector for over 8 years and he is well adept with environmental, health and safety management as well as risk management.

Ferdinand worked as an environmental officer at NAMDEB Diamonds Corporations where he was responsible for environmental research and environmental management system.

Education:

University of Stellenbosch (2010) – Masters of Philosophy in Environmental Management

University of the Western Cape (2007) – BSc Honours (Biodiversity and Conservation Biology

University of Namibia (2005) – BSc in Natural Resources (Fisheries and Aquatic Sciences)

Kolin Foundation Secondary School (2001) – Grade 12 (IGCSE)

Employment Record:

FPM Consulting Services - Lead Consultant and Director
2015 - Present

- Undertake environmental consultancies including environmental impact assessment, environmental and social management plans, feasibility studies, land use planning, Geographical Information System (GIS) and other environmental services.

Candy Consultancy - Consultant
2017 - Present

- Undertake environmental consultancies including environmental impact assessment, environmental and social management plans, feasibility studies, land use planning, Geographical Information System (GIS) and other environmental services.

Ministry of Environment and Tourism (Resource Mobilization Project) – Consultant
2015–2017

- Manage and implement the Resource Mobilization for Biodiversity Conservation Project jointly implemented by the Ministry of Environment and Tourism (MET) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) to improve capacity of Namibians in mobilizing resources for biodiversity conservation through the application of Natural Capital accounting and valuation of ecosystem services.
- Developing and monitoring of annual project work plans, and writing of periodic technical and management reports on project activities.

Ministry of Environment and Tourism (Climate Change project) - Project Technical Expert
2014 – 2015

- Provision of technical services and management of the First Biennial Update Report (FBUR) and Third National Communication (TNC) projects of Namibia with aim of ensuring that Namibia meets its obligation under the United Nations Framework Convention on Climate Change (UNFCCC) in terms of climate change reporting.
- Contributed to preparations, updating and monitoring of work plans and budgets.

- Contributed to the collection and analysis of greenhouse gas data and compilation of the reports including that of climate change mitigation and adaptation.

NAMDEB Diamond Corporation (Pty) - Senior Environmental Officer 2012 – 2014

- Management and coordinating the implementation of scientific research and monitoring programmes for all mining and exploration activities within Names Diamond Corporation.
- Keeping informed of global trends and environmental standards of best practices and interpreting their relevance for my area of responsibility.
- Reviewing progress with Environmental Management Programmes (EMPs) and reports thereon.

LANGUAGES

LANGUAGES	SPEAK				WRITE				READ			
	E	G	F	P	E	G	F	P	E	G	F	P
English	X				X				X			
Oshiwambo	X				X				X			
Afrikaans		X						X			X	
Portuguese			X					X			X	
Otjiherero			X					X			X	

E- Excellent G – Good F – Fair P - Poor

Certification:
I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and experience.

Date: (D/M/Y): 30/12/2021

Full name of Consultant: Ferdinard Mwapopi

APPENDIX C: BACKGROUND INFORMATION DOCUMENT (BID)

BACKGROUND INFORMATION DOCUMENT

Environmental Assessment (EA) for proposed minerals exploration on an Exclusive Prospecting License (EPL) No. 6134, ||Kharas Region

Project Information	
Project title	Exclusive Prospecting License (EPL) No. 6134, ||Kharas Region
Proponent	Geo Namib Minerals cc
Contact Person	Mr. Kanime Tuli +264 81 298 9118
Consultant:	Candy Consultancy cc
Consultant contact person	Gabriel Joseph +264813796358
Postal Address	P.O.Box 55226 Rocky Crest **Windhoek**
Email	liliankondigo@gmail.com or candyconsultancy@gmail.com

18th August 2021

Table of Contents

1. Project description and background

Geo Namib Minerals cc (The Proponent) has been granted with Exclusive Prospecting License (EPL) No. 6134 by the Ministry of Mines and Energy (MME). The tenure of the license is from 21 February 2019. The commodities for the EPL are base and rare metals, industrial minerals. The targeted rocks in EPL 6134 are the limestones of the Nama Group, and these are being targeted for prospecting of cement and industrial lime quality limestone and siliceous rocks.

The EPL is situated approximately 100 km west of Keetmanshoop along the national railway line and B4 highway to the port of Lüderitz in the ||Kharas Region. It covers a surface area of 49460.1777 Hectares. The approximate location of the EPL No. 6134 is shown in Figure 1.

Proposed exploration activities include:

1. Exploration drilling at various locations in each target area to be carried out as soon as the Environmental Clearance Certificate (ECC) has been granted. This will help establish the thickness and depth consistency of the limestone deposits, as well as to identify structures (e.g., faults) which may be water bearing.
2. Test quarrying and sampling by means of drilling and bulk sampling in select areas to be carried out. Limestone samples from different areas to be subjected for further geochemical testing and calcination. Calcinated lime to be subjected for further quality control tests to better quantify the quality of the resultant lime.

3. Ground electromagnetic and/ or resistivity survey to help delineate open geological structures (e.g., faults, major bedding planes, dykes, etc) which may bare groundwater. This data will be used to generate target sites for groundwater exploration drilling.

2. Legal requirements

Candy Consultancy cc has been appointed by Geo Namib Minerals cc (The Proponent) as an independent Environmental Assessment Practitioner based in Windhoek Namibia to undertake the EIA process. The EIA process for this assessment will be conducted in accordance with the Government Gazette No. 3966 in terms of the Environmental Management Act (Act 7 of 2007) Environmental Impact Assessment regulations.

The Proponent plans to conduct prospecting and exploration activities leading to the estimation and delineation of the target resource. Prospecting and exploration form part of the listed activities that may not be undertaken without an Environmental Clearance

Certificate (ECC). Thus, the proposed exploration at EPL No. 6134 is subjected to a Clearance Certificate to be issued by the Ministry of Environment, Forestry and Tourism (MET) upon submission of an Environmental Assessment Report (EAR) and draft Environmental Management Plan (EMP) to both MET and MME.

Under the Environmental Management Act (EMA) (2007) and its 2012 EIA Regulations, the proposed prospecting and exploration activities are listed activities that require an Environmental Clearance Certificate (ECC) from the Department of Environmental Affairs (DEA) of the Ministry of Environment, Forestry and Tourism (MET). The relevant listed activities as per EIA regulations 3 (3.2 & 3.3):

- *Other forms of mining or extraction of any natural resources whether regulated by law or not.*
- *Resource extraction, manipulation, conservation and related activities.*

3. Purpose of this document

The purpose of this Background Information Document (BID) is to provide a brief description of the project and EIA process that will be followed and to obtain comments and contributions from Interested and Affected Parties (I&APs) on the issues relating to the proposed EPL that will be undertaken between the towns of Keetmanshoop and Lüderitz, ||Kharas region, Namibia.

This document further indicates how you can become involved in the project, receive information, or raise issues that may concern and/or interest you. The sharing of information forms the basis of the Public Participation Process and offers you the opportunity to become actively involved in the project from the outset. The BID also provides an opportunity for I&APs to register for the EIA process and to submit any initial comments, concerns, or issues regarding the proposed project.

4. Location of the proposed EPL

EPL 6134 is located in the ||Kharas Region of Namibia, approximately 100 km west of Keetmanshoop along the national railway line and B4 highway to the port of Lüderitz (Figure 1). The coordinates for the EPL area are summarized in Table 2. Access to the property is provided by the railway, the B4 highway, the D3900 district gravel road, and several farm access gravel roads as shown in Figure 1.

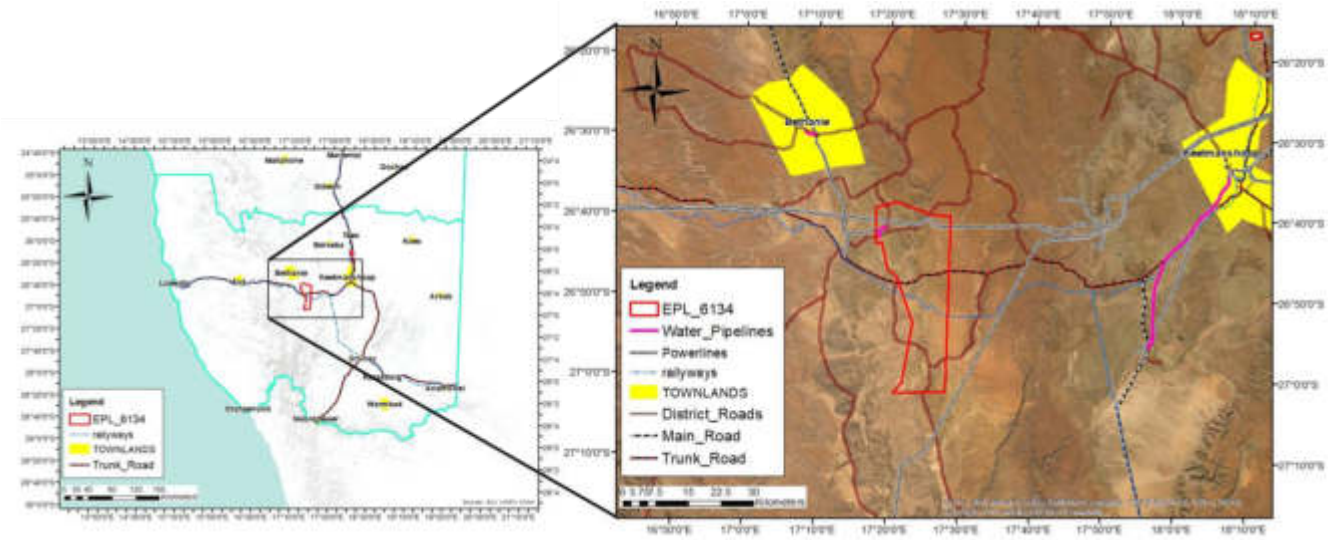


Figure 1. Locality of EPL 6134.

Table 21: Approximate UTM coordinates (Zone 33J) of EPL 6134 boundaries.

GPS Coordinates boundaries
• 7050181.21 m S / 728949.75 m E • 7051313.02 m S / 733887.04 m E • 7048296.08 m S / 742224.71 m E • 7048231.29 m S / 746076.24 m E • 7007790.46 m S / 744806.86 m E • 7007610.51 m S / 732801.79 m E • 7009961.87 m S / 734704.10 m E • 7023669.71 m S / 737184.11 m E • 7034083.28 m S / 733837.19 m E • 7035939.74 m S / 731543.99 m E • 7042233.81 m S / 730280.10 m E • 7041914.21 m S / 728900.58 m E

In terms of land ownership, EPL 6134 overlies the following commercial farms:

- Totem No. 92
- Feldschuhhorn West No. 90
- Feldschuhhorn East No. 88
- Sandverhaar No. 116
- Kesslersbrunn No. 78
- Kanas No. 77
- Klein Kanas No. 117 and
- Kosis No. 72 – communal land
- Schnepfenriver No. 73

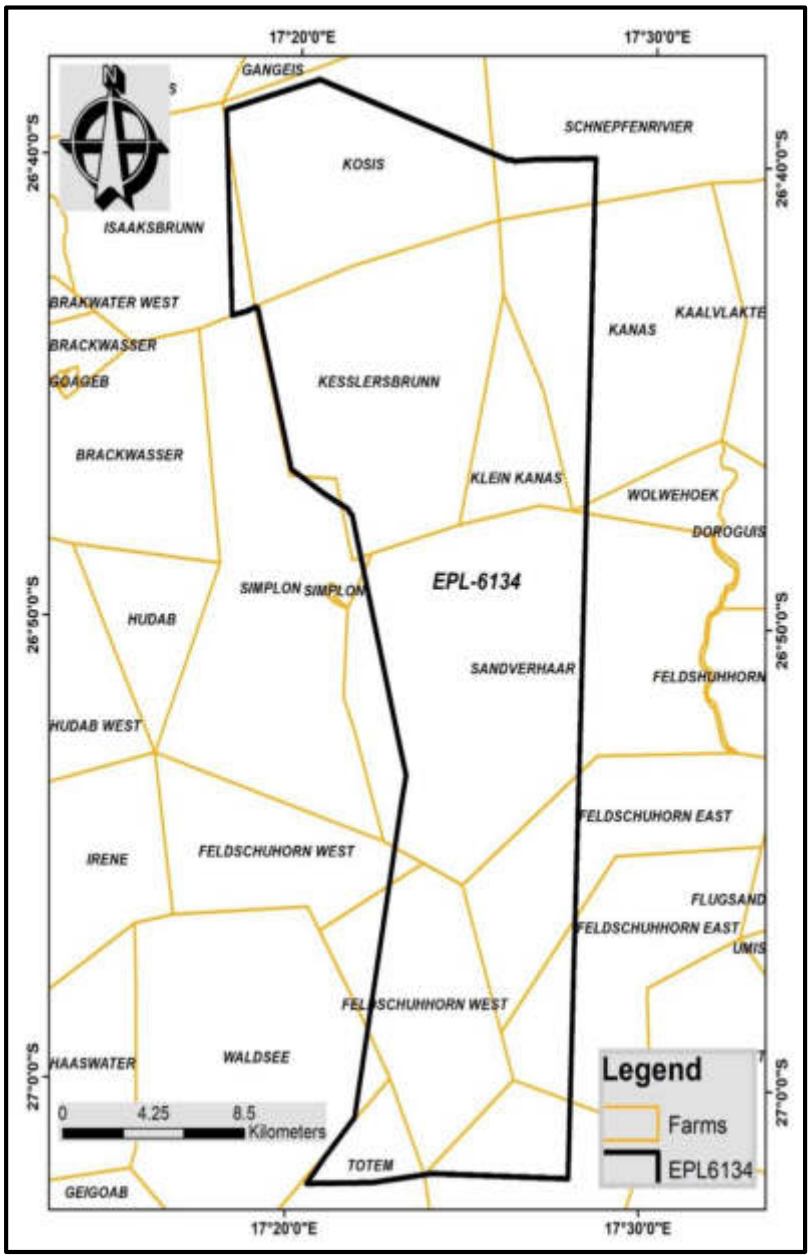


Figure 2: A spatial overview of the commercial farms EPL 6134 overlies.

5. The EIA Process

5.1 Public Participation

The public participation process aims to inform a wide range of I & Aps/stakeholders about the proposed EPL and the environmental process to be followed. It is a way to allow the public to exchange information and to express their views and concerns on the proposed EPL for which the EIA is being conducted. The public participation process assists in identifying potential issues and concerns that need to be addressed in the assessment process and the formulation of an environmental management plan.

The public and relevant Authorities will be notified of the proposed EPL through newspaper adverts, site notice, and direct consultation especially the neighbouring farm owners to the proposed site for the prospecting EPL and relevant stakeholders. In light of the current situation of the COVID-19 pandemic, online communications and public engagements will be utilized to prevent overcrowding as well to provide an opportunity for inclusive public participation. Candy Consultancy cc has made some consideration to conduct the EIA public meeting following the restriction measure put in place by the government i.e. not more than 100 people physically gathering. As such, to ensure the inclusion of all I&APs, the public meeting will be also online for which the online platform link will be made available in time to I&AP and other stakeholders.

5.2 Identification of Impacts

Environmental issues, concerns, issues, minerals exploration constraints will be identified using expert and professional judgment, project information, the experience of similar projects, site investigation, and consultation with authorities and stakeholders/ I&APs.

5.3 Impact Evaluation

The significance of environmental issues will be evaluated in terms of their expected extent, intensity, duration, and probability of occurrence.

5.4 Mitigation, Management Measures and monitoring

Mitigation measures will be formulated to prevent, manage, and minimize negative impacts to acceptable levels. Measures will be developed to maximize the positive impacts of the development. A monitoring plan will be developed to ensure the monitoring of mitigation measures implemented during the exploration drilling phase of the project.

5.5 Environmental Reporting

The draft scoping report will be made available online and identified community sites (Kosis Primary school and ||Kharas regional council) to all registered stakeholders/I&APs and relevant authorities for review and comments. After receiving the reviews and comments, a final environmental assessment report will be compiled in which the comments received will be incorporated and addressed.

5.6 Environmental Commissioner Decision

The final environmental assessment report together with the completed application form for environmental clearance certificate will be submitted to the office of the Environmental Commissioner who will then make a decision whether the prospecting EPL should go ahead or not based on the assessment presented and associated mitigation measures.

6. Anticipated preliminary impacts identified

The following provides a list of preliminary positive and negative impacts of the proposed Minerals exploration for all the dimensions of sustainable development i.e., economic, social, and environment, these will be investigated and addressed during the environmental impact assessment to lessen negative impacts and enhance the positive ones. Identified impacts will be managed through a developed Environmental Management Plan (EMP) which will be made available for public review together with the EIA report.

6.1 Positive impacts

- Creation of jobs to the locals (primary, secondary and even tertiary employment).
- Help boost local economic growth.
- Contribution to regional economic development.
- Open up other investment opportunities.

6.2 Negative impacts

- Changes in water quality.
- Socio-economic problems.

- Environmental pollution.
- Land use conflict.
- Generation of dust from the prospecting and exploration activities and access roads.
- Possible destruction of faunal habitats as well as removal of vegetation that may be encountered within the target areas.
- Potential health and safety risks associated with mishandling of handheld exploration equipment.

The potential impacts listed above were pre-identified. More potential impacts will be identified as the EA process progress i.e. upon site visit and consultations with the public. All impacts and public concerns/comments will be incorporated and addressed in the Environmental Assessment Report.

7. Your role as an interested and affected party

As an I &AP you are expected to do the following:

Register as an I&AP and provide your comments, concerns, or issues if there are any. Comments, concerns, or issues can be submitted in writing by completing the comments form or can raise in person during the public consultation meeting.

Attend a public meeting regarding this proposed EPL and obtain and contribute information about the project. Announcement for the date and venue of the public meeting will be advertised in the local newspaper and site poster which will be displayed on the site and other public spaces.

Proposed date: 04 September 2021 and Venue will be at Kosis Primary School

Review and provide comments if there are any on the draft scoping report.

Please complete the enclosed registration or comment form or contact Candy Consultancy cc to register as an I&AP.

8. Comment Form

COMMENT REGISTRATION FORM

Proposed minerals exploration Exclusive Prospecting License (EPL) No. 6134 approximately 100 km west of Keetmanshoop along the national railway line and B4 highway to the port of Lüderitz, ||Kharas Region

NAME

ORGANISATION

POSTAL ADDRESS

POSTAL CODE FAX NUMBER

TELEPHONE NUMBER CELL NUMBER

EMAIL

DATE SIGNATURE

I WOULD LIKE TO ATTEND PUBLIC MEETING YES NO

PLEASE IDENTIFY YOUR INTEREST IN THE PROPOSED PROJECT:

PLEASE WRITE YOUR COMMENTS, CONCERNS/SUGGESTIONS HERE:

Kindly return this completed document (with all requested details) to:

Candy Consultancy cc

Attention Mr. Gabriel Joseph **Physical address: 2295, Hannover street Windhoek**

Telephone: +264 81 379 6358

Email: candyconsultancy@gmail.com or liliankondigo@gmail.com

APPENDIX D: NEWS PAPER ADVERTS (NEW ERA AND REPUBLIKEIN

APPENDIX E: SITE NOTICE

PUBLIC NOTICE

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE MINERALS EXPLORATION ON EXCLUSIVE PROSPECTING LICENSE (EPL) NO. 6134, ||KHARAS REGION

Candy Consultancy cc hereby give notice to all potentially Interested and Affected Parties (I&APs) that an application will be made to Environmental Commissioner in terms of the Environmental Management Act (No 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 of 6 February 2012) for the following activity:

PROJECT NAME: Exploration work on Exclusive Prospecting License (EPL) 6134

PROJECT LOCATION: 100 km west of Keetmanshoop along the national railway line and B4 highway to the port of Lüderitz, ||Kharas Region

PROPONENT: Geo Namib Minerals cc

ENVIRONMENTAL CONSULTANT: Candy Consultancy cc

PROJECT DESCRIPTION:

The project will comprise the following activities:

1. Exploration drilling at various locations in each target area must be carried out as soon as the Environmental Clearance Certificate (ECC) has been granted.
2. Test quarrying and bulk sampling by means of blasting and bulk sampling in select areas.
3. Ground electromagnetic and resistivity survey to help delineate open geological structures which may bare groundwater. This data will be used to generate target sites for groundwater exploration drilling

Public Meeting:

Date: 04 September 2021

Time: 14h00

Venue: Kosis Community Hall

REGISTRATION OF I&APs AND SUBMISSION OF COMMENTS:

In line with Namibia's Environmental Management Act (No. 7 of 2007) and EIA regulations (GN 30 of 6 February 2012), all I&APs are hereby invited to register and submit their comments, concerns or questions. All I&APs will be provided with a Background Information Document (BID) consisting of descriptive information about the development activity. Should you wish to register as an I&AP, kindly contact Candy Consultancy cc on the contact details below. All prevention measures related to COVID-19 will be considered.

Lilian Ondigo, Tel: +264 (0) 81 826 8996

Email: lilianondigo@gmail.com or candyconsultancy@gmail.com

CLOSING DATE FOR COMMENTS: 19th September 2021

APPENDIX F: PUBLIC MEETING MINUTES & ATTENDANCE REGISTER

ENVIRONMENTAL ASSESSMENT (EA) FOR PROPOSED MINERALS EXPLORATION ON AN EXCLUSIVE PROSPECTING LICENSE (EPL) NO. 6134, ||KHARAS REGION

UNDERTAKING OF PUBLIC MEETING –

PROJECT: EXCLUSIVE PROSPECTING LICENSE (EPL) NO. 6134, ||KHARAS REGION
VENUE: KOSIS COMMUNITY HALL

DATE: 04/09/2021

TIME: 14:12-15:35

Facilitator:
Mr. Eteen - ||Kharas Regional Council Representative

EAP:
Mr. Gabriel Joseph and Ms. Lilian K. Ondigo - Candy Consulting CC

Attendees:
Please refer to attendance register in this document

Proceedings:

ITEM	DESCRIPTION	PERSON
1	**Welcome, Introductions & Project Background**	
	-All present were welcomed on behalf of the proponent and the Environmental Consultant and the agenda confirmed. -The proposed project was explained to all members present in terms of scope and scale. -The proponent highlighted the stage of the project and why the EIA was needed as part of the development	Mr. Gabriel Joseph
2	**Purpose of Meeting**	
	-The Environmental Impact Assessment process in Namibia was explained to the members in attendance. -Possible environmental impacts both negative and positive were alluded to the public in attendance as per environmental scoping conducted for the site. -Reasons for assessment were given -Legislations and regulations followed as part of the process were alluded. -The EAP explained the important role played by public and community members and how it has helped other developments in Namibia.	Mr. Gabriel Joseph

4	**Q & A Session**	
	-All members on the panel were introduced	

COMMENTATOR /I & A P:	COMMENT, QUESTION, QUERY, CONCERN RAISED:	Answers prepared
Kosis resident	• What is going to be done about the possible damages to the water connections?	• It was explained that all sensitive areas including water connections and power lines will not be hindered with.
Kosis resident	• How did you discover that this project site is a good area for limestone mining?	• It was answered that the proponent Geo-namib minerals cc is a geological company that specialize in rock and mineral identification. Moreover, following literature and doing a desktop study it has shown that there is a possibility of the occurrence of limestone. Therefore, the exploration is aimed at determining if this is true.
Kosis resident	• Since we are not sure if this project will transpire at this stage, why should we sign the comment form provided?	• It was explained that the form provides a standard way of getting involved through giving your comments or concerns however, it does not give us a go ahead.
Kosis resident	• If the exploration gets a go ahead will there be any job creation, and by approximately how many people? • Will the exploration include informal camps, and if people have to stay all sanitary needs will be required, so will they need local people to assist with some day-to-day activities?	• For exploration process it might be very minimal because at this stage mostly only experts are required and if there will be a need for some assistance it will be very minimal. This means job creation will be very low.
Kosis resident	• What methodology will be applied during the sample collecting process?	• Drilling, excavation and usage of detecting devices will be used.
Kosis resident	• Will you perhaps get the license before or after in order to come get the samples?	• As a listed activity by the ministry of Environment Forestry and Tourism (MET) this project will not undertake without the authorization by the ministry through an issuance of an Environmental Clearance Certificate (ECC).

Kosis resident	• If they give a go ahead for mining there is possible side effects such as noise pollution and dust, so if the resource is found in Kosis will we be relocated or what will happen?	• It was answered that if the limestone is found within Kosis community there will be a consultation through the government, ministry of Environment, Forestry and Tourism (MET), ministry of mines and local council to make sure if it's viable. In simple terms, these bodies will make sure that there is a sustainable development.
Kosis resident	• Where can I find further information regarding the EIA?	• We will produce the final report and send it to the community to scrutinize it.
Kosis resident	• When the prospecting process resumes who is going to be the responsible ministry?	• For the issuance of the Environmental Clearance Certificate (ECC) it will be done by the ministry of Environment, Forestry and Tourism (MET). However, for the mining stage the ministry of mines will come for inspection to ensure what is indicated in the report is implemented and then they will be a need for issuing a mining license.
Kosis resident	• The 19th September 2021 indicated on the site notice, this closing date what is it for?	• That's the last date for the comments and concerns for this project to be given in.
Kosis resident	• Locally if there is another company with EPL will they be allowed to collaborate for mining?	• Yes there is a possibility, but at the later stage.
Kosis resident	• Is limestone the only resource identified or the company is interested in?	• This is just an exploration stage meaning there might be a possibility of identifying other resources on site however, for now the EPL is only limited to limestone.
Kosis resident	• If you get the lime will it be exported raw or in a processed form?	• First of all they have to determine the quality of the lime. The question was answered that the lime will be processed at least to upgrade its value before exportation.
Mr. Christo	• Hi the Farm Kesslerbrunn is not interested in the mining on our farm. That's a NO from us	• Was noted.

NamWater	• Please register NamWater as an I&AP with the following contact details: Name: NP du Plessis; Email: plessisn@namwater.com.na; Contact number: +264811279040. Name: Jolanda Kamburona; Email: Kamburonaj@namwater.com.na; Contact number: +264811441528.	• Was noted.

Conclusions and Recommendations

- When the EIA scoping is ready it will be available to the proponent, the ||Kharas Regional Council and any members who are interested in receiving the document should send an email to the consultant.
- The EAP gave concluding remarks.
- The meeting was closed at: 15:35PM

Attendance register:

Candy Consultancy Cc
- Serving the Environment -

Candy Consultancy cc
P.O.Box 55226
Rocky Crest, Windhoek
Gabriel Joseph
Cell: +264813796358
Email: liliankondigo@gmail.com
or
candyconsultancy@gmail.com

Environmental Assessment (EA) for proposed minerals exploration on an Exclusive Prospecting License (EPL) No. 6134, ||Kharas Region

VENUE: KOSIS SETTLEMENT OFFICE .**TIME**:14:00 **DATE:** 04 September 2021

Starting 14:12

Welcoming

NAME	ORGANISATION/LOCATION	PHONE NUMBER	EMAIL:	SIGNATURE
Sylvester Clemente Johan	Kosis res	0818754320		[signature]
Steven Vries	Kosis res	0817782124		[signature]
Theophulis B. Frederik	Rep. Kosis authority	0817119642		[signature]
Andreas J. Donny	Kosis	0812660397		[signature]
Melvino Vries	Kosis	0814274428		[signature]
Maria Manda	Geo namib.	0812007846		[signature]
Steen	||Karas R. Council	6908614		[signature]
Adolf Ndalenonge	Geonamib	0811002180		[signature]
Fredrick Esterhuizen	Kosis	—		[signature]
Noach Eiseb	Kosis	—		
Patricia Afrikaner	Kosis	0813969427		[signature]
Juliana Witbooi	Kosis	0814177012		[signature]
Irvin S. Blom	Kosis	0812730098	BlomirvinSebastian@gmail.com	[signature]
Benedict Witbooi	Kosis	0813366113		[signature]
Nicholas Goliath	Kosis	0818371834		[signature]

Piet Coleman		0818644085		
Collin Boois	Kosis	0818207470		[signature]
Jeremy Clarke	Kosis	0818964433		[signature]
Leon Swartbooi	Kosis	0818501655		[signature]
Tomas Frederick	Kosis	0817347822		[signature]
A.S. Boois	Kosis	0817919731		A.S. Boois
D.R. Boois	Kosis	0817919731		Boois
R. Swartbooi	Kosis			R Swartbooi
N. Boois	Kosis	0812501932		
S. Eigub	Kosis	0817844039		N.Boois
T.D. [illegible]	Kosis			
H. Eigub	Kosis	0813821865		H Eigub
Lillian Ondigo	Candy Cons cc	0818268996		[signature]
Martha C [illegible]	Kosis	0812660387		[signature]
Deborah Kisling	Kosis	0813079430		Kisling
Wilma H. Kisling	Kosis	0817550011		Kisling
Helga Stoffel	Kosis	0818284607		Stoffel

Candy Consultancy Cc
- Serving the Environment -

Candy Consultancy cc
P.O.Box 55226
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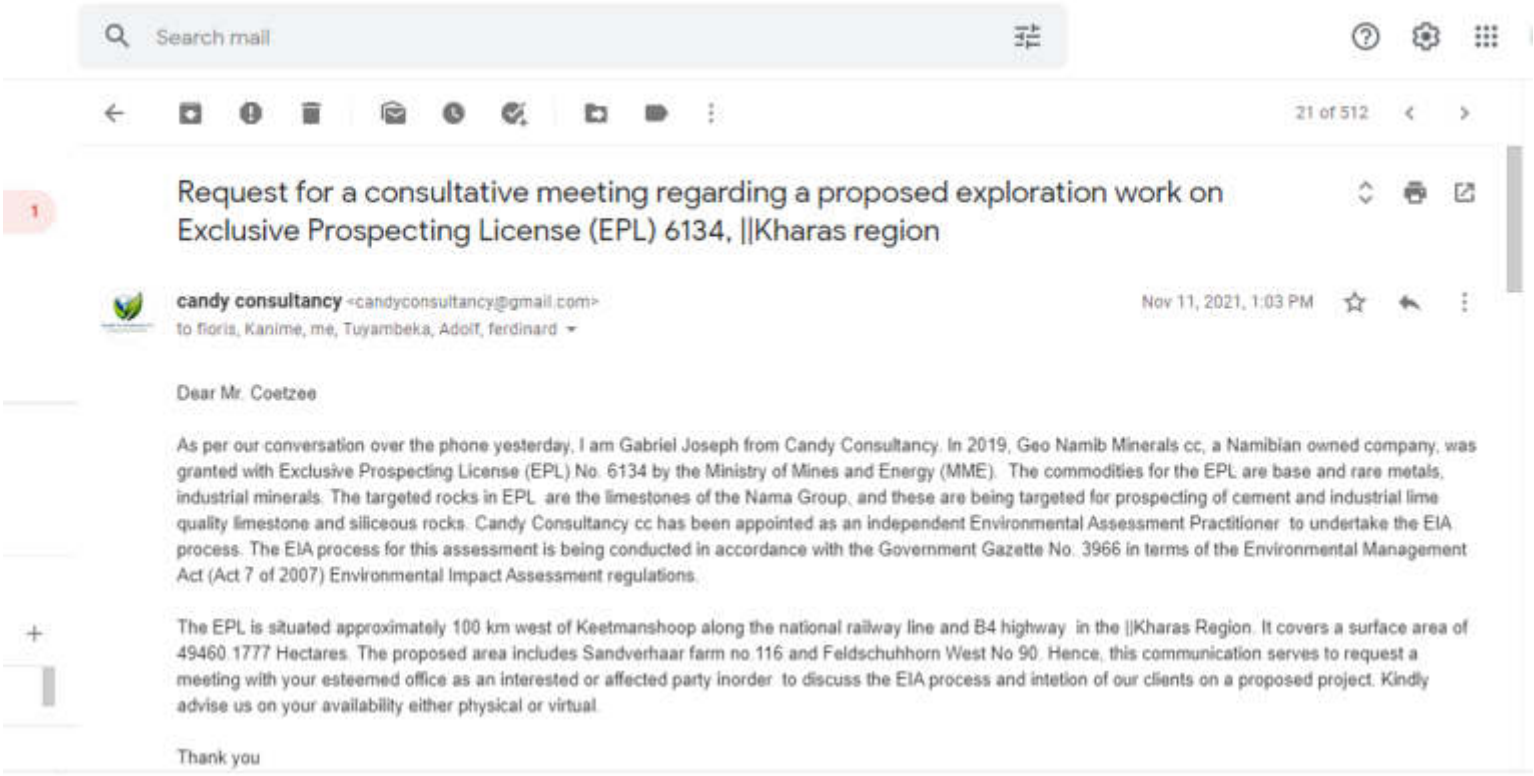
Gabriel Joseph
Cell: +264813796358
Email: liliankondigo@gmail.com
or
candyconsultancy@gmail.com

Environmental Assessment (EA) for proposed minerals exploration on an Exclusive Prospecting License (EPL) No. 6134, ||Kharas Region

VENUE: KOSIS SETTLEMENT OFFICE   **.TIME:**14:00   **DATE:** 04 September 2021

NAME	ORGANISATION/LOCATION	PHONE NUMBER	EMAIL:	SIGNATURE
GERSON GANIGSOR	KOSIS	081692 2562		[signature]
Witbooi	Kosis	—		[signature]
Antheney DREYER	Kosis	0814473425		[signature]
[illegible]	Kosis	081 [illegible]		[signature]
Imelda Morkel	Kosis	—		[signature]
Anna Jacobs	Kosis	0814187038		
Rinaldo SWARTZ	Kosis	–		[signature]
Romario Morkel	Kosis.	–		[signature]
Rossa Shaanika	Kosis	0812864233		[signature]
Daniel Frederick	Kosis	0814833220		[signature]
Ronald FREDERICK	Kosis	081 8425439		[signature]
Hulda Isaacks	KOSIS	0817009395		[signature]
Josefine Martha Cloete	Kosis	081-2083927		[signature]
Karel Hereis	Kosis	13-02-1980		[signature]
Lukas Boois	Kosis	0818703786		[signature]

APPENDIX G: EMAIL CORRESPONSE



Search mail

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Request for a consultative meeting regarding a proposed exploration work on Exclusive Prospecting License (EPL) 6134, ||Kharas region

candy consultancy <candyconsultancy@gmail.com> Nov 11, 2021, 1:03 PM

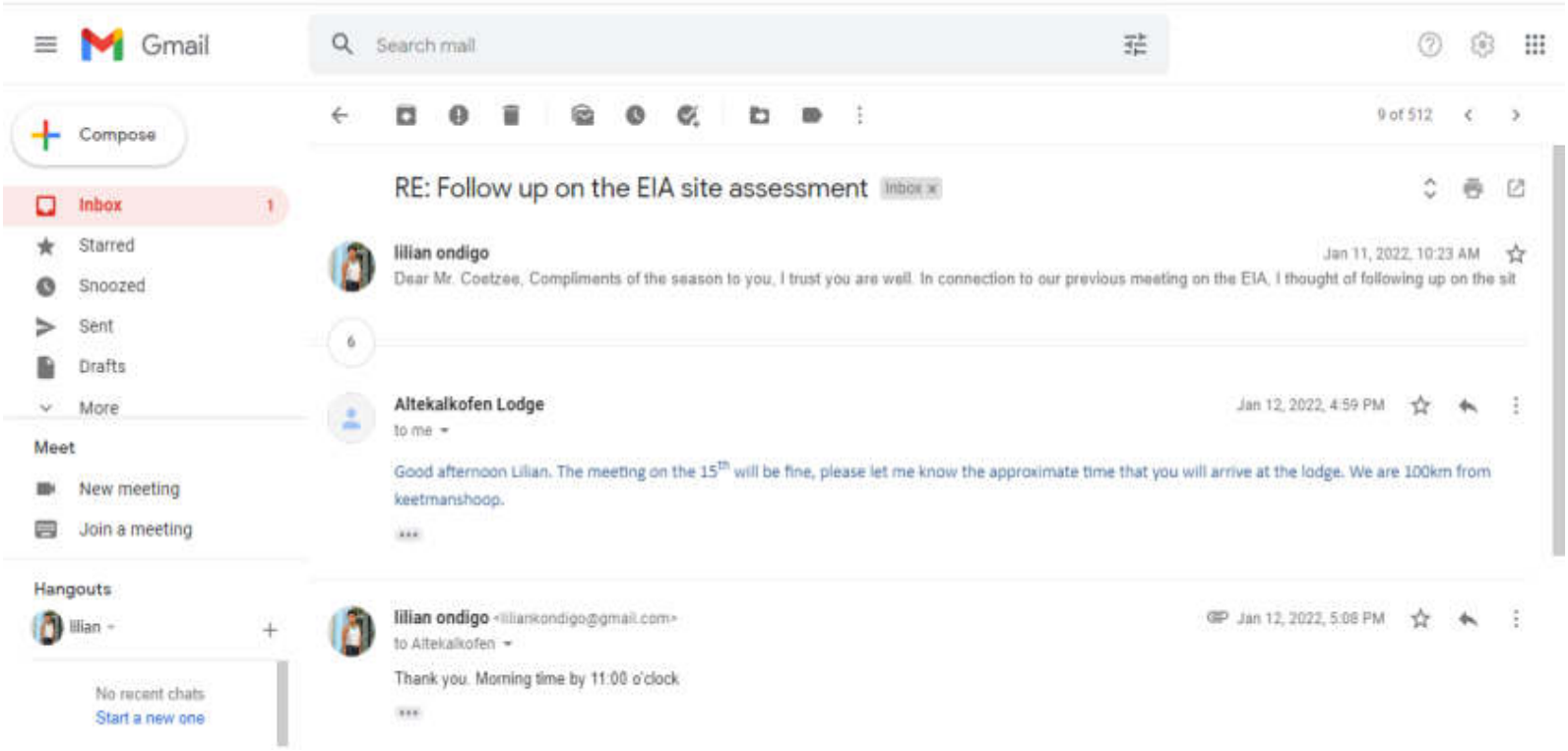
to floris, Kanime, me, Tuyambeka, Adolf, ferdinard

Dear Mr. Coetzee

As per our conversation over the phone yesterday, I am Gabriel Joseph from Candy Consultancy. In 2019, Geo Namib Minerals cc, a Namibian owned company, was granted with Exclusive Prospecting License (EPL) No. 6134 by the Ministry of Mines and Energy (MME). The commodities for the EPL are base and rare metals, industrial minerals. The targeted rocks in EPL are the limestones of the Nama Group, and these are being targeted for prospecting of cement and industrial lime quality limestone and siliceous rocks. Candy Consultancy cc has been appointed as an independent Environmental Assessment Practitioner to undertake the EIA process. The EIA process for this assessment is being conducted in accordance with the Government Gazette No. 3966 in terms of the Environmental Management Act (Act 7 of 2007) Environmental Impact Assessment regulations.

The EPL is situated approximately 100 km west of Keetmanshoop along the national railway line and B4 highway in the ||Kharas Region. It covers a surface area of 49460.1777 Hectares. The proposed area includes Sandverhaar farm no 116 and Feldschuhhorn West No 90. Hence, this communication serves to request a meeting with your esteemed office as an interested or affected party inorder to discuss the EIA process and intetion of our clients on a proposed project. Kindly advise us on your availability either physical or virtual.

Thank you


Gmail
Search mail
Compose
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9 of 512
RE: Follow up on the EIA site assessment
Inbox
lilian ondigo
Jan 11, 2022, 10:23 AM
Dear Mr. Coetzee, Compliments of the season to you, I trust you are well. In connection to our previous meeting on the EIA, I thought of following up on the sit
6
Altekalkofen Lodge
Jan 12, 2022, 4:59 PM
to me
Good afternoon Lilian. The meeting on the 15th will be fine, please let me know the approximate time that you will arrive at the lodge. We are 100km from keetmanshoop.
lilian ondigo
Jan 12, 2022, 5:08 PM
to Altekalkofen
Thank you. Morning time by 11:00 o'clock

FISHER QUARMBY & PFEIFER

ATTORNEYS CONVEYANCERS NOTARIES

Authorised and regulated by the Law Society of Namibia

•re': (061) 233 171 | Fax: (061) 228 286 | Email: info@fqp.com.na
C/o Robert Mugabe Avenue & Thorer Street, Entrance at No 43 Dr. Theo-Ben Gurirab Street, Windhoek, Namibia I
P.O. Box 37, Windhoek, Namibia

Our Reference: 00240355/LDU Your Reference:

Date: 27 January 2022

CANDY CONSULTANCY CC

WINDHOEK

E-MAIL: candvconsultancy@qmail.com

ATTENTION: MS L ONDIGO

Dear Madam

RE: EMP - EPL 6134

As you know we represent the owners of the Farm Sandverhaar Farming & Tourism (Pty) Ltd — the owners of Farm Sandverhaar No 200.

It appears that we do not have your complete "draft report" before you have visited the site.

We understand that you have visited our clients' farm in the meantime and await your final draft report for our comments.

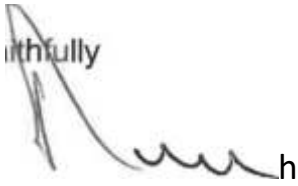
As a preliminary comment we advise as follows:

Due to the existence of a lodge on the Farm and the fact that our client is farming with game as well as the sensitive nature of the area, our clients will not agree to any bulk sampling by way of blasting. Blasting will have an irreparable effect on our clients' business activities and the game on the Farm which will result in severe losses.

Water is an extremely rare commodity in that part of the country, and the fact that more boreholes can completely deplete the current water source and contaminate same is not adequately addressed in your draft report and will have to be revisited.

We await your final draft report for our clients' input in due course.

Our clients' rights are reserved in toto.

Yours fa  h lly

FISHER, QUARMBY & PFEIFER PER: F P COETZEE

PARTNERS: Floris Petrus Coetzee, Alwyn Abraham Harmse, Jens Roland, Jerome John Gaya, Sean Vincent McCulloch
CONSULTANTS: Graham Stuart McCulloch, Christiaan Johan Gouws, Adriana Jacoba van der Merwe
ASSISTED BY: Caitlin Quinn, Zandré Johan Jacobus Duvenhage

APPENDIX H: ENVIRONMENTAL MANAGEMENT PLAN

Contents

1. AIM OF THE ENVIRONMENTAL MANAGEMENT (EMP)

Regulation 8 of the Environmental Management Act (EMA) (7 of 2007) Environmental Assessment Regulations (2012) requires that a draft Environmental Management Plan (EMP) be included as part of the Scoping Environmental Assessment (EA) process. A 'management plan' is defined as:

"a plan that describes how activities that may have significant environments effects on the environment are to be mitigated, controlled and monitored."

An EMP is one of the most important outputs of the EA process as it synthesizes all of the proposed mitigation and monitoring actions, set to a timeline and with specific assigned responsibilities. It provides a link between the impacts identified in the EIA Process and the required environmental management on the ground during project implementation and operation. It is important to note that an EMP is a legally binding document and a person who contravenes the provisions of this EMP may face imprisonment and/or a fine. This EMP is a living document and should be amended to adapt to address project changes and/or environmental conditions and feedback from compliance monitoring.

The purpose of this document is therefore to guide environmental management throughout the different phases of the proposed exploration activities, namely prospecting surveys, drilling, sampling (operation) and decommissioning phases:

- **Operation and maintenance** - This is the phase during operation where the proponent will exploring/prospecting for copper and undertaking related activities on site. It is also the phase during which maintenance of the area, equipment and machinery is done by Aloe Investments 238.
- **Environmental Monitoring Requirements** - In order to support and ensure that the proposed mitigation measures are achieving the desired results, a monitoring plan must be implemented alongside the mitigation plan.

- **Decommissioning** – This is the phase during which the exploration activities are ceased. The decommissioning of the exploration operations may be considered due to poor exploration results or declining in the copper market price. During the operational phase and before decommissioning, the Proponent will need to put site rehabilitation measures in place. Where necessary, stockpiling of top soil for rehabilitation at a later stage will be undertaken. Necessary landscaping of exploration areas will be undertaken upon completion of each phase of exploration (drilling, sampling etc.)

The draft EMP will be used by the Proponent and their employees and/or contractors in guiding them during the exploration work to ensure that impacts on the environment are avoided or limited if they cannot be avoided completely.

2. APPOINTED ENVIRONMENTAL ASSESSMENT PRACTITIONER

In order to satisfy the requirements of the EMA and its 2012 EIA Regulations, Geo Namib Minerals cc appointed Candy Consulting cc as an independent consulting company to conduct the required EIA process on their (Proponent's) behalf. The findings of the EIA process are incorporated into this report and the Environmental Management Plan (EMP) which is submitted as part of an application for an ECC to the Environmental Commissioner at the Department of Environmental Affairs (DEA), Ministry of Environment and Tourism (MET).

This document was compiled by Ms. Lilian K. Ondigo, and Mr. Gabriel Joseph, qualified Environmental Assessment Practitioners (EAPs). The details of the Proponent are presented in Table 1 below:

Table 1: Details of the Project Proponent

Full name of Proponent	Contact person & number	Postal Address	ECC Application for
Geo Namib Minerals cc	Mr. Kanime Tuli +264 81 298 9118	P.O.BOX 1642 Windhoek	Mineral exploration activities on Exclusive Prospecting License (EPL) No. 6134, ǁKharas Region

3. ENVIRONMENTAL ASSESSMENT LEGAL REQUIREMENTS

The content of the EMP must meet the requirements Section 8 (j) of the EIA Regulations. The EMP must address the potential environmental impacts of the proposed activity on the environment throughout the project life-cycle. It must also include a system for assessment of the effectiveness of monitoring and management arrangements after implementation.

Geo Namib Minerals cc therefore has the responsibility to ensure that the proposed activities as well as the EIA process conform to the principles of EMA and must ensure that employees also comply with such principles. Table 2 below lists the requirements of an EMP as stipulated by Section 8 (j) of the EIA Regulations, primarily on specific approvals and permits that may be required for the activities required of EPL 6134.

Table 2: Applicable legal requirements and permits to the activities of EPL 6134

Legislation/Policy/ Guideline	**Guideline Relevant Provisions**	**Implications for this project**
Environmental Management Act EMA (No 7 of 2007)	Requires that projects with significant environmental impacts are subject to an environmental assessment process (Section 27). Details principles which are to guide all EAs.	The EMA and its regulations should inform and guide this EA process. Should the ECC be issued to the Proponent, it should be renewed every 3 years, counting from the date of issue. Contact details at the Department of Environmental Affairs (DEA), Ministry of Environment, Forestry and Tourism (MET) Contact person(s) at MET and their details: Mr. Damian Nchindo (Chief and Senior Conservation Scientists and EIA Report Reviewer/evaluator) Tel.: +264 61 284 2717 Email: damian.nchindo@met.gov.na
Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878)	Details requirements for public consultation within a given environmental assessment process (GN 30 S21). Details the requirements for what should be included in a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15).	

Minerals (Prospecting and Mining) Act (No. 33 of 1992)	Section 48 (3): In order to enable the Minister to consider any application referred to in section 47 the Minister may (b) require the person concerned by notice in writing to (i) carry out or cause to be carried out such environmental impact studies as may be specified in the notice. Section 54(2): details provisions pertaining to the decommissioning or abandonment of a mine	The Proponent should ensure that all the necessary permits/authorisation for this exploration activities (if any) are obtained from the Ministry of Mines & Energy (MME) Contact person and details at the MME (Mining Commissioner) Mr. Erasmus Shivolo Tel.: +264 61 284 8167 Email: Erasmus.Shivolo@mme.gov.na
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)	Regulation 3(2)(b) states that "No person shall possess [sic] or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area"	The Proponent should obtain the necessary authorisation from the MME for the storage of fuel onsite. Carlo Mcleod (Ministry of Mines and Energy: Acting Director – Petroleum Affairs) Tel.: +264 61 284 8291
Labour Act 11 of 2007 Health and Safety Regulations (HSR) GN 156/1997 (GG 1617).	Adhere to all applicable provisions of the Labour Act and the Health and Safety regulations.	Division of Labour Service at the Ministry of Labour, Industrial Relations and Employment Creation Tel.: +264 61 206 6111
Forestry Act 12 of 2001, Amended Act 13 of 2005	Prohibits the removal of any vegetation within 100 m from a watercourse (Forestry Act S22 (1)). The Act prohibits the removal of and transport of various protected plant species.	Should there be protected plant species, which are known to occur within the project sites, these are required to be removed and a permit should be obtained from the nearest Forestry office (Ministry of Agriculture, Water & Forestry(MAWF)) prior to removing them. Contact Details at MAWF (Director of Forestry Mr. Joseph Hailwa Tel.: +264 61 208 7663 Email: Joseph.Hailwa@mawf.gov.na

National Heritage Act No. 76 of 1969	Call for the protection and conservation of heritage resources and artefacts.	Should any archaeological material, e.g. bones, old weapons/equipment etc. be found on the exploration sites, work should stop immediately and the National Heritage Council of Namibia must be informed as soon as possible. Contact Details at National Heritage Council of Namibia Mr. Salomon April or Dr. Alma Nankela Tel.: +264 81 244 375

4. EMP LIMITATIONS

This EMP has been drafted with the acknowledgment of the following limitations:

- This EMP has been drafted based on the Scoping Environmental Assessment (SEA) conducted for prospecting and exploration of limestone in the //Kharas Region. No specialist study was included as part of the environmental assessment.
- The mitigation measures recommended in this EMP document are based on the risks/impacts in the EIA Report which were identified based on the project description as provided by the Proponent, site investigation and public input. Should the scope of the proposed project change, the risks/impacts will have to be reassessed and mitigation measures provided accordingly.

The following chapter presents the project's roles and responsibilities to be assigned as deemed necessary by the Proponent pertaining to the implementation of this document.

5. EMP ROLES AND RESPONSIBILITIES

The Proponent is ultimately responsible for the implementation of the EMP. Alternatively, the Proponent may delegate this responsibility at any time, as they deem necessary during the project

phases. The delegated responsibility for the effective implementation of this EMP will rest on the following key individuals which may be fulfilled by the same person:

Public Relation Officer (PRO): The PRO or PRS will be responsible for the following tasks:

- Liaising between the affected property/land owners and/or occupiers of land and the Proponent.
- Ensure effective communication with stakeholders (affected landowners or occupiers of land), media (if necessary) and the public.
- Organising and overseeing public relations activities.
- Managing public relations issues.
- Preparing and submitting public relations reports, if required.
- Collaborating with personnel and maintaining project-related open communication among personnel.

Exploration Manager (as appropriate): This individual(s) will be responsible for the implementation of the prospecting and exploration program as appointed by the Proponent. The Manager's responsibilities will include:

- Ensure that the relevant commitments contained in the EMP Action Plans are adhered to.
- Setting up and managing the schedule for the day-to-day activities.
- Issuing fines to individuals who contravene EMP provisions and if necessary, removing such individuals from site.
- Ensure relevant staff is trained in procedures.
- Liaison with all relevant interested and affected parties/stakeholders.
- Maintain records of all relevant environmental documentation.
- Undertaking an annual review of the EMP and amending the document when necessary.

Alternatively, the Proponent may delegate an Environmental Officer (ECO) or Safety, Health and Environmental (SHE) Officer from within Geo Namib Minerals cc itself or they may appoint an external ECO to ensure EMP compliance throughout the project life cycle.

Environmental Control Officer (ECO) or Environmental, Health, Safety (SHE) Officer: The Proponent should assign the responsibility of overseeing the implementation of the whole EMP to a designated member of staff or external qualified and experienced person, referred to in this EMP as the Environmental Control Officer (ECO) or SHE Officer.

The ECO will have the following responsibilities:

- Management and facilitation of communication between the Proponent, PR and Interested and Affected Parties (I&APs) with regard to this EMP.
- Conducting site inspections (recommended frequency is monthly during the construction phase and bi-annually for the operation and maintenance) of all areas with respect to the implementation of this EMP (monitor and audit the implementation of the EMP).
- Advising the PR on the removal of person(s) and/or equipment not complying with the provisions of this EMP.
- Making recommendations to the PR with respect to the issuing of fines for contraventions of the EMP.
- Undertaking an annual review of the EMP and recommending additions and/or changes to this document.

5.1 Key Potential Environmental Impacts to be managed

From the assessment conducted, the following key potential negative impacts have been identified per project phase and are summarized in Table 3 below.

Table 3: Summary of key potential environmental impacts per project phase

Potential negative impacts identified in the EA	
1	Health and safety, visual, waste, noise
2	The monitoring of exploration work impacts in remote locations can be problematic due to difficulties of access

3	Loss of employment by workers o exploration and contribution to the national economy

5.2 Aim of the Environmental Management Plan Actions

The aim of the management actions of the EMP is to avoid potential negative impacts where possible. Where impacts cannot be avoided, measures are provided to reduce the significance of these impacts.

Management actions recommended for the potential impacts rated in the EIA carried out for the prospecting and exploration activities were based on the three project phases listed below:

- Operation (surveys, drilling, sampling…) phase (**Table 4**)
- Monitoring (**Table 5**)
- Decommissioning

The responsible persons at Geo Namib Minerals cc should assess these commitments in detail and should acknowledge their commitment to the specific management actions detailed in the phases given under the following subchapters.

5.3 Phase 1: Operation (and Maintenance) Phase Management Action Plans

The management action plans recommended for this phase are presented in Table 4 below.

Table 4: Management action plans for the Operation and Maintenance Phase

Environmental Feature	Impact	Management Actions	Responsible person(s) / Implementation responsibility	Timeframe (When?)
EMP training	Lack of EMP awareness and the implications thereof	• All personnel should be educated about the necessary health, safety and environmental considerations applicable to their respective works.	ECO / SHE Officer	Prior to site setup activities Ongoing
Monitoring	EMP non-compliance	• The implementation of this EMP should be monitored. • An EMP non-compliance penalty system should be implemented on site	ECO / SHE Officer	Throughout exploration phase
Communication	Lack of communication (proper liaison) between land/property owners and Proponent with regards to land use	• A Public Relation Officer (PRO) should be appointed to liaise with the direct or neighbouring landowners affected (overlain) by EPL 6134. • The PRO contact details should be provided to the landowners prior to undertaking activities for easy communication during the exploration works. • A clear communication procedure/plan which includes a grievance mechanism should be compiled.	Proponent	Pre-exploration activities. Throughout the exploration phase

		• A formal written agreement between the Proponent and landowners should be prepared before carrying out exploration on these lands. • Continued engagement with landowners / farm owners should be maintained and that grievances are properly addressed.		
Employment	Labour recruitment	• Preference for casual works during operational phase should be given to locals. • No recruitment should be done on site. • Equal opportunities should be given to both men and women	Human Resources Department	Pre-exploration works
Water Resources Use	Over abstraction leading to the depletion of local aquifer resources	• Water reuse/recycling methods should be implemented as far as practicable especially for drilling works. Water used for equipment should be captured and used for the cleaning of equipment if possible. • The Proponent should prioritize the use of reverse circulation (RC) technique as far as possible over diamond drilling which consumes a lot of water. • In the case that the exploration works will mainly rely on diamond	ECO	Throughout exploration phase
Visual (sense of place)	Visual	• All the necessary options to improve the aesthetic of the site should be considered and incorporated in the activities of the prospecting and exploration program.	Exploration Manager ECO / SHE Officer	Throughout exploration phase

Biodiversity	Loss of biodiversity	• Vegetation found on the site, but not in the targeted areas of exploration should not be removed, but left to preserve biodiversity on the site. • Even if a certain shrub or tree is found along drilling and sampling areas on sites, this does not mean that it should be removed. Therefore, care should be taken when exploring for target mineral without destroying the vegetation. • Where vegetation clearing and/or damage is unavoidable, permits for clearing protected plant species should be obtained from the nearest Forestry office. • Environmental awareness on the importance of biodiversity preservation should be provided to the workers. • Personnel should refrain from damaging or cutting down vegetation that is not within exploration site footprints and not necessarily require removal for the exploration activities. • The movement of vehicles and machinery should be restricted to existing roads and tracks to prevent unnecessary damage to the vegetation. • No personnel are allowed to, without permission cut down or damage trees belonging to the landowners.	ECO/SHE Officer/ /Exploration Manager; Workers	Throughout exploration phase
Local Services infrastructure	Damage to water pipelines	• Given the fact that some landowners might have buried services such as pipelines buried on their properties, the PRO should consult with owners to help in locating buried water pipelines on their properties (farms) in order to avoid	PRO ECO	Throughout the phase

		services damage by heavy trucks. Not only services infrastructure, but some sites on the lands may hold cultural values to the landowners, therefore these sites will need to be earmarked and avoided during exploration. • The project personnel should not to leave the land / farms' gates open. • Project equipment and machinery should not be left leaning on the farm fences (using the private farm/land fences as support).		
Air Quality	Generation of dust and emissions of hydrocarbons from vehicles may negatively affect the occupational and residential respiratory health	• Exploration schedule should be limited to between 08h00 and 17h00 in order to keep the vehicle-related dust level minimal in the area. • Vehicles and machinery on site should be serviced regularly to prevent emission of harmful gases • Vehicles and machinery on site should be serviced regularly to prevent emission of harmful	Exploration Manager ECO / SHE Officer	Throughout the phase
Waste Generation	General waste	• Workers should be sensitised to dispose of waste in a responsible manner and not to litter. • After each daily works, the Proponent should ensure that there are no waste left at the work site. • All domestic and general operational waste produced on a daily basis should be contained until such that time it will be transported to designated waste sites. • No waste may be buried or burned on site or anywhere else.		

		• The exploration site should be equipped with separate waste bins for hazardous and general waste/domestic. • A penalty system for irresponsible disposal of waste on site and anywhere in the area should implemented.		
	Solid waste during exploration operations	• Provision of animal-proof waste storage containers for storage of waste until disposal at a designated disposal site. • Personnel should dispose of waste in a responsible manner and not to litter. • The project sites should be equipped with different waste bins for each waste type (except for sewage that will be contained in the provided chemical toilets and/ or periodical type of pit latrine). • After each daily works, no waste should be left scattered on sites. • No waste may be buried or burned on site or anywhere else throughout the exploration drilling duration. • All domestic and general waste produced on a daily basis should be contained until such that time it will be transported to designated waste sites on a weekly basis or as required		

Health and Safety	Health and safety of the workers associated with exploration activities	• A comprehensive health and safety plan should be compiled for all exploration drilling activities. • All personnel should be trained in/sensitised to the potential health and safety risks associated with their respective jobs. • As part of their induction, the workers should be provided with an awareness training of the risks of mishandling equipment and materials on site. • When working on site, employees should be properly equipped with personal protective equipment (PPE) such as coveralls, gloves, safety boots, earplugs, safety glasses, etc. • No employee should be allowed to drink alcohol prior to and during working hours as this may lead to mishandling of equipment which results into injuries and other health and safety risks. • Employees should not be allowed on site if under the influence of alcohol.	Exploration Manager ECO / SHE Officer	Prior to site setup activities and as required throughout this phase
Health and safety	Accidental fire outbreak	• Portable fire extinguishers should be provided on site. • No open fires to be created by exploration personnel	ECO / SHE Officer	Throughout the phase
Noise	Potential increase in noise levels in the area of operations	• During exploration, the operational times should be set such that, no activity is carried out during the night or very early in the mornings. • Exploration drilling activities usually done every day of the week in order to meet exploration deadlines and because of this there will be no limitation to days allocated to this.	Exploration Manager ECO / SHE Officer	Throughout the phase

		However, in order to limit the noise from equipment and the movement of vehicles, exploration works should be limited to or only be done between 08h00 and 17h00. • When operating the drilling machinery onsite, workers should be equipped with appropriate personal protective equipment (PPE) such as earplugs to reduce noise exposure. • Machinery and vehicles should be serviced regularly so that they function normally without excessive noise.		
Vehicular Safety	The increase in traffic density and slow moving exploration trucks may lead to road accidents	• Drivers should drive slowly (40km/hour or less), and on the lookout for local livestock and wildlife • All drivers of the project vehicles should be in possession of valid and appropriate driving licenses to operate such vehicles. • Vehicle drivers should adhere to the road safety rules. • Project vehicles should be in a road worthy condition and serviced regularly in order to avoid accidents as a result of mechanical faults of vehicles. • Vehicle drivers should only make use of designated site access roads provided. • Vehicles drivers should not be allowed to operate vehicles while under the influence of alcohol. • All project related heavy trucks and others vehicles should only be parked within the allocated or designated project site boundaries.	ECO / SHE Officer	Throughout the phase

Soils	Land Degradation	• Spill control preventative measures should be put in place to manage soil contamination, no matter how small the amount of pollution (spill) is. • Site soils should not be disturbed, if not needed or related to the actual exploration works. • Overburden material should be handled more efficiently during exploration operations to avoid erosion when subjected erosional processes. • Prevent the creation of huge piles of waste materials by performing sequential backfilling where possible.	Exploration Manager ECO / SHE Officer	Throughout the phase
Water and soil pollution	Comprised water quality due to fuel and lubricant spills	• Regular inspections and servicing of vehicles and machinery off-site or in designated areas. • Fuels and lubricants must be stored in containers. If stored on the ground, these containers should be placed on a non-permeable surface (e.g. high-density polyethylene plastic sheets). • Polluted soil must be collected and transported away from the site to an approved and appropriately classified hazardous waste treatment facility. • Soil contamination should be minimised by lining the ground with durable plastic where necessary. • Washing of equipment contaminated hydrocarbons, as well as the washing and servicing of vehicles should take place at a dedicated area, where contaminants are prevented from contaminating soil or water resources.	ECO / SHE Officer	Throughout the phase

		• The exploration effluent/wet waste and hydrocarbons should be contained on site in designated containers and disposed of in accordance to municipal wastewater discharge standards, so that they do not reach to local groundwater systems. • Chemical used for drilling activities (in the drilling mud) should be non- hazardous and biodegradable (Resilient Environmental Solutions, 2019)		
Poaching of wildlife	Illegal hunting of wildlife (Poaching) by exploration workers	• Exploration personnel should not hunt wildlife on and around the project sites. • Site personnel should refrain from killing/poaching or snaring or intentionally disturbing local animals that may be found on and around the exploration sites. • Personnel are not allowed to kill or in any way disturb local livestock. • Any project personnel to be found poaching wildlife in the area should be reported to the nearest Police Station or Anti-Poaching Unit. • The Proponent should work together with the Police and/or the Anti-Poaching Unit in the area to raise awareness on the negative impact of poaching to the local and regional economy.	Exploration Manager ECO / SHE Officer	Throughout the phase

Archaeology and cultural heritage	Potential disturbance to archaeological and cultural heritage resources	• Exploration workers should be informed to not destroy /damage any unknown object found/discovered on site during exploration operations, but to report these objects to the Exploration Manager or ECO who then informs the National Heritage Council of Namibia (NHC). • If any archaeological materials are found, the NHC's Chance Find Procedure should be followed. Furthermore, the worksite manager should be notified and all on-site activities stopped immediately until such a time that the NHC / Archaeologist instructs the site personnel to continue with the work on site. • Caution should be exercised when carrying out excavations associated with the exploration activities in the event that archaeological/heritage remains are discovered.	Exploration Manager ECO / SHE Officer	Prior to site setup activities. Ongoing observation
HIV and AIDS (Other STIs)	Potential increase of prevalence of HIV and AIDS, as well as other STIs prevalence.	• The workers should be engaged in health talks and training about the dangers of engaging in unprotected sexual relations which results in contracting HIV/AIDS and other sexual related infections. • Provision of condoms and sex education through distribution of pamphlets. These pamphlets can be obtained from local health facilities.	SHE Officer	During site setup and throughout exploration phase

5.4 Phase 2: Monitoring Phase Management Action Plans

In order to support and ensure that the proposed mitigation measures are achieving the desired results, a monitoring plan must be implemented. The management action plans recommended for exploration work are presented in Table 5 below.

Table 5: Management action plans for the Monitoring Phase

Environmental Feature	Impact	Management Actions/Monitoring Objectives	Responsible person(s) / Implementation responsibility	Frequency	Threshold	Action if threshold is exceeded
Soils	Loss of top soil	• All measures should be considered to prevent the loss of top soil	SHE Officer / Exploration Manager	Weekly	Proliferation of new vehicle tracks	Rehabilitation of affected areas
Monitoring	EMP non-compliance	• The ECO or the Proponent/Contractor should monitor the implementation of this EMP to ensure compliance. • The ECO(s) should inspect the site throughout the exploration period and after completion.	ECO / SHE Officer	Daily	Increase in health, safety and environmental damage incidence	Daily safety talks, Remedy the consequences
Biodiversity	Loss of biodiversity	• Clear only footprint areas to maintain as much of the remaining natural vegetation on site and to prevent loss of habitat outside areas of interest.	ECO Workers involved in this phase	Weekly	Vegetation clearance outside of marked areas.	Rehabilitation of affected areas to the satisfaction of the SHE Officer

		• No equipment should be left leaning on or on top of the site shrubs or trees during and after exploration work				
Health and Safety	Health and safety of the workers	• Exploration workers should be trained on how to handle materials and equipment on site (if they do not already know how to) in order to avoid injuries. • Exploration equipment and materials transported to site should be securely fastened to the vehicles (trucks and cars). This is to ensure that the materials and equipment do not fall off the vehicles and cause injuries to anyone while transporting them. • The proponent and ECO/SHE Officer should ensure that all personnel are provided with appropriate personal protective equipment (PPE), such as gloves, safety boots, safety glasses and hard hats at all times during exploration (operation) hours on site to prevent serious injuries or loss of life	ECO / SHE Officer Workers involved in this phase	Daily/Weekly	Health and safety incident	Remedy the consequences

		• No employee should be allowed to drink alcohol prior to and during working hours as this may lead to mishandling of equipment which results into injuries and other health and safety risks.				
Neighbours to the site	Disturbance	• Exploration works schedule should be limited to normal working hours, between 08h00 and 17h00. This is to ensure generated noise does not disturb residents during home hours.	ECO Exploration Manager	Weekly	A logged complaint about excessive noise	Revision of site activities
Waste	Environmental Pollution	• The exploration site should be kept tidy at all times. • All domestic and general construction waste produced on a daily basis should be cleaned and contained daily to prevent environmental pollution. • Separate waste containers (bins) for hazardous and domestic / general waste must be provided on site to avoid mixing of waste	ECO/SHE Officer	Daily	Visible littering around project site A logged complaint	Clean-up of the affected areas and ensuring exploration workers utilise waste containers provided.
Transport		• Exploration project workers will be transported, in an SUV/ bus (or	ECO/ SHE Officer	Daily	A logged complaint about	

		similar suitable passenger vehicle) to and from site prevent inhaling of dust.			bad form of transport	
HIV and AIDS or STIs infections	Potential increase in HIV and AIDS prevalence	• To prevent new infections in the area	SHE Officer	Monthly		
Vehicular traffic safety	Increase in local traffic flow	• All drivers of the project vehicles should be in possession of valid and appropriate driving licenses to operate such vehicles. • Project vehicles should be in a road worthy condition and serviced regularly in order to avoid accidents as a result of mechanical faults of vehicles. • Vehicles drivers should not be allowed to operate vehicles while under the influence of alcohol. • No heavy trucks or project related vehicles should be parked next to the residents' properties or obstruct the local traffic in any way.	ECO/ SHE Officer	Weekly	A logged complaint about traffic increase or damage to RA roads	Find alternative access roads for the team. Rehabilitation of affected roads

5.5 Phase 3: Decommissioning Phase

Decommissioning and rehabilitation will involve the following:

- Capping or backfilling of all drilled holes with loose materials
- Collection and disposal of domestic waste at the nearest solid waste disposal site.
- Levelling of any topsoil stockpiled during exploration activities.
- Any temporary work camps setup should be dismantled, and the area rehabilitated as far as practicable, to their original state.

6. ENVIRONMENTAL MONITORING

In order to reduce the "medium" and maintain the "low" significance ratings of impacts identified and assessed in the EIA report, a bi-annual EMP compliance audit should be undertaken throughout the project cycle. The first bi-annual audit exercise should be done counting 6 months from the date of ECC issuance. Monitoring reports are to be compiled and submitted to the Department of Environmental Affairs (DEA) for archiving. This practice will make the ECC renewal easy when it is about to expire. Therefore, Geo Namib Minerals cc should effectively monitor and submit the reports to the DEA. The submission is not only done for record keeping purposes, but also in compliance with the environmental legislation.

7. CONCLUSIONS

The potential positive and negative impacts stemming from the proposed exploration activities were identified, assessed and mitigation measures made thereof. The mitigation measures recommended in this report and management action plans provided in the draft EMP, can be deemed sufficient to avoid and/or reduce (where impact avoidance impossible) the risks to acceptable levels. Candy Consultancy cc is therefore confident that these measures are sufficient and thus recommends that the Proponent be issued with the Environmental Clearance Certificate (ECC) to enable the exploration works on EPL 6134. However, the ECC should be issued on condition that the provided management measures and action plans are effectively implemented on site. Most importantly, monitoring of the environmental components described in the impact assessment chapter should be conducted by the Proponent and applicable Competent Authority.

This is to ensure that all potential impacts identified in this study and other impacts that might arise during implementation are properly identified in time and addressed. Lastly, should the ECC be issued, the Proponent will be expected to be compliant with the ECC conditions as well as legal requirements governing the mineral exploration and related activities.

APPENDIX I: NOTICE OF SCOPING REVIEW TO I&Aps

ENVIRONMENTAL SCOPING REPORT REVIEW

For

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE MINERALS EXPLORATION ON EXCLUSIVE PROSPECTING LICENSE (EPL) NO. 6134, ||KHARAS REGION

Candy Consultancy cc hereby giving a notice to all potential Interested and Affected Parties (I&APs) that the scoping report for the above mentioned exploration is available for review. Hence, I & A parties are requested to register any concern or issue in order to be included in the final report of the Environmental Impact Assessment.

The Scoping report will be available at ||Kharas regional Offices in Keetmanshoop, and Kosis Community Office at Kosis settlement.

The electronic copy will be emailed on request via email to liliankondigo@gmail.com or candyconsultancy@gmail.com

For more information or questions, please contact **Lilian**, at +264 (0) 81 826 8996

CLOSING DATE FOR COMMENTS: 09 February 2022

APPENDIX J: ARCHAEOLOGICAL REPORT

PHASE 1 ARCHAEOLOGICAL AND CULTURAL IMPACT

ASSESSMENT REPORT FOR MINERALS EXPLORATION ON AN EXCLUSIVE PROSPECTING LICENSE (EPL) NO. 6134, KHARAS REGION, NAMIBIA

Compiled by:

Henry Nakale [Bachelor of Arts Honours Degree in Archaeology, Museums and Heritage Studies] (GZU), [Bachelor of Social Science in Heritage and Museum Studies] (UP), [Masters of Social Science in Tangible Heritage Conservation & Management] (UP).

and

Dr Mowa Eliot, Maritime Archaeology University of Bristol. PhD Archaeology (UP).

Compiled for:

Geo Namib Minerals cc

Item	Description
Proposed development and location	**Geo Namib Minerals cc (The Proponent)** is intending to conduct exploration and drilling activities on Exclusive Prospecting License (EPL) 6134 to explore for mineral limestone. The EPL is situated approximately 100 km west of Keetmanshoop along the national railway line and B4 highway to the port of Lüderitz in the //Kharas Region. The EPL covers a surface area of 49460.1777 Hectares and is situated in private and communal owned land
Title	**ASSESSMENT REPORT FOR MINERALS EXPLORATION ON AN EXCLUSIVE PROSPECTING LICENSE (EPL) NO. 6134, ||KHARAS REGION, NAMIBIA**
Purpose of the study	The purpose of this document is an Archaeological and Heritage Impact Assessment report that describes the cultural values and heritage factors that may be impacted on by the proposed exploration activities.
Coordinates	See table on page 4
Municipalities	Keetmanshoop, //Kharas Region
Predominant land use of surrounding area	Farming and Mining
Proponent	Geo Namib Minerals cc
Heritage Consultant	Omapipi Tageya Heritage Consultancy & ESM Cultural Heritage Consultants
Date of Report	1 January 2022

Contact person	Henry Nakale +264816680633
Author(s) identification	Henry Nakale, Dr. Eliot Mowa and Henry Chiwaura (Archaeologists and Heritage specialists)
Project Number	011

GPS Coordinates boundaries
• 7050181.21 m S / 728949.75 m E • 7051313.02 m S / 733887.04 m E • 7048296.08 m S / 742224.71 m E • 7048231.29 m S / 746076.24 m E • 7007790.46 m S / 744806.86 m E • 7007610.51 m S / 732801.79 m E • 7009961.87 m S / 734704.10 m E • 7023669.71 m S / 737184.11 m E • 7034083.28 m S / 733837.19 m E • 7035939.74 m S / 731543.99 m E • 7042233.81 m S / 730280.10 m E • 7041914.21 m S / 728900.58 m E

In terms of land ownership, EPL 6134 overlies the following commercial farms:

- Totem No. 92
- Feldschuhhorn West No. 90
- Feldschuhhorn East No. 88
- Sandverhaar No. 116
- Kesslersbrunn No. 78
- Kanas No. 77

- Klein Kanas No. 117 and
- Kosis No. 72 – communal land
- Schnepfenriver No. 73

Copyright

Authorship: This A/HIA Report has been prepared by Mr. Henry Nakale and Dr. Eliot Mowa. The report is for the review of the National Heritage Council of Namibia.

Geographic Co-ordinate Information: Geographic co-ordinates in this report were obtained using a hand-held Garmin Global Positioning System device. The manufacturer states that these devices are accurate to within +/- 5 m.

Maps: Maps included in this report use data extracted from the NTS Map and Google Earth Pro.

Disclaimer: The Authors are not responsible for omissions and inconsistencies that may result from information not available at the time this report was prepared.

The Archaeological and Heritage Impact Assessment Study was carried out within the context of tangible and intangible cultural heritage resources as defined by the National Heritage Council Regulations and Guidelines as to the authorisation of proposed exploration project being proposed by Geo Namib Minerals cc.

Signed by:

HNakale

Table of Contents

1. Introduction

ESM Cultural Heritage Consultants (ESM CHC) was appointed on behalf of the proponent to conduct a Heritage Impact Assessment (AIA) at the Exclusive Prospecting License (EPL) 6134.The EPL is situated approximately 100 km west of Keetmanshoop along the national railway line and B4 highway to the port of Lüderitz in the //Kharas Region. The EPL covers a surface area of 49460.1777 hectares respectively.

Geo Namib Minerals cc., hereinafter referred to as the proponent intends to carry out the following activity:

- **To undertake exploration and drilling activities on Exclusive Prospecting License (EPL) 6134 to explore for mineral limestone. The commodities for the EPL are base and rare metals as well as industrial minerals. The targeted rocks in EPL 6134 are the limestones of the Nama Group, and these are being targeted for prospecting of cement and industrial lime quality limestone and siliceous rocks.**

Due to the destructive tendency of such exploration activities, which may include earth moving/ land alteration operations, it is a pre-requisite to conduct an Archaeological and/ or Heritage Impact Assessment (AIA) as obligated by the National Heritage Act, Act No. 27 of 2004 and, in part, by the Environmental Management Act, Act No. 7 of 2007. The main thrust of the provisions of the aforementioned legislations is to protect and salvage cultural/ archaeological and environmental resources from potential destruction resulting from exploration or mining activities. It was against this background that an Archaeological Impact Assessment (AIA) was carried out on EPL 6134 to fulfill the following objectives:

a) To identify and document cultural/ archaeological materials and sites occurring in the area within and around the EPL.

b) To assess the nature and scale of archaeological impact of the exploration activities to heritage resources,

c) To suggest some conservation strategies for the cultural heritage resources that might occur in the area proposed for explorations which can be potentially destroyed in the course of such activities.

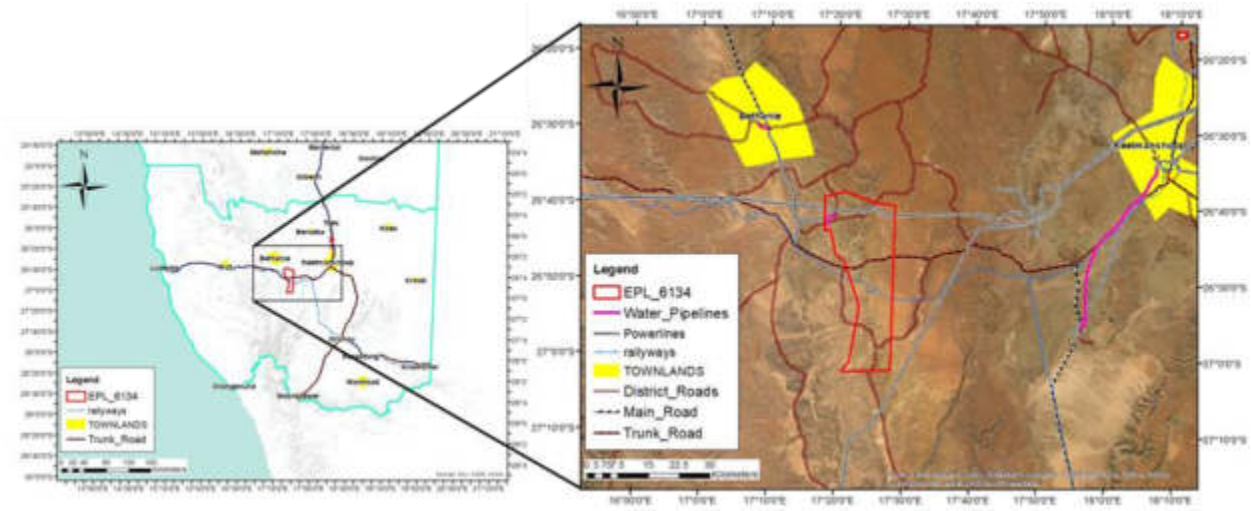


Figure 8. Locality Maps of EPL 6134. (Source: Candy Consultancy cc 2022).

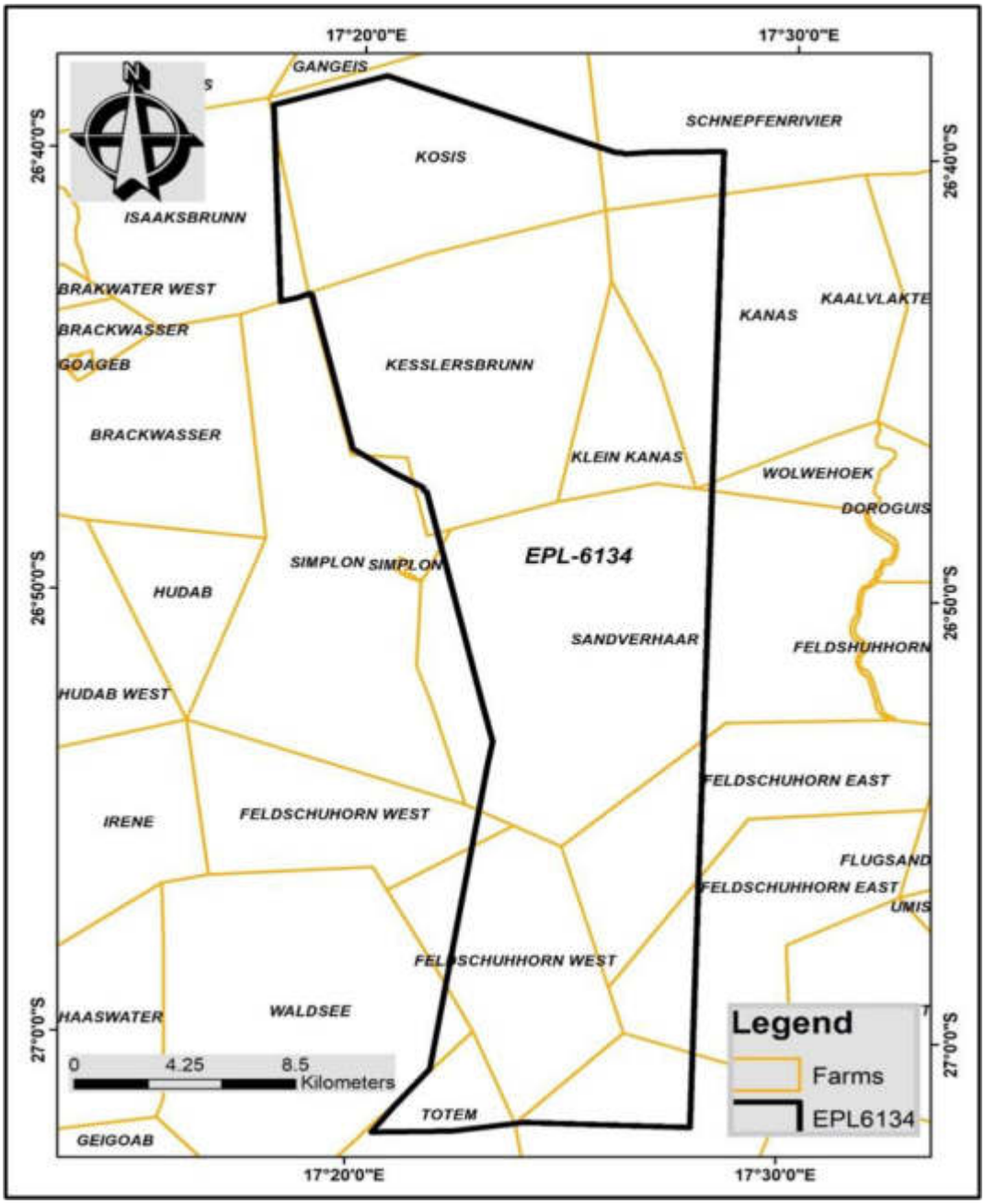


Figure 2: A spatial overview of the commercial farms EPL 6134 overlies. (Source: Candy Consultancy cc 2022).

2. Legislations

In most cases where the aspect of mining is involved, cultural and archaeological evidence located within areas earmarked for development or mining usually face the danger of either complete erasure or total destruction. The legal instrument for the protection of heritage sites and objects in Namibia is the National Heritage Act (No. 27 of 2004).

In order to ensure that this unique heritage of our past is protected and well documented, the National Heritage Act 27 of 2004 and EIA Terms of Reference in relation to the assessment of impacts of the proposed development on the cultural and heritage resources associated with the receiving environment shall be used to guide the exploration exercise. The statutory mandate of heritage impact assessment studies is to encourage and facilitate the protection and conservation of archaeological and cultural heritage sites, in accordance with the provisions of the National Heritage Act, Act 27 of 2004 and Environmental Management Act (EMA) No. 7 of 2007 and its 2012 EIA Regulations. The National Heritage Act (Section 1 of 2004) defines heritage resources as those of geological and rare objects; paleontological; archaeological; ethnographic objects; historical objects/sites; maritime heritage; built monuments; mining sites as well as objects of scientific interests.

3. Approach to study

3.1 Terms of Reference

The main task of the archaeological survey and assessment was to identify and record all sensitive archaeological sites within the limits of EPL 6134 that could be negatively affected by the above – mentioned project. The assessment also intended to establish heritage significance of possible resources and assess their vulnerability, estimates the extent of the possible impacts and establish mitigation measures. This study is intended to satisfy the requirements of the Environmental Management Act (7 of 2007), and those of the National Heritage Act (27 of 2004).

3.2 Methodology

This Heritage & Archaeological Impact Assessment followed desktop-based assessments and field surveys. These methodologies are standards for environmental and heritage assessment in Namibia, which are in line with international best practices. Desktop information was fashioned from current and existing heritage archives. These were taken from existing heritage records

comprising those from National Heritage Council, archaeological GIS spatial data and record that has been substantially exposed during the last decades, by a series of detailed archaeological assessments carried out in the during the mineral investigation and mining operations, and the development of infrastructure required by these operations. These sources were then supplemented by site visit field work within EPL 6134.

Sensitivity and susceptibility rating scales, aimed at establishing the nature of vulnerability and sensitivity of heritage resources that are likely to be impacted by the exploration activities, were adopted as per assessment objectives. Their vulnerability to the disturbance in the course of exploration that includes drilling was evaluated according to parallel 0-5 scales, abridged in Table 1.

Table 1: Rating scales for the assessment of archaeological significance and vulnerability as developed by the QRN.

Significance Rating
0 No heritage significance
1 Disturbed or secondary context, without diagnostic materials
2 Isolated minor finds in undisturbed primary context, with diagnostic materials
3 Archaeological and paleontological site (s) forming part of an identifiable local distribution or group
4 Multi-component site (s), or central site (s) with high research potential
5 Major archaeological or paleontological site (s) containing unique evidence of high regional significances
Vulnerability Rating
0 Not vulnerable
1 No threat posed by current or proposed development activities
2 Low or indirect threat from possible consequences of development (e.g., soil erosion)

3	Probable threat from inadvertent disturbance due to proximity of development
4	High likelihood of partial disturbance or destruction due to close proximity of development
5	Direct and certain threat of major disturbance or total destruction

Concerning each specific source of impact risk to heritage resources, the assessment methodology estimated the extent of the impact, the magnitude of impact, and the duration of these impacts. The scales of estimation are set out and explained in Table 2.

Table 2: Assessment criteria for the evaluation of cumulative impacts on archaeological sites developed by the QRN.

CRITERIA	CATEGORY	DESCRIPTION
Extent or spatial influence of impact	**National** **Regional** **Local**	Within Namibia Within the Region On site or within 200 m of the impact site impact
Magnitude of impact (at the indicated spatial scale)	**High** **Medium** **Low** **Very Low** **Zero**	Social and/or natural functions and/ or processes are severely altered Social and/or natural functions and/ or processes are notably altered Social and/or natural functions and/ or processes are slightly altered Social and/or natural functions and/ or processes are negligibly altered

		Social and/or natural functions and/ or processes remain unaltered
Duration of impact	**Short Term** **Medium Term** **Long Term**	Up to 3 years 4 to 10 years after construction More than 10 years after construction

4. Assumptions and Limitations

This heritage impact assessment described here relies on desktop studies and supported by field assessment undertaken. It is possible to predict the likely occurrence of further archaeological sites with some accuracy and to present a general statement of the local archaeological site distribution. Nevertheless, it is critical as a precautionary measure and best practice, we are recommending the proponent to strictly follow the chance find procedure as the project progresses should any archaeological objects be found during drilling and trenching. The Chance finds procedure is outlined in the National Heritage Council booklet, (2017) and the proponent will be supplied with a copy. Failure to follow and implement such procedure will result in appropriate action being taken against the proponent as per the Heritage Act of 2004.

5. Brief heritage setting of the Project Area

Southern part of Namibia is semi – aridity and this affected the permanent settlement during the pre – colonial period, the area in consideration was hardly occupied, thus it presents little evidence of human occupation during this era Kinahan (2017). However, things changed during the colonial period, especially with the establishment of the railway from the town of Keetmanshoop to the diamond towns during the 19th century. A limestone processing plant was built at farm Sandverhaar, today, the railway settlement and the limestone processing remain dominate the visible – heritage characters of the area.

The regional sequence is simplified as follows; Early to mid-Pleistocene (ca. 2my1to 0.128my; OIS2 6, 7, 19 &c): which is represented by surface scatters of stone tools and artefact debris, usually transported from original context by fluvial action, andseldom occurring in sealed stratigraphic context. Historical (the last ca. 250 years): represented by remains of crude buildings, livestock enclosures, wagon routes and watering points. Some evidence of trade with indigenous communities, including metals, ceramics and glass beads Kinahan (2005).

6. Fieldwork Findings and Observations

A reconnaissance survey was carried out over EPL 6134 to locate and record their most important archaeological features on the 14th and 15th of January 2022 in the Karas Region. A total of seven archaeological/heritage sites were recorded within EPL 6134 on farm Sandverhaar No. 166 to be specific during the field survey. The site locations are set out below together with brief remarks on their significance. The vulnerability of the sites is given in terms of their distance from the explorations target area. Although some sites are not within the exploration targeted area or within EPL 6134 there are some that are very close to the explorations target and may require mitigation measures to be taken to ensure their conservation. However, the field survey did not find any high-risk heritage resources with a potential to be disturbed by the proposed explorations on other farms or the other part of EPL 6134.

Site 1;

Site coordinates: -26.824744 17.349679

Description: lime kiln, early 20th century

Significance rating: 5 (unique industrial heritage site, high value)

Vulnerability rating: 1 (No threat posed by current or proposed explorationactivities far from lime kiln)

Site 1; Lime kiln near by the entrance of the farm – Simplon. Source: (Nakale 2022)

Site 2;

Site coordinates: -26.870054 17.372645

Description: two drystone circular hut structures (stone circles)

Significance rating: 3

Vulnerability rating: 5 (Direct and certain threat of major disturbance or total destruction due to proximity of exploration activities)

Site 2; Drystone circular hut structures. (Source: Nakale 2022)

Site 3:

Site coordinates: 26.91077 17.39513

Description: The oldest lime kiln in the country and a historical building which is associated with the lime oven and it's assumed that it used to be occupied by the people that used the lime kiln in the late 19th century.

Significance rating: 5 (unique industrial heritage site, high value)

Vulnerability rating:5 (Direct and certain threat of major disturbance or total destruction due to proximity of exploration activities)

Site 4;

Site coordinates:

Description: Suspected historical Ox wagon tracks on siliceous rocks, Ox wagons were used to transport lime to the diamond towns Lüderitz and Oranjemund.

Significance rating: 3 (Archaeological and paleontological site (s) forming part of an identifiable local distribution or group)

Vulnerability rating: 5 (Direct and certain threat of major disturbance or total destruction due to proximity of exploration activities)

suspected historical Ox wagon tracks on siliceous rocks (Source: Nakale 2022)

Site 5;

Site coordinates: -26.837144 17.416421

Setting: site of Sandverhaar farmhouse

Description: Drystone walling

Significance rating: 3

Vulnerability rating: 1 (attached on by farm buildings)

Early colonial drystone walling. (Source: Nakale 2022)

Site 6

Site coordinates: -26.892077 17.410169

Description: mid- to late Pleistocene stone artefacts. surface waste scatters

Significance rating: 1

Vulnerability rating: 1

Out of context surface scatters tone artefacts. (Source: Nakale 2022)

Site 7;

Site coordinates: -26.84026 17.403406

Description: small cemetery with nine graves; one built with brick and concrete is surrounded by a low fence; remaining eight are elongate stone cairns and oriented as Christian graves, some with upright headstones, some with bottles. None of the graves are marked or identifiable, but might date to the 1918 Spanish flu epidemic which seems to have spread over southern Namibia via the railway Kinahan (2017).

Significance rating: 4

Vulnerability rating: 2 (300m south of old Sandverhaar railway)

7. Results of Desktop Research

Information from the NHC shows that the project area falls under the cultural landscape occurring in Karas Region. The national monuments list has 29 national monuments recorded within Karas. Kinahan (2017) carried out an impact assessment in the same area.

8. Conclusions and Recommendations

The area around farm Sandverhaar No. 116 and 200 on EPL 6134 has extensive sensitive archaeological remains of early colonial era activities as mentioned above. These include a number of graves as well as important and unique evidence of limestone-processing. With all that evidence, it is it is possible that subsurface remains will be exposed during site preparation and explorations.

The significance rating of these sites is referred to in Table 1 and ranges from 1 (disturbed or secondary occurrences), to 4 and 5 (multi-component and major sites). They are considered as high value archaeological or heritage resources. In terms of their vulnerability rating, most of the sites are rated 1 (not threatened) although two high value sites are rated 4 and 5 (a high likelihood or direct and certain threat of impact) and these sites will require mitigation measures.

8.1 Management recommendations

All sensitive sites should be demarcated off by 1km during the exploration phase, this site's locations must be incorporated within the project EMP and GIS.

a) Creation of a one-kilometer radius buffer zone from each of the three sites identified in this assessment with direct and certain threat of major disturbance or total destruction due to proximity of exploration activities.
b) Site inspection by the heritage council of the buffer zone to ensure the proponent abide by the conditions as set by the heritage council.
c) Adopt the Chance Find Procedure

The proponent is advised to implement the following management actions on the way forward:

1. **Chance Finds Procedure (CFP) management guideline:**

   EPL 6134 is an important mining infrastructure development area subject to heritage and archaeological assessment at the planning stage. These assessments were desktop-based, and field survey were carried out therefore; significant subsurface heritage resources might be discovered. Onsite personnel and contractors must be sensitized to recognize "chance finds heritage" in the course of their work. The procedure set out here covers the reporting and management of such finds. The CFP covers the actions to be taken from the discovery

of a heritage site or object to its investigation and assessment by a trained archaeologist. The CFP is intended to ensure compliance with the relevant provisions of the National Heritage Act (27 of 2004), especially Section 55 (4): “a person who discovers any archaeological objects must as soon as possible report the discovery to the council”. The procedure of reporting set out below must be observed so that heritage materials are reported to the authorities.

A. Responsibilities:

Operator To exercise due caution if archaeological remains are found
Foreman To secure site and advise management timeously
Superintendent To determine safe working boundary and request inspection
Archaeologist To inspect, identify, advice management, and recovers remain

B. Procedure:

Action by the person (operator) identifying archaeological or heritage material

- If operating machinery or equipment: **stop work**
- Identify the site with flag tape
- Determine GPS position if possible
- Report findings to foreman

C. Action by foreman:

- Report findings, site location and actions are taken to the superintendent
- Cease any works in the immediate vicinity

D. Action by superintendent

- Visit the site and determine whether work can proceed without damage to findings;
- Determine and mark the exclusion boundary

- Site location and details to be added to the Archaeological Heritage database system

E. Action by archaeologist
    - Inspect site and confirm the addition to AH database system;
    - Advise National Heritage Council and request a permit to remove findings;
    - Recovery, packaging and labeling of findings for transfer to National Museum

F. In the event of discovering human remains
    - Actions as above;
    - Field inspection by archaeologist to confirm that remains are human;
    - Advise and liaise with NHC Guidelines; and
    - Recovery of remains and removal to National Museum or National Forensic Laboratory, or as directed.

8.2 Conclusions

The proposed exploration project on EPL 6134 will affect an area of relatively high archaeological/heritage significance on farm Sandverhaar No. 116 only, and the project may threaten some archaeological assets worthy of mitigation measures. This report provides only a phase 1 survey and assessment of the project which can be followed by a phase 2 mitigation exercise if required.

References

Kinahan, J. 2005. The late Holocene human ecology of the Namib Desert. In Smith, M, and Hesse, P. eds 23 Degrees South: Archaeology and Environmental History of the Southern Deserts. Canberra, National Museum of Australia pp120-3

Kinahan, J. 2017. Archaeological survey and assessment of the Southern Railway Rehabilitation Project Stage of Report: Report 2: Buchholzbrunn to Sandverhaar.

Kinahan, John. 2012. Archaeological Guidelines for Exploration & Mining in the Namib Desert, the Namibia Archaeological Trust.

National Heritage Act 27 of 2004.2004. Government Gazette

Wendt, W.E. 1972. Preliminary report on an archaeological research programme in South West Africa. Cimbebasia (B) 2: 1-61.

APPENDIX K: CONSENT FROM NATIONAL HERITAGE COUNCIL OF NAMIBIA

National Heritage Council of Namibia
52 Robert Mugabe Avenue, Windhoek
Private Bag 12043, Ausspannplatz, Windhoek, Namibia
Tel: (061) 244 375 • Fax: (061) 246 872 •
E-mail: info@nhc-nam.org

CONSENT

(Section 55(9) of the National Heritage Act, 2004 (Act No. 27 of 2004)) Consent is hereby given to:

09 February 2022

Consent Number No: 88/2022

Name of applicant: Geo Namib cc

(Title and full name of the applicant)

Address of applicant: P. O. Box 1642 Windhoek

(Address of the applicant and of the applying institution (if applicable)

For:
Exploration activities on EPL No. 6134 (Cement, Industrial quality limestone and siliceous rocks)

(Type of Activity applied for)

Of: No objects of sites of heritage significance found within the area of interest

(Description of Heritage Resources)

From: 100 km west of Keetmanshoop

(Description of the site, location as in the application)

In accordance with:
Archaeological and Heritage Impact Assessment Report for mineral exploration on an exclusive prospecting licence EPL No. 6134, Kharas Region, Namibia

(Specify relevant documentation and Permit application date)

The following conditions (imposed in terms of section 55(9) of the Act.) apply to this permit:

a) that the activity authorised by the consent be supervised by a person with appropriate professional qualifications or experience in the identification and conservation of heritage.
b) that any archaeological or palaeontological object or meteorite found in the course of the activity authorised by the consent must be recorded, conserved and dealt with as per the manual on chance find procedures of heritage resources; and
c) that Namibian citizens, especially members of the local community in and around the project area, be engaged in the activity authorised by the consent for the purpose of identification of heritage resources in the project area as well as of receiving professional training;
d) that the consent holder reports back to the National Heritage Council every six (6) months on compliance with the conditions of this consent.
e) This Consent does not exempt the holder from any conditions that may be imposed by owners, hosts or any other relevant authorities in consultation with NHC who have a stake in the project area.
f) NHC shall not be liable for any losses, damages or injuries to persons or properties as a result of any activities related to this permit.
g) This Consent is subject to the provisions of the National Heritage Act (Act 27 of 2004). Should any of the conditions contained herein conflict with the Act; the provisions of the Act as per section 55 (10) shall prevail.
h) This consent is renewable, upon submission of an application at least two months before the current permit lapses

(List any conditions that the Council may see fit to impose in terms of section 55 (9) of the act

This Consent will be valid from 09th February 2022 to 08th February 2023

Director: National Heritage Council

National Heritage Council of Namibia