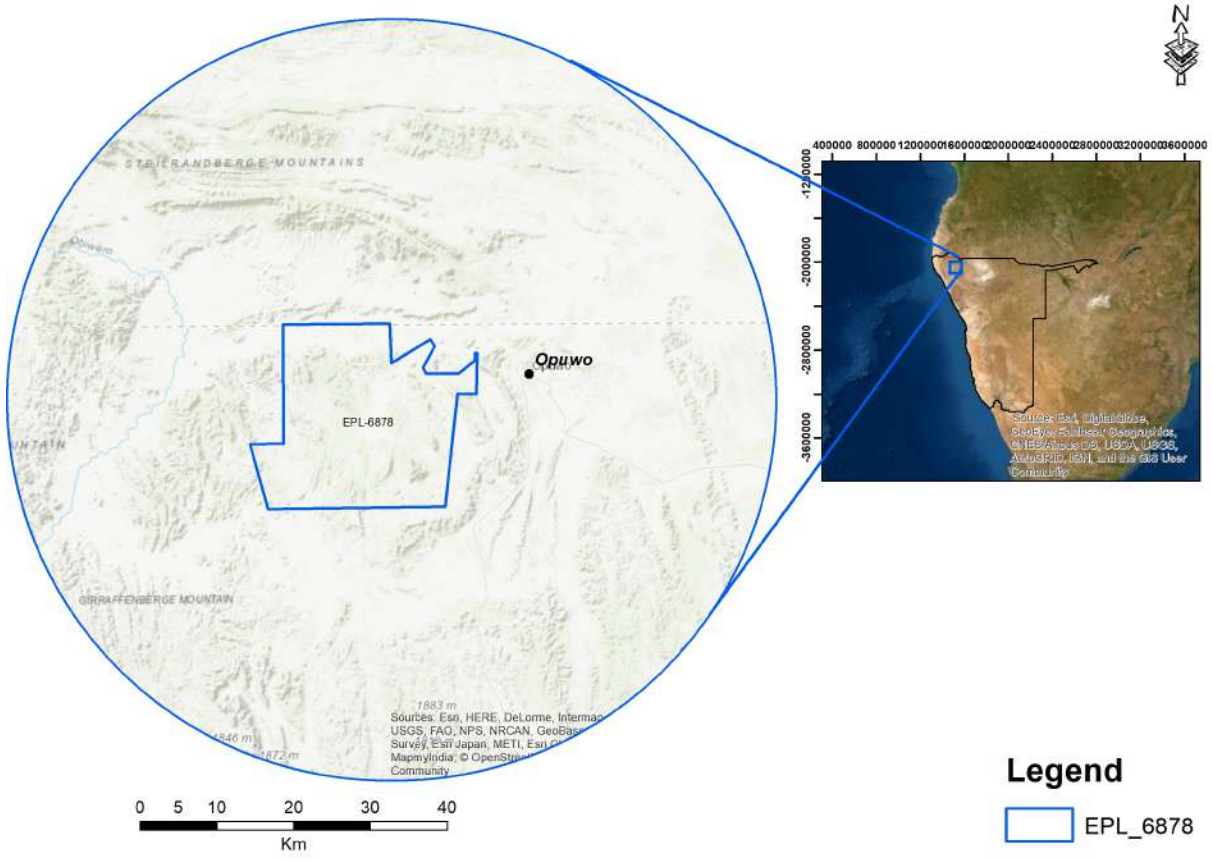
Application No: APP-002584

Environmental Impact Assessment for the Proposed Exploration Activities of Base & Rare & Precious Metal, Industrial Minerals On Exclusive Prospecting License 6878 at Opuwo Area in Kunene Region

May 2021



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DOCUMENT INFORMATION

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APPLICATION NO:	**APP-002584**
PROJECT TITLE	Environmental Impact Assessment for the Proposed Exploration Activities of Base & Rare & Precious Metal, Industrial Minerals On Exclusive Prospecting Licenses 6878 at Opuwo Area in Kunene Region
CLIENT	Epangelo Mining Pty Ltd
PROJECT CONSULTANT	Mr. Ipeinge Mundjulu
LOCATION	Opuwo Area, Kunene Region

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ACRONYMS

DEA	Department of Environmental Affairs
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
EC	Environmental Commissioner
ECC	Environmental Clearance Certificate
ECO	Environmental Compliance Officer
EIA	Environmental Impact Assessment
EM	Epangelo Mining
EMA	Environmental Management Act (No. 7 of 2007)
EMP	Environmental Management Plan
EPL	Exclusive Prospecting License
I&APs	Interested and Affected Parties
MET	Ministry of Environment and Tourism
PPE	Personal Protective Equipment
RC	Reverse Circulation
RD	Red-Dune Consulting CC
TORs	Terms of Reference

Executive Summary

It is important to note that, Epangelo Mining own EPL 6877, which borders EPL 6878 on the South. The Environmental setting of these two EPLs are similar and community settings are similar. This scoping is thus similar to that of EPL 6877 as they cross cut same villages. The stakeholder consultations was done simultaneously with all affected communities. Some communities that are outside the EPLs boundaries but close, were consulted to ensure that they are also informed about the proposed explorations.

Mineral exploration existed for many centuries. With improving technology, mineral exploration has become environmentally friendly, in a way that it is more non-evasive, with negligible impact on the bio-physical environment. The proponent, Epangelo Mining Pty Ltd intent to carry out exploration activities of Base & Rare & Precious Metal, and Industrial Minerals on the Exclusive Prospecting License (EPL) 6878. The EPL is located at Opuwo area of Orotjitombo, Otjipombahi, Omwe and Okozongoro Villages in Kunene Region and measures 52459.054 hectares (ha) of communal / state land where land use is predominantly livestock farming.

The proposed exploration activities shall comprise of non-invasive methods such as geological field mapping and geophysical ground mapping to generate target point where geochemical soil sampling will take place. Generated targets will be sampled using traditional methods of shallow pitting and trenching, while deeper targets would be sampled through Reverse Circulation drilling. All drilled holes shall be covered completely after sampling unless otherwise they are beneficial to the community (i.e. water borehole), a casing may be left.

In conclusion, exploration activities are not known to cause harm to the environment. Line cutting will be made in a way that it avoids mature and protected trees. Should this exploration yield into a potential establishment of a mine, a comprehensive EIA must be undertaken which will include all necessary specialist studies. Henceforth, it is recommended to the approving authority that this project is approved and be issued with an Environmental Clearance Certificate.

1. Introduction

The proponent, Epangelo Mining Pty Ltd, owns the Exclusive Prospecting License (EPL) Number 6878, as per the Mineral Act 1992. The company intent to carry out exploration activities of Base & Rare & Precious Metal, and Industrial Minerals on the EPL. The exploration activities shall include, Reconnaissance field mapping, Geochemical soil sampling, Geophysical ground surveys (magnetics, electromagnetics, gravity) for target generation and Trenching as well as Reverse Circulation Drilling (RC) for geochemical sampling.

1.1. Regulatory Requirements

The protection of the environment is provided for under Article 95 of the Namibia Constitution and the Environmental Management Act 2007 (Act No 7 of 2007) (EMA).

In accordance with the Environmental Impact Assessment Regulation Government Gazette of 6 February 2012 No. 4878, of the Environmental Management Act, 2007 (Act No 7 of 2007), the proposed exploration activity is a listed activity that may not be under taken without an Environmental Clearance Certificate (ECC) (Table 1).

Table 1. Identified listed activities concerning the proposed project.

Activity	Applicability
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.	The projects shall include the prospecting of Mineral
3.2 Other forms of mining or extraction of any natural resources whether regulated by law or not.	Mining activities shall involve, drilling and digging to extract natural resource.
3.3 Resource extraction, manipulation, conservation and related activities.	The project shall extract resource sample for manipulations / analysis.

It is against the above statutory requirement that Epangelo Mining Pty Ltd has appointed Red-Dune Consulting CC (RDC) to undertake an environmental impact assessment for the proposed exploration activities

1.2. The Need and Desirability of the Project

Developing countries, especially Africans states economies largely depends on mineral extraction industries. These extraction industries are important in contributing to countries' economies and provide much needed employment. Mining processes are preceded by exploration activities, which aims to map the mineralization of the minerals in order to establish a mining area. The discovery of economical deposit from exploration activities yields into mining activities which is the main driver for the Namibia Economy. Hence this project is important to the socio-economic needs of the country.

1.3. Terms of Reference

The Terms of Reference (TORs) for this Environmental Impact Assessment (EIA) is in accordance with the EMA and its EIA Regulation Section 9 (a-b). It considers other relevant local, national and international laws. These guidelines are aimed to focus on issues of greater environmental concerns and to develop mitigation measures for effective environmental management. Eventually, this EIA is aimed at obtaining the ECC for the project and to ensure environmental sustainability. The TORs of this project include, but not limited to the following;

- Provide a comprehensive description of the proposed Project;
- Identify relevant legislation and guidelines for the project;
- Identify potential environmental (physical, biological and social) conditions of the project location and conduct risk assessment;
- Inform Interested and Affected Parties (I&APs) and relevant authorities about the proposed project to enable their participation and contribution;
- Develop an Environmental Management (EMP) that would be a legal guideline for the environmental protection by the project

1.4. Scope of the EIA

The scope of this project is guided by the EIA Regulations 2012, which follows the process as shown in figure 1. The scope aims at identifying possible impacts, assessing the impact and formulate the optimum, practical mitigation measure to minimize the impacts.

Red-Dune (RD) believes that the developed Environmental Management Plan (EMP) provides practical mitigation measure which shall ensure environmental sustainability. Further, RD believes that, the information provided is adequate and sufficient to enable the Environmental Commissioner (EC) to make an informed decision and issue the Environmental Clearance Certificate for the project.

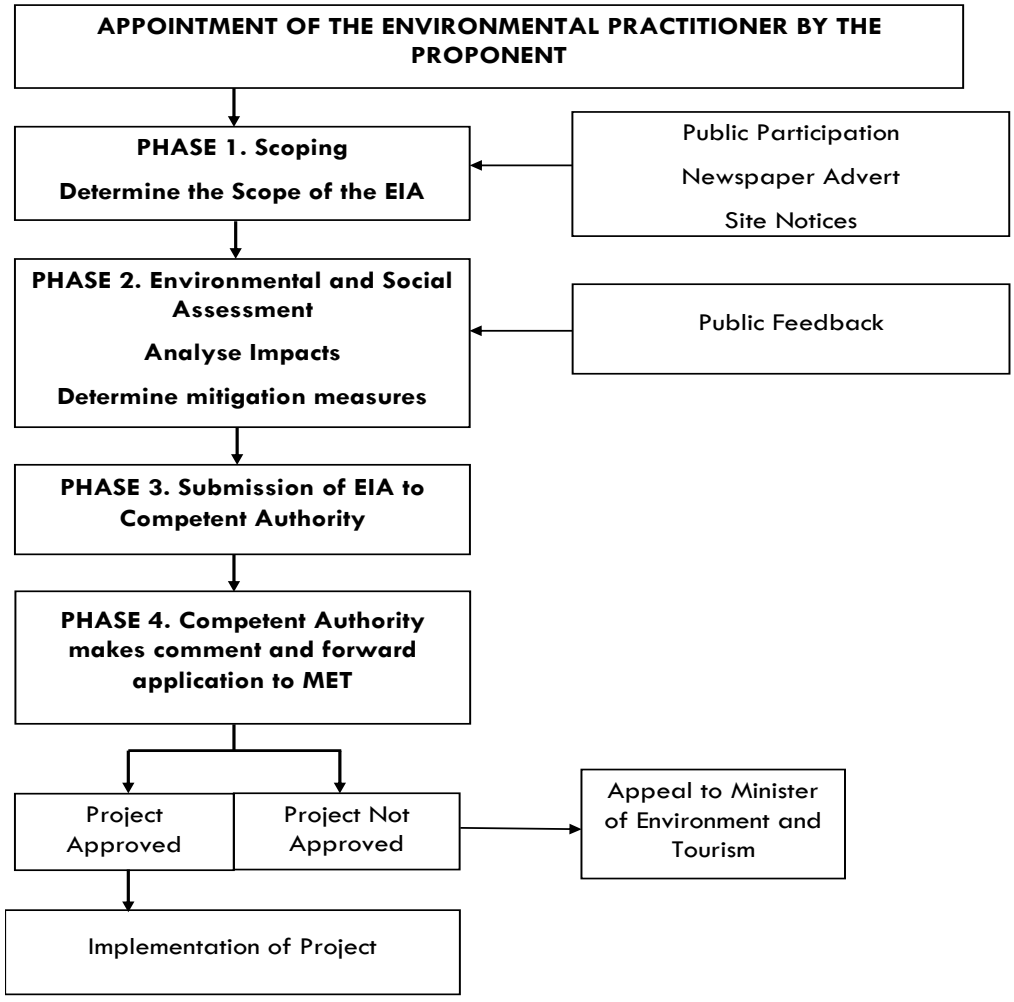


Figure 1 The EIA Process in Namibia

2. Project Description

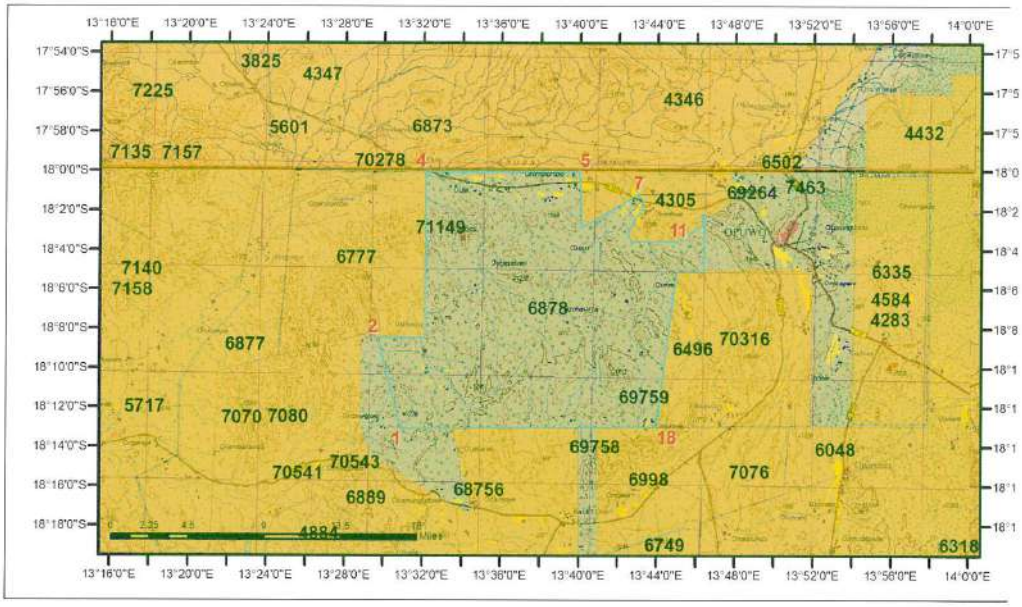
2.1. Location

The EPL is located at Opuwo rural constituency in Kunene region (-18.148333S, 13.368056E) covering villages of Orotjitombo, Otjipombahi, Omwe and Okozongoro (Figure 2&3). The EPL contain 18 coordinates points, this one is at the centre of the EPL for purpose of indicating the location (please visit the mining cadastral for more information at https://portals.landfolio.com/namibia/). It measures 52459.054 hectares (ha) of communal / state land.

Figure 2. Villages Covered by EPL 6877 & 6878

DIAGRAM – EXCLUSIVE PROSPECTING LICENCE – 6878

Issued in favour of: Epangelo Mining Company (Pty) Ltd



Latitude and Longitude lines refer to the Bessel 1841 Spheroid

EPL - Application	ERL - Application	Withdrawn Area	District
EPL - Active	ERL - Active	Farms	Region
ML - Application	RL - Application	Environmentally Sensitive	Division
ML - Active	RL - Active		
MC - Application	MDRL - Application		
MC - Active	MDRL - Active		

Projection: Albers Conic Equal Area
Spheroid: Bessel 1841
Central Meridian: 17 Deg. E

AREA: **52459.0540 Hectares**
MAP(S):
LOCALITY:
*Regions(s): **Kunene**
*Magisterial District(s): **Opuwo**
*Registration Division(s): **A**

Figure 3. EPL 6878

Table 2. GPS Coordinates for EPL 6878

Order	Lat Deg	Lat Min	Lat Sec		Long Deg	Long Min	Long Sec	
1	- 18	13	2.50	S	13	30	54.79	E
2	- 18	08	27.62	S	13	29	38.72	E
3	- 18	08	27.74	S	13	32	6.18	E
4	- 18	00	1.35	S	13	32	7.46	E
5	- 18	00	1.66	S	13	40	0.61	E
6	- 18	02	49.02	S	13	40	6.62	E
7	- 18	01	9.45	S	13	43	0.16	E
8	- 18	01	37.54	S	13	43	19.70	E
9	- 18	03	9.00	S	13	42	27.00	E
10	- 18	03	33.66	S	13	42	40.54	E
11	- 18	03	34.02	S	13	45	4.13	E
12	- 18	03	33.54	S	13	45	4.79	E
13	- 18	02	40.06	S	13	46	18.17	E
14	- 18	02	8.50	S	13	46	17.81	E
15	- 18	02	8.31	S	13	46	26.43	E
16	- 18	05	1.72	S	13	46	22.46	E
17	- 18	05	1.26	S	13	44	59.99	E
18	- 18	12	58.49	S	13	43	59.99	E

Certified by:..... Official Stamp Date:.....
Mining Commissioner

MINISTRY OF MINES AND ENERGY
MINING COMMISSIONER
19 FEB 2019
9000, WINDHOEK
OFFICIAL

2.2. Project Activities

The proposed exploration will adopt various prospecting methods for base rare and precious metals as follows;

- Reconnaissance field mapping
- Geochemical soil sampling and target generation
- Geophysical ground surveys (magnetics, electromagnetics, gravity)
- Diamond/RC Drilling of geophysical target

The above proposed activities will be undertaken in phases as explained below.

2.2.1. Phase 1. Non-Invasive Exploration

The initial phase of mineral prospecting and exploration involves non-invasive work. These activities do not cause physical damage to the environment. These activities include geological studies and field mapping where analysis of historical data, geological maps and their interpretations take place. Analysis of these data would generate geophysical targets where evasive exploration would take place. The non-invasive exploration activities are explained below;

Geological studies and field mapping, during this stage, various geological data for the area will be collected from different sources to analyse and study available information of the area. Information are derived from aerial photo. These geological photos are studied to generate target point where geochemical soil sampling are to be taken.

Soil surveys Soil survey is the process used to classify soil types and other soil properties in target area which is used for geo-encoding. The collection of information of the substrata, by air or ground, through sensors such as radar, magnetic and electromagnetic to detect any mineralization in the area. This is a non-evasive process that does not have impact on the environment. Soil sampling traverses to be conducted on foot within the areas will be collected from soil sampling pits, which would be around 30x30x30cm (hand-held shovel width and depth) and are to be backfilled immediately after sampling.

Geophysical surveys, Geophysical ground surveys uses various method to gather geological information such as magnetic and electromagnetics. Magnetic surveying measure local magnetic field characteristic of the generated targets from geological mapping. This activity is used to detect minerals that respond to magnetic field. It provides information of a sub-surface area without physically opening the ground and is able to detect metal ore in the ground. The activity can be done from air and on ground. On ground, a Magnetometer is carried by a person on the surveyed areas to collect samples. While in aerial magnetic data was collected using a helicopter / fixed wind airplane where the Magnetometer is mounted especially on difficult terrain and on large terrains. This activity does not pose significant impact to the bio-physical environment except noise that may be generated from the plane.

2.2.2. Phase 2. Evasive Exploration

The second phase of exploration includes sampling for geochemical samples from targets sites. During this phase collection of geochemical samples from hole of less than 1m and drilling shall take place. The target sites maybe un-accessible with existing roads, hence new access road maybe be established. Normally, roads are meant for light vehicles, exploration vehicles have the potential to damage access roads. Hence proper road maintenance must be implemented to ensure that the roads are left on good state. If at all necessary is required to clear some trees / shrubs to access target a site, protected tree species must be avoided. The recommendation of the vegetation study carried out for the area must be implemented to ensure sustainable conservation.

Drilling is done at the final stage of exploration to evaluate the prospect of minerals and determine the feasibility of mining. Drill rods are used to collect geological samples from the earth's subsurface. The drill targets will be generated from the mapping and sampling programmes. The targets grid patterns may range from 200X50m grid spacing to grids of 100m by 50m and in some instances on a 50m by 20m grid spacing during detailed sampling. Exploration activities mainly use two types of drilling; Reverse Circulation (RC) and Diamond Core drilling. Reverse circulation gained prominence due to its effectives and conservative when it comes to water use.

Reverse Circulation drilling often referred to as 'RC' drilling uses rods (shafts) with inner and outer tubes with drill bit attached to an air-filled interchanging piston known as a hammer. The hammer produces drill cuttings that are returned to the surface inside the rods. RC drill are carried on drill rigs, which are mostly powerful heavy truck. RC drilling is the most preferred method because it is less costly and produces liable materials that are free from contamination. In an arid place like Namibia, RC Drilling would be advantageous because it does not require water for rock drilling unlike Diamond core drilling that requires water for lubrication. Once the proposed exploration has been concluded, the impacted sites must be rehabilitated as provided for by the Environmental Management Plan.

When necessary, a base camp for accommodation maybe be set up. This must first be agreed with land owners. In an event where a base camp is set up, waste management provisions must be implemented which include; a garbage dump and pit toilet must be established where no hazardous waste shall be dumped, an impermeable skip container must be on site for collecting hazardous waste. At the end of exploration, toilet pits and garbage dump must be dump filled before leaving the site. Alternatively, the use of the mobile toilets is recommended where waste should be disposed at an approved area. To ensure environmental protection from oil, fuel, and lubricants, servicing of vehicles and equipment must take place at a designated area. In event where the land owner does not allow servicing of the vehicles or machineries, such activities must take place at designated area.

2.3. Equipment

2.3.1. Vehicles

Pickup vehicles "commonly referred to as 'Bakkies' will be used during the exploration (Figure 3). In most cases, excavations during trenching and soil sampling programmes will be done manually (Figure 4). Water will be supplied by a water trucks. Night driving, reckless driving and speeding are prohibited. A bulldozer may be used for the access road and this must be agreed with land owners.

Figure 4. Exploration vehicles (For illustration purposes)

Figure 5. An illustration of a hand dug trench (For illustration purposes)

2.3.2. Drilling

A 4X4 Lorries and skid mounted drill rig may be used to carry the drill on target sites (figure 6).

Figure 6. A truck mounted RC drill rig and a skid mounted drill rig (For illustration purposes)

2.3.3. Airborne Geophysical survey

Arial photo will be taken with a fixed wing Cessna plane (Figure 7).

Figure 7. An illustration of a fixed wing Cessna

3. Description of the Affected Environment

3.1. Physical Environment

3.1.1. Climate

Opuwo is the administrative capital of Kunene Region located on the northern western of the region. Generally, the climatic condition of the region is dry. The Opuwo areas experience frequent droughts. Towards the western part of the region is the Namib Desert, that went on to meet the Atlantic Ocean.

Rainfall season is between February and April. The region's rainfall is highly sporadic ranging from 50mm – 400mm per year which increases from the western part of the region to the eastern part

The region's temperatures are high with an average maximum temperature between 35^{o}C and minimum between 14^{o}C.

3.1.2. Geology

Generally, the geology of Namibia includes rocks of Paleoproterozoic, Mesoproterozoic and Neoproterozoic and Paleozoic to Cenozoic age, which are millions of years old. The regional geology of Kunene comprises of Paleoproterozoic basement exposure and inlier outcrop surrounded by Neoproterozoic rocks. The inlier is made up of Paleoproterozoic deformed and metamorphosed rocks during the Damara Orogeny, which comprises of volcanic and inlier sedimentary rocks of the Damara Sequence. The Neoproterozoic Damara Sequence is composed of out crop of siliciclastic and carbonate rocks. The Damara sequence is known to comprise the Nosib and Otavi / Swakop. The Nosib group is correlated with the copper bearing roan group in the Central African Copperbelt, which makes it a potential discovery for the copper. The copper mineralization is occurring within the quartzite and conglomerate unit at the base of the Nosib Group.

Studies indicate that the mineralisation at Opuwo is hosted in the Neoproterozoic sediments of the Kaoko Belt. The Kaoko Belt form part of the Damara Orogen group. The Kaoko Belt consists of three parallel structural zones. The Eastern Kaoko Zone (EKZ) comprises sub-greenschist facies shelf carbonates that have been uprightly folded, the Central Kaoko Zone (CKZ) contains a slope and deep basin facies succession that has experienced intense deformation, including pervasive reworking of basement into large-scale east-vergent nappes, the Western Kaoko Zone (WKZ) is predominantly deep basin facies of high metamorphic grade intruded by numerous granites. It has experienced intense wrench-style deformation with formation of upright isoclines and steep, crustal-scale shear zones [1].

The important elements of the geological setting and mineral potential of the Kaoko Belt is similarity of its tectonic history, stratigraphy, stratigraphic position and style of known mineralization and alteration assemblages to the Zambian Copperbelt and with mineralization in the Democratic Republic of Congo.

3.1.3. Mining in the Kunene Region

Exploration activities in Kunene region has been targeting copper for many years but, not large deposit have been located. Mineral exploration is still being carried out in the area by Teck Cominco, INV Metals, Kaokoland Mining and Exploration Company and Siberia Metal Traders and other prospectors. As of 2013, the location of various mines in the region, particularly in the Kaoko Belt is shown in figure 8 below [2].

The proposed exploration activities on EPL 6878 lies north of area where mining and exploration has seldomly been occurring.

[1] Ben Goscombe *et al* 2003., Structure of the Kaoko Belt, Namibia: Progressive evolution of a classic transpressional orogen

[2] Robert J. Bowell *et al* 2003., Minerals of the Kaokoveld District Kunene Region, Namibia: The *Mineralogical Record,* volume 44, July–August, 2013

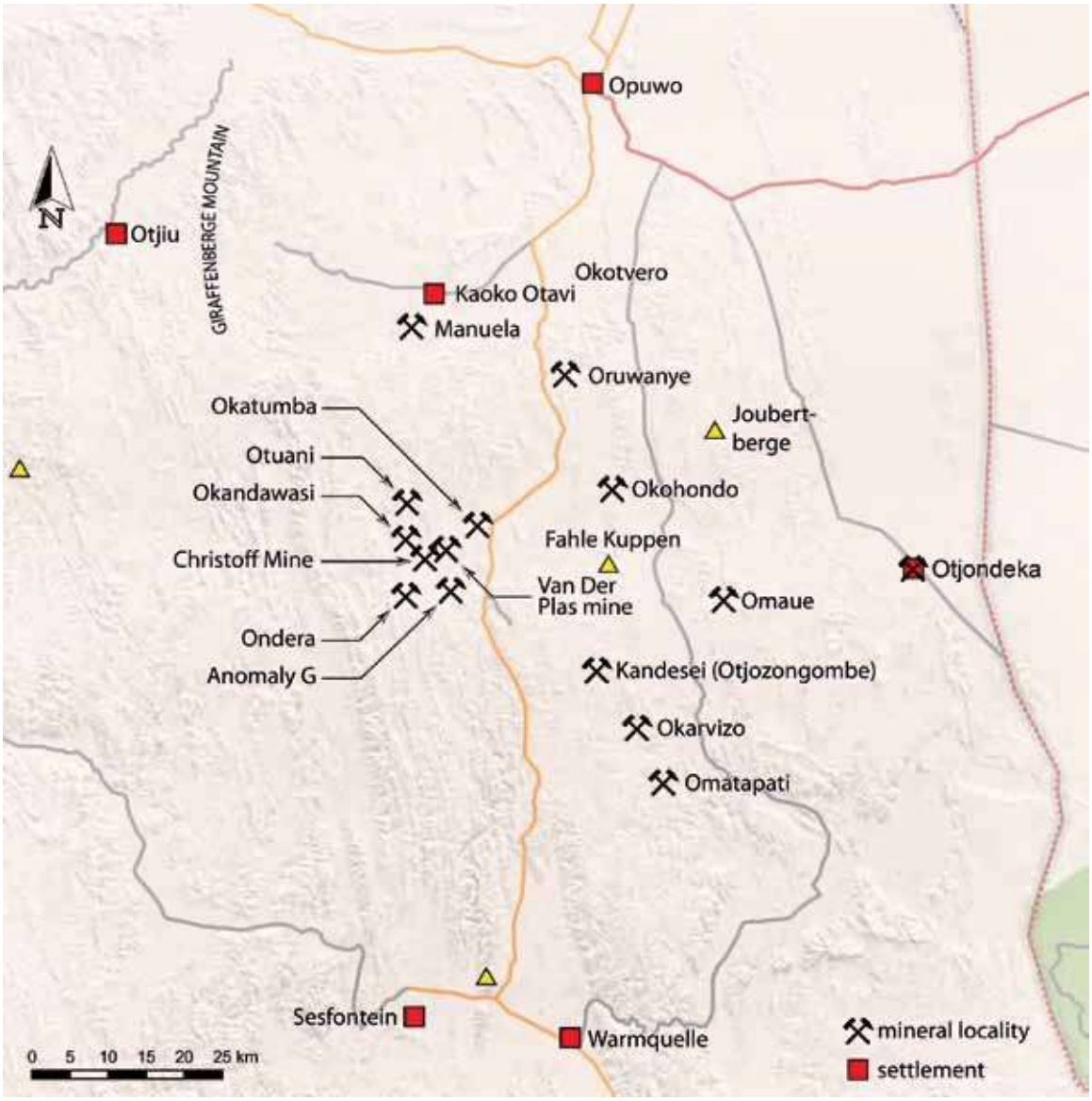


Figure 8. Location of mines and mineralization records in Kunene Region (Source: Robert J. Bowell *et al* 2003)

3.1.4. Topography and Drainage

Kunene region is made up of flat areas and areas of undulating terrains formed by hills and mountains figure 8. Exploration has normally been taking place on rocky areas. Drainage is normally from catchment into water streams but seldom due to poor rainfall in the region. For the purpose of this exploration, drainage system is not impacted neither will have an impact on the proposed activities.

Figure 9. Landscape of some areas of EPL 6878

3.1.5. Ecology

Flora

This chapter provides an overview of the vegetation structure and environmental conditions, with which the proposed project will interact. This information has been sourced from observations made during a site visit and desk study on existing literature from previous research conducted in the area.

The EPL area was assessed on 15th – 16th April 2021 to establish the vegetation in the study area for this EIA (Figure 9). The vegetation structure of Opuwo area is predominantly sparse shrubland dominated by *mopane* (*Colophospermum Mopane*) and shrubs of Acacia species such as *Acacia*

hebeclada and *Acacia mellifera,* as a result, plant diversity in the area is low. The EPL is vast and many habitats are expected to occur depending on the underlying soils and topography.

Pictures of the dominant plants / trees are presented with their conservation status in the table below.

Table 3. Vegetation of the EPL 6878

Shrubs of *Colophospermum Mopane*
Protection status: Protected in Namibia under the Preservation of trees and forests Ordinance of 1952

Colophospermum Mopane branch

Trees and shrubs of *Acacia Mellifera*

Protection Status: Not Protected

Fauna

The EPL covers communal areas where farming of cattle, sheep and goat is predominant. Furthermore, there are various conservancies, with wild animals. During the area assessment, will animals such as Ostrich and Springboks were observed. Community has indicated that, elephants do frequent the area sometimes causing damage to their crops and boreholes.

Observed animals in the study area

Ostriches

3.1.6. Ecological Impact Assessment

Impact on flora: The impact on vegetation is expected to be minimal. If ever necessary to clear an area for the access road to target site, mature and protected trees must be avoided. However, should the exploration yield feasible data for mining operation, it shall be inevitable for some tree to be affected. A comprehensive vegetation study should be conducted by then.

Impact on fauna: The areas consist of domestic animal which are accustomed to human activities. To a large extend, the springboks and ostriches that were observed also seemed to be accustomed to people. Therefore, impact on the wild animals is expected to be negligible given strict control of potential poaching.

3.1.7. Socio-Economic Environment

Exploration activities do not involve significant employment. Perhaps during exploration stage, the company will need local to move around in an area as well as held with field work. Hence the effect on socio-economic is deemed minimal. However, in cases where the exploration yields into the establishment of a mine, there will be greater benefit to the socio-economic of the surrounding people and Opuwo town. Although communal areas are associated with "no right" to land, access to site must be agreed with the communal land owners (Chiefs) to avoid conflict.

3.1.8. Land Use

The EPL is located on a communal land where use is mainly livestock and crop farming. There are two community conservancy (Orotjitombo and Otjiu West Conservancy) mainly with springboks and Ostriches that are accustomed to people activities. The potential impact on the conservancies is rather poaching other than disturbing wildlife.

3.1.9. Heritage and Archaeology Material

Kunene region is home to Namibia's indigenous ethnic groups of the Ovahimba, Ovatue and Ovazemba, whose lifestyle, tradition, values and culture have never change to modernity regardless centuries of colonialism. This makes this region unique, hence it developmental agenda must incorporate the preservation of the cultural values.

3.1.10. Heritage and Archaeology definition

The United Nation Education Scientific Cultural Organization (UNESCO) provide the following definition of Heritage and Archaeology as follows;

"World Heritage is the designation for places on Earth that are of outstanding universal value to humanity and as such, have been inscribed on the World Heritage List to be protected for future generations to appreciate and enjoy. Places as diverse and unique as the Pyramids of Egypt, the Great Barrier Reef in Australia, Galápagos Islands in Ecuador, the Taj Mahal in India, the Grand Canyon in the USA, or the Acropolis in Greece are examples of the 1007 natural and cultural places inscribed on the World Heritage List to date".

"Archaeology studies human cultures through the analysis of their historical traces and their context. It aims at explaining the origin and development of civilizations, as well as the understanding of culture and history. Underwater archaeology is a sub-discipline, which studies submerged sites, artifacts, human remains and landscapes".

This scoping study is aimed to undertake desktop study which is complemented by site visit to define the presence or potential presence of Heritage and Archeological materials within the boundaries of EPL 6878 where the proposed exploration activities are aimed to take place. The study acknowledges the rich heritage and archaeology documentation in Namibia. For purposes of exploration phase, this study is rather narrowed within the EPL where the Impact is likely to take place. For example, the study did not consider heritage sites such the famous Petrified Forest, 'White Lady Archaeological site' rock art in the Brandberg mountains, the Hoba Meteorite in Grootfontein, the Mirabib Rock, Appollo 11 Cave and Petrified Forest etc because they are not impacted by the proposed activities.

3.1.11. Policy and Legal Framework

The World Heritage Convention, created in 1972 is aimed to the Protection of the World Cultural and Natural Heritage. Namibia, is a signatory to this convention, henceforth, the Namibian government is committed to the protection of cultural and heritage through the National Heritage

Council Act 27 of 2004. This act provides for the protection and conservation of places and objects of heritage significance and the registration of such places and objects; to establish a National Heritage Register; and to provide for incidental matters.

3.1.12. Heritage and Archaeology in Namibia

Evidence of the presence of human and their ancestors in Namibia is said to be beyond written record. Evidence of their existence is provided by graves, dwelling places, stone tools and a wealth of rock art (John Kinahan 2011) which dates back to the Southern African Middle Stone Age.

At the Apollo 11 rock shelter, at the confluence of the Orange and Great Fish Rivers, the oldest known rock painting in southern Africa was found, dated to around 26 000 BP (Lewis-Williams 1997, 7; thackeray 2005, 27).

Narrating their story on human history in Namibia, Glenn C. Conroy *et al* 1993[3], said, "the afternoon of June 4, 1991, we were searching Namibia's mountains for a rarer kind of stone, fossilized evidence of human evolution in southern Africa. What we found instead was the rarest "diamond" of all, one that no one had ever seen before on the African continent south of equatorial East Africa. What we found was incontrovertible evidence that prehuman "apes" were living in southern Africa millions of years before *Australopithecus* roamed the veld" The discovery was the middle Miocene hominoid *Otavipithecus namibiensis,* found at the Berg Aukas mountains in Otavi area which is traced back to millions of years.

What would have happened if the fossil was discovered by miners, or explorers that are not aware of archaeological materials? This important history and discovery may have been damaged. Hence the importance of including heritage and archaeology in prospecting and mining activities.

[3] Diamonds in the desert: The discovery of *Otavipithecus namibiensis*

Studies have indicated that Kunene Region, Opuwo area in particular contains widespread surface scatters of mid-to late Pleistocene stone artefacts, localised surface scatters of Holocene stone artefacts, as well as evidence of pastoral occupation dating at last 1 000 year.

During a series of public meetings, communities were urged to bring forth information with regards to important sites such as trees with significant heritage, grave areas and other significant areas that may not be disturbed. It is thus important that the exploration team consult locals before undertaking physical activated such as trenching and drilling.

3.1.13. Heritage and Archaeology Impact Assessment

The map showing the distribution of world and National is shown in figure below (the green point represents heritage site and red point represent towns). There are no known heritage and archaeological sites in the propose area.

Location of Heritage Sites

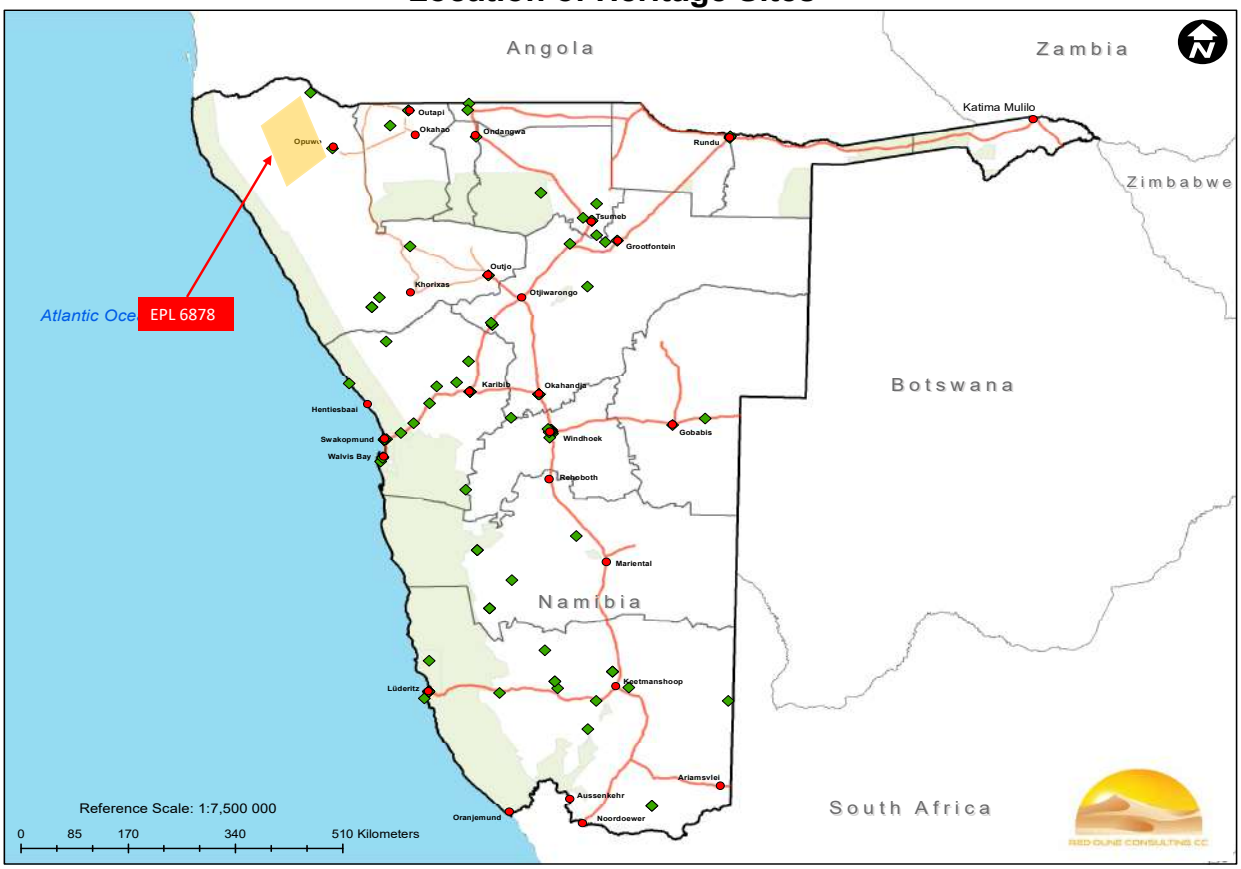


Figure 10. EPL 6878 in relation with National Heritage Sites of Namibia (Data Source, NHC)

3.1.14. Chance Find

A chance find is an important aspect towards the protection and conservation of archaeological materials. It provides awareness to all people involved in the development of the project to ensure that such materials are not destroyed. The proponent must implement a chance find procedure for the project as follows;

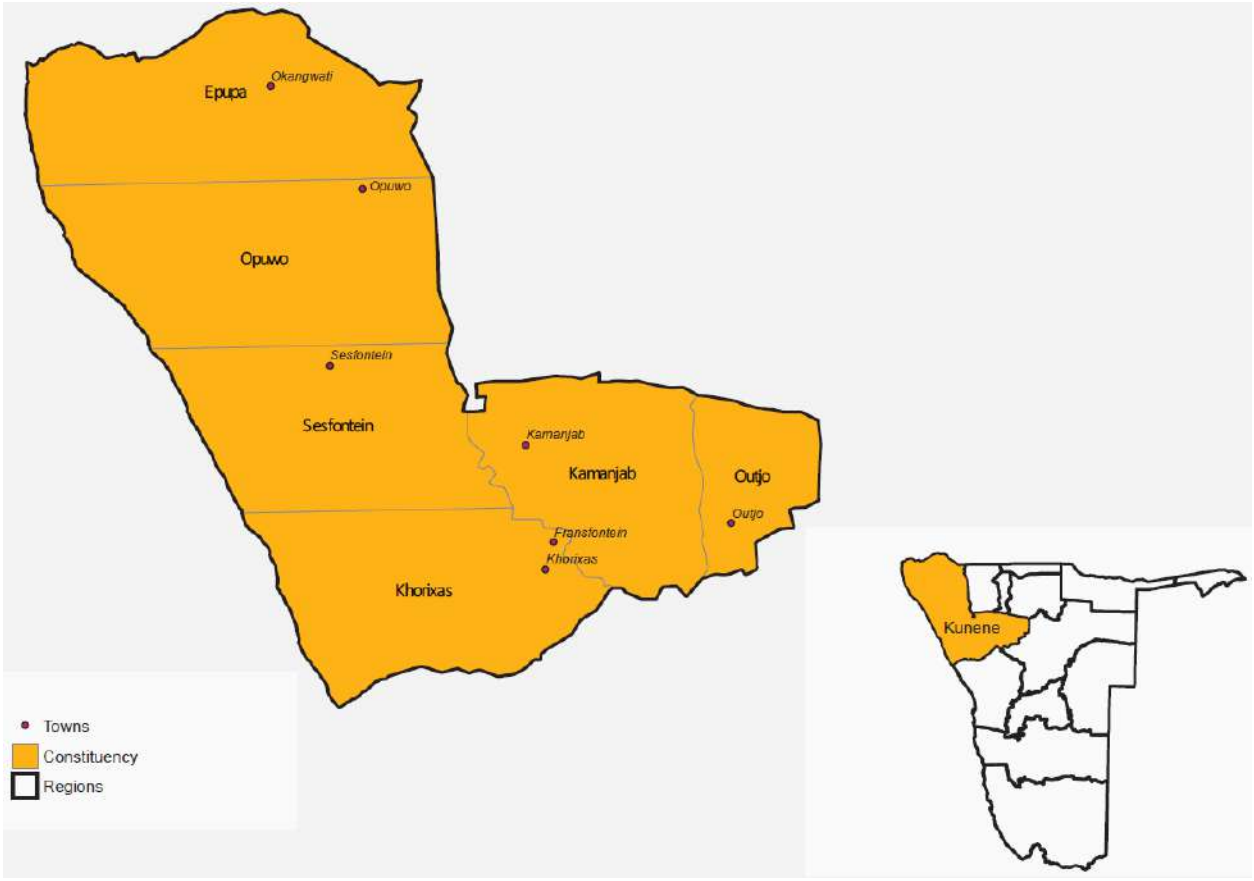
1. All employees / contractors must be trained on the possible find of archaeological materials before the commencement of the project in order to create awareness. The training must be provided by an expert to ensure adequate understating of archaeological materials.
2. The proponent / employees / contractors must implement steps to be taken for archaeological material finding (Heritage (rock painting and drawings), human remains or artefacts) are unearthed through the following procedures;
    i. Stopping the activity immediately
    ii. Informing the operational manager or supervisor
    iii. Cordoned of the area with a danger tape and manager to take appropriated pictures.
    iv. Manager/supervisor must report the finding to the following competent authorities, National Heritage Council of Namibia (061 244 375) National Museum (+264 61 276800) or the National Forensic Laboratory (+264 61 240461).

Archaeological material must NOT be touched. Tempering with the materials is an offence under the heritage act and punishable upon conviction by the law

3.1.15. Population Demography

According to the National Inter-censual survey of 2016, Namibia's total population stood at 2,324,388 million people with the total labour force of 1,026,268 million people. Of the total labour force, 69.4% are employed while 34.0% are unemployed. Hence employment creation must be part of the national developmental agenda.

The region has an area of 115 293 km^2 and has 6 constituency with a total population of 97 865[4] representing 4.2% of the total Namibia's population (Figure 9). The regions' growth rate is 2.4% and has the lowest population density of 0.8 persons per square kilometres. Literacy level in the region is the lowest in the country with 66.5%.



[4] Namibia Inter-censal Demographic Survey 2016 Report

Total Population	
Kunene	86 856
Epupa	17 696
Kamanjab	8 441
Khorixas	12 566
Opuwo	27 272
Outjo	12 447
Sesfontein	8 434

Urban Localities in Kunene	
Khorixas	6 796
Opuwo	7 657
Outjo	8 445

Figure 11. Kunene region (Source: 2011 Kunene Regional Profile)

The EPL is located in Opuwo rural constituency in Kunene region which has a population of 27 272, the highest in Kunene region Figure 12.

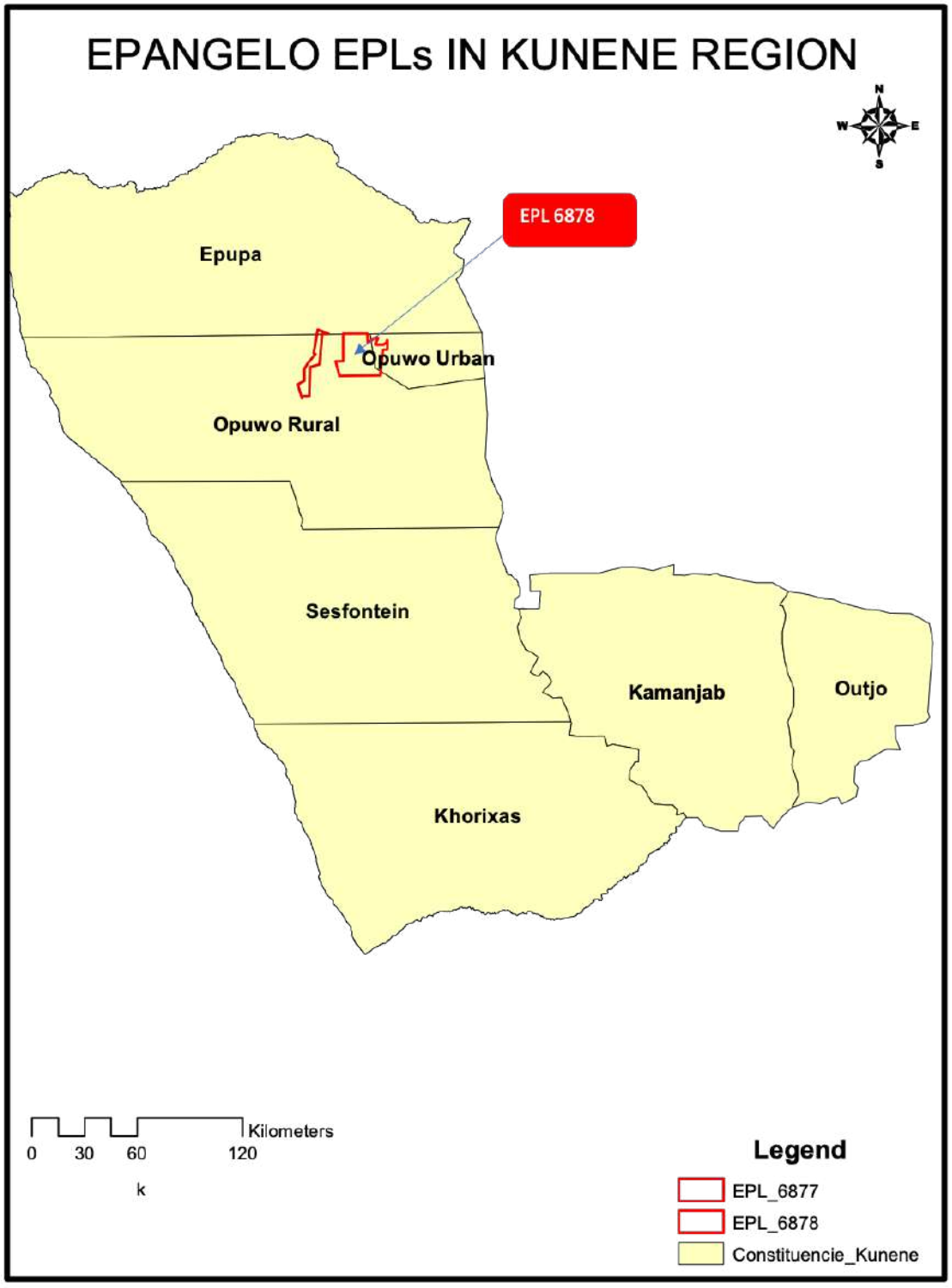


Figure 12. Location of EPL 6878 in Opuwo rural constituency

4. Project Alternatives

The provision of EMA requires an EIA to explore various project alternative which aims to ensure that a chosen project component does not have significant impact to the environment. Project alternative ranges from not implementing the project (No go alternative), when the environmental impacts are severe, or there is high degree of uncertainty. Other alternative considers the project site, technology and equipment to be used. The description of alternatives is given in table 4 below.

Table 4. Project alternatives

Alternative	Description	Advantages	Disadvantage	Chosen Option
No Project	This alternative would keep a status quo	There would be NO environmental threats such as; • Waste Generation with potential Surface and Ground Water Pollution • Habitat destruction / Land degradation by Construction / upgrading of access roads • Drilling of holes • Social effect on Human Health and Safety Risk	The following benefits would be lost if the project does go ahead. • Prospective of new mining project that culminate into loss of income • Compromise on government development goals of manufacturing and industrialization	NO

Alternative	Description	Advantages	Disadvantage	Chosen Option
			• Increase in poverty reduction through loss of employment opportunity	
Project Site	Exploration activity follow mineralization of mineral. Hence there is no specific site. However, activities shall by all mean avoid protected sites and minimize environmental damage.			
Implement project	This entails the implementation and operation of the project	• Enhance development • Enhance skill and capacity building • Improved technology transfer Increase chances of establishing of a new mine	The natural environment may be disturbed, but with adequate implementation of the Environmental Management Plan, environmental sustainability shall be achieved.	Yes
Drilling Type: • **RC vs Diamond**	Cost effective Does not require water for lubrication compared to Diamond drilling	• RC drilling: This type of drilling is ideal as it does not require water for lubrication and cooling, hence it conserve water compared to diamond drilling	No significant disadvantage to the environment	RC Drilling

5. Policy and Legal Framework

Table 5. Policy and Legal framework

Legislation	Summary	Applicability to Assessment
The Namibian Constitution	The State shall actively promote and maintain the welfare of the people by adopting policies aimed at … The maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future	Protection of the environment and biodiversity. Ensures that these principles are enshrined in the EIA documentation
Environmental Management Act No. 7 of 2007	To promote sustainable management of the environment and the use of natural resources and to provides for a process of assessment and control of activities which may have significant effects on the environment; and to provide for incidental matters	The Act provides a list of activities that may not be undertake without an environmental clearance certificate to prevent environmental damages.
Mineral Resource Act, Act 1992.	Prospecting and Mining of Mineral in Namibia and Issuance of all Permits.	Issuance of Mining permits
Draft Pollution Control and Waste Management Bill	This Bill serves to regulate and prevent the discharge of pollutants to air and water as well as providing for general waste management.	To protect the Environment from possible hydrocarbons and oil leaks from the machinery, trucks and vehicles.

Legislation	Summary	Applicability to Assessment
Environmental Policy framework (1995)	This policy subjects all developments and project to environmental assessment and provides guideline for the Environmental Assessment.	Consideration of all possible impacts and incorporate them in the development stages
Regulations Related to the Health and Safety of Employees at Work. Reg No. 156	Promotes the Safety and Health of employees at the work place	To ensure employees health and safety at work
Public Health Act No. 36 of 1919	To Protect the public from nuisance and 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.	To ensure that the project is not a nuisance to land owners and the public at large
Labour Act No. 11 of 2007	This Act outlines the labour laws which encompass protection and safety of employees at work.	Fair labour practises to be observed with regard to this act
Water Act No, 54 of 1956	All water resources belong to the State. It prevents pollution and promotes the sustainable utilization of the resource	Prevention of discharging contaminated water at unauthorised places
Soil Conservation Act No. 76 of 1969	To promotes the conservation and compacting of soil erosion	Uncontrolled movement of heavy vehicles and truck at areas surrounding the site may cause land degradation

Legislation	Summary	Applicability to Assessment
Water Resource Management Act No.11 of 2011	The Act stipulates the prevention of pollution for Surface and Ground water sources.	Oil spillage coming from machinery requires proper monitoring.
Public Health Act no. 36 of 1919	The Act gives provision for the protection for the health of all people.	The noise and dust level emanating from the project could affect the surrounding community and vegetation in the vicinity.
National Heritage Act No.27 of 2004	The Act gives provision of the protection and conservation of places and objects with heritage significance.	The chance find of Human Remains due to colonial history or crime, Artefacts, and or heritage materials within the EPL
Minerals (Prospecting and Mining) Act No 33 of 1992	Section 50 (i) requires "an environmental impact assessment indicating the extent of any pollution of the environment before any prospecting operations or mining operations are being carried out and an estimate of any pollution, if any, likely to be caused by such prospecting operations or mining operations"	The proposed activity is prospecting for minerals, hence it requires an EIA to be carried out and adhere to the act's provisions.

6. Public Consultation

The provision of the EMA requires an EIA process to follows a robust and comprehensive public consultation. This is an important process, because it gives members of the public, especially the Interested and Affected Parties to comment or raise concerns that may affect the socio-economic or general environment as a result of the project. Furthermore, it solicits crucial local knowledge that the Environmental Assessment Practitioner may not have.

The public consultation started by consulting the regional council through the office of the Chief Regional Officer (CRO). The CRO advised that consultation must be done with affected communities. Henceforth, two Traditional Authority, Otjikaoko and Vita Royal House representative that are affected by the EPLs where consulted. The Otjikaoko Traditional Authority was represented by Ms. Elizabeth M while the Vita Royal House Traditional Authority was represented by Mr. Ben Kapi. These two representatives took us to the communities and assisted in meeting facilitation.

6.1. Newspaper Adverts

The EMA requires that, the project must be advertised into two (2) daily newspapers that are widely circulated in the country (Table 6). The project was advertised for two consecutive weeks in the New Era, Confidante and Namibian Sun newspapers (Appendix 1).

Table 6. Newspaper Adverts

Newspaper	**Date advertised**
New Era	29th & 3rd April 2021
Confidante	29th April 2021
Namibian Sun	29th April 2021

6.2. Public Meeting

A series of public meeting were undertaken with communities of Orotjitombo, Ogongo, Otjiu west and the Traditional Authorities of Otjikaoko and Vita Royal House. Each consultation was undertaken on a different day. The meetings were conducted in Otjiherero, the local language to ensure communities understood the proposed project.

Figure 13. Community consultation; Orotjitombo, 4th May 2021

Figure 14. Community consultation Otjiu West, 5th May 2021

Figure 15. Traditional Authority consultation; Otjikaoko and Vita Royal House Traditional Authorities 6th May 2021

Figure 16. Community consultation; Ogongo 7th May 2021

6.2.1. Introduction

As customary to all public meetings, Red-Dune Consulting explained to the meeting in simplest terms what exploration entails in terms of the activities to be undertaken such as trenching, drilling etc.

6.2.2. Environmental Impact Assessment (EIA) process

Red-Dune gave an overview of the mineral exploration process and the environmental impact assessment process as per the provision of the Environmental Management Act 2007, (Act No 7 of 2007) and the scope of the project.

The community were informed of their importance for participating in the EIA to ensure critical environmental issues are considered. For example, if a specific site has a social value (i.e. cemetery).

6.2.3. MET project Approval

Once the EMP is approved by the Ministry of Environment and Tourism (MET), then it becomes a legal guiding tool for the proponent to undertake the exploration process. Epangelo Mining will be required to rehabilitate any physical exploration done on the area, failure to do so, it will be liable to conviction under the EMA.

To enlighten the community, a list of the potential environmental threats identified were given and their mitigation measures a explained as stated in the environmental management plan (EMP);

- Site Access Conflict
- Human Health: COVID-19 transmission
- Safety Risk: Employees
- Soil and Ground Water pollution: Fuel, Oil, and Lubricants
- Biodiversity Loss: Clearing of vegetation for site access
- Human Wildlife conflict and Poaching
- Drilling activities: Wild life disturbances, Dust & Noise, Spill of Hydraulic Fluids & Ground water
- Land Degradation: Use of heavy vehicle on public roads
- Pollutions: Solid waste generated by workers, ablution facilities

The mitigation measures for the above impacts are outlined in the Environmental management plan.

6.2.4. Comment / Question and Response

The following comments emanated from the series of meeting held with the community (table 7).

Table 7. Comment, Concerns and Response Table

No	Village	Comment / Concern / Input	Section where comment is addressed	How it is addressed
1.	Orotjitombo	Our community if faced with high unemployment amongst the youth. What is your plan when it comes to employment opportunities?	EMP	General work that do not require expertise shall be reserved for local. Only specialised skills will be brought it from outside.
2.	Orotjitombo	How do you know where your EPL start and ends?	Scoping Report Map	The EPL has a map with coordinates. It is the coordinates that guides the boundary of the EPL.
3.	Orotjitombo	What if in your EPL I have found minerals that I want to mine or have keen interest in.	Scoping	Right now, it is Epangelo Mining that has right to explore over the EPL area. These rights are given by the Ministry of Mines and Energy through an application process. However, if you discover some minerals, you are urged to

No	Village	Comment / Concern / Input	Section where comment is addressed	How it is addressed
				come to Epangelo Mining for a possible agreement on mining. Epangelo Mining will be in position to assist with machinery. The important thing is that, Epangelo Mining will be willing to work together with the communities.
4.	Orotjitombo	Will you need local people to guide you when coming to undertake exploration	EMP	Yes, we will first consult the Chief and request him to provide us local people to guide us through the area
5.	Otjiu West	What will you do with the Mineral that you are looking for?	Scoping	Copper is used electrical wires, while cobalt is used in car batteries. Epangelo Mining will not produce the final products, but will export raw material to be turned into product.
6.	Otjiu West	What will be the Benefit of community	Scoping / EMP	The community will mainly benefit from Employment opportunities that will be created as well as through the company's cooperate social responsibilities. Such as support of vulnerable groups and support of projects such as a garden. Furthermore, the community will

No	Village	Comment / Concern / Input	Section where comment is addressed	How it is addressed
				benefit from the upgrading of infrastructures such as roads and increase in business opportunities in the area.
7.	Otjiu West	What if in your EPL I have found minerals that I want to mine or have keen interest in.	Se point 3 above	Se point 3 above
8.	Otjiu West	EPL boundaries	Se point 2 above	Se point 2 above
9.	Otjiu West	How will the Community conservancy benefit from the proposed activities	Scoping	The Conservancy will benefit through co-operate social responsibility of the company. Example through donation of vehicle.
10.	Otjiu West	What happens if I found copper and you are also prospecting for Copper?	Scoping	Legally, you will not be allowed to prospect for the minerals that Epangelo Mining is prospecting. However, you will need to communicate your find to Epangelo Mining so that you can reach an agreement.
11.	Traditional Authorities	Vita Traditional Authority acknowledge the effort for Epangelo Mining to consult all		Comment noted

No	Village	Comment / Concern / Input	Section where comment is addressed	How it is addressed
		affected communities as it avoids conflicts.		
12.	Traditional Authorities	The two Traditional Authorities urged Epangelo Mining to be transparent in working with Communities for the benefit of all parties.		Comment noted
13.	Traditional Authorities	The Traditional Authorities welcomes the development and hopes that an economical deposit may be found to provide much socio-economic benefit to region		Comment noted
14.	Ogongo Community	What if in your EPL I have found minerals that I want to mine or have keen interest in.	Se point 3 above	Se point 3 above
15.	Ogongo Community	The community encouraged good transparent and for Epangelo mining to stick to their promise of mutual benefits.		Comment noted

No	Village	Comment / Concern / Input	Section where comment is addressed	How it is addressed
16.	Ogongo Community	How does one measure the EPL and how do you now the names of our villages	General	The EPL map is drawn using an equipment called the Global Positioning System (GPS). All the shape files for Namibia villages are available that is why we know the village names.

7. Impact Identification and Risk Assessment

7.1. Impact Identification

During literature review and site assessment, possible impacts were listed. The criteria used to assess the impacts and the method of determining their significance is outlined in Table 8 This process conforms with the Environmental Impact Assessment Regulations of Environmental Management Act, 2007 (Government Gazette No. 4878) EIA regulations. The approach for determining and analyzing impacts is undertaken into two steps.

- **Impact Determination**; during this step, the impact is assessed based on severity, spatial scale and its duration.
- **Impact Significance**; various rating exists to determine the overall rating of the impact

Impact significance is determined under two mitigation scenarios; **without mitigation** and **with mitigation**. The confidence of impact mitigation depends on the level of certainty based on available information to assess the impact. Impacts whose level of uncertainties are high, a specialist study maybe commissioned to understand and develop the mitigation measures. If after a specialist studies there are still further uncertainties pertaining the impact, a precaution measure is applied to allow for more studies to be undertaken.

Table 8. Criteria for impact assessment

Risk Event	Rating	Description of the risk that may lead to an Impact
Impact type	**0**	No Impact
	+VE	Positive
	-VE	Negative
Probability	The probability that an impact may occur under the following analysis	
	1	Improbable (Low likelihood)
	2	Low probability
	3	Probable (Likely to occur)
	4	Highly Probable (Most likely)
	5	Definite (Impact will occur irrespective of the applied mitigation measure)

Confidence level	The confidence level of occurrence in the prediction, based on available knowledge	
	L	Low
	M	Medium
	H	High
Significance (Without Mitigation)	0	None (Based on the available information, the potential impact is found to not have a significant impact)
	L	Low (The presence of the impact's magnitude is expected to be temporal or localized, that may not require alteration to the operation of the project
	M	Medium (This is when the impact is expected to be of short term moderate and normally regionally. In most cases, such impacts require that the projects is altered to mitigate the impact or alternative method of mitigation is implemented
	H	High (The impact is definite, can be regional or national and in long term. The impact could have a no go implication unless the project is re-designed or proper mitigation can practically be applied
Mitigation	The applied measure / alternative to reduce / avoid an impact	
Significance (With Mitigation)	0	None (Based on the available information, the potential impact is found to not have a significant impact)
	L	Low (The presence of the impact's magnitude is expected to be temporal or localised, that may not require alteration to the operation of the project
	M	Medium (This is when the impact is expected to be of short term moderate and normally regionally. In most cases, such impacts require that the projects is altered to mitigate the impact or alternative method of mitigation is implemented
	H	High (The impact is definite, can be regional or national and in long term. The impact could have a no go implication unless the project is re-designed or proper mitigation can practically be applied
Duration	Time duration of the impacts	
	1	Immediate
	2	Short-term (0-5 years)
	3	Medium-term (5-15 years)
	4	Long-term (more than 15 years
	5	Permanent
Scale	The geographical scale of the impact	
	1	Site specific
	2	Local
	3	Regional
	4	National
	5	International

7.2. Impact Risk Assessment Procedure

An illustration of an impact analysis is shown in Figure 15.

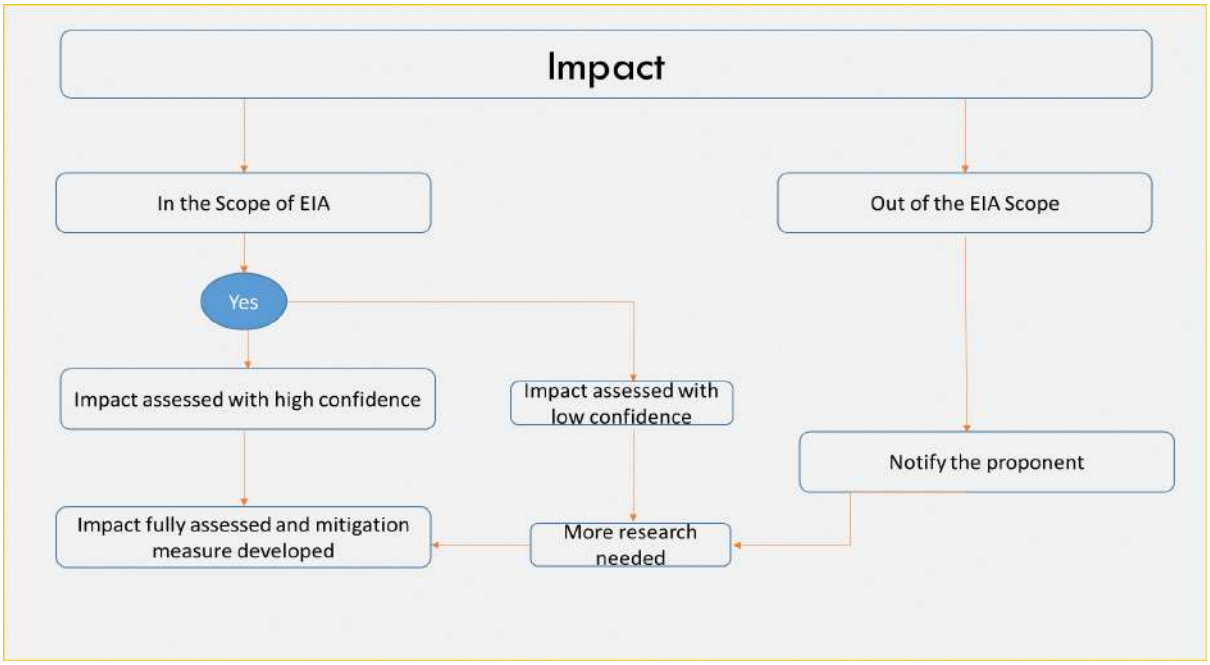


Figure 17. Matrix used for the impact assessment

7.3. Identified Impacts

The following negative and positive impacts were identified. An EIA is a living document, impacts that could not be identified for this scoping report and identified later should be taken into account and adequate mitigation measures must be applied.

7.3.1. Potential Negative Impacts

- Noise pollution from heavy machinery and drilling
- Soil disturbance
- Loss of habitat and biodiversity from site preparations and occupation
- Air pollution from vehicle emission and dust emission from drilling activities

- Health and Safety risk
- Risk of pollution from generated domestic solid wastes
- Risk of contamination of ground water from oil, grease and lubricants from heavy vehicles, and drilling activities.

7.3.2. Potential Positive Impact of the project

- Direct and indirect creation of employment opportunities
- Knowledge and technology transfer.
- Increased economic activities
- Increase in National economy through payments of taxes.

8. Risks Assessment

8.1. Planning Phase

To ensure that the project is accepted by the public and avoid possible conflicts, the project was advertised in local newspaper and a series of community consultation was held where the communities and the traditional authorities has agreed to the implementation of the project.

8.2. Operational Phase

8.2.1. Socio-Economic Impacts

Potential Environmental / Social Impact	Mitigation Measures	Significance of the Impact	
Access Access to site must be communicated to the Village chiefs to avoid conflict	1. Inform Chiefs well in advance before your planned activities 2. Do not enter the area without owners consent 3. All COVID-19 measures must be implemented (wearing of mask and hand sanitizers)	Not significant with the proposed measure	
Employment It is not anticipated that a significant number of employment shall be created during the operation of the project.	1. Ensure that all general work is reserved for local people unless in circumstances where specialized skills are required. 2. Fair compensation and labour practise as per Namibian Labour Laws must be followed 3. Ensure skill transfer to the locals 4. Use local supplier for good and	**Type**	+VE
		Severity	Medium
		Scale / Extend	Local
		Probability	Definite
		Confidence level	High
		Without Mitigation	Medium
		With Mitigation	Low

Potential Environmental / Social Impact	Mitigation Measures	Significance of the Impact	
	service where possible		
HIV/AIDS, Alcohol and Drug abuse Namibia has high prevalence of HIV/AIDS and it is important to ensure that employees are sensitized about the pandemic.	1. Provide awareness to the employees on danger of alcohol and drug abuse 2. Provide Condoms at site	**Type**	-VE
		Severity	High
		Scale / Extend	Local
		Probability	Definite
		Confidence level	High
		Without Mitigation	Medium,
		With Mitigation	Low
Health and Safety The Regulations Relating to the Health and Safety of Employees at Work, made under Labour Act of 1992 (Act No. 6 of 1992) place legal duty on employers to provide a health and safe working environment to the employees and any person other than the employees who might be affected by their operations.	1. Implement COVID-19 preventative measures 2. Employees must NOT be exposed to noise levels above the required -85dB (A) limit over a period of 8 hours. 3. Adhere to the Labour act, non-toxic human dust exposure levels may not exceed 5mg/m3 for respiratory dust and 15mg/m3 for total dust.	**Type**	-VE
		Severity	High
		Scale / Extend	Local
		Probability	Definite
		Confidence level	High
		Without Mitigation	High
		With Mitigation	Low

Potential Environmental / Social Impact	Mitigation Measures	Significance of the Impact	
Operation of specialized drilling equipment may increase safety risk if not executed correctly	4. Supply clean drinking water to the site, such as portable water tank; 5. Used mobile toilets 6. Ensure that supervisor has gone through occupational health and first aid course, 7. Train employee on hazard and risk avoidance 8. Provide insect repellent, mosquito nets and if necessary immunization to prevent deadly diseases such as malaria		
Heritage and Archaeology There are no known of possible heritage or archaeology materials on site	3. Employee must be trained on the possible find of heritage and archaeological material in the area; 4. Implement a chance find and steps to be taken for heritage and archaeological material finding (Heritage (rock painting and drawings), human remains or	**Type**	-VE
		Severity	Medium
		Scale / Extend	Local
		Probability	Definite
		Confidence level	High
		Without Mitigation	Medium,
		With Mitigation	Low

Potential Environmental / Social Impact	Mitigation Measures	Significance of the Impact	
	artefacts) are unearthed Stopping the activity immediately v. Informing the operational manager or supervisor vi. Cordoned of the area with a danger tape and manager to take appropriated pictures. vii. Manager/supervisor must report the finding to the following competent authorities, National Heritage Council of Namibia (061 244 375) National Museum (+264 61 276800) or the National Forensic Laboratory (+264 61 240461).		

8.2.2. Bio-Physical Impacts

Potential Environmental / Social Impact	Mitigation Measures	Significance of the Impact	
Flora The target areas for drilling and trenching may require the clearing of vegetation. Unless totally unavoidable, mature and protected trees must not be cut down.	1. Implement recommendation from the vegetation study 2. Ensure that access roads are rehabilitated after use	**Type**	-VE
		Severity	Medium
		Scale / Extend	Site Specific
		Probability	Definite
		Confidence level	High
		Without Mitigation	Medium
		With Mitigation	Low
Fauna There are domestic and wild animals. These animals are accustomed to human activities; hence human presence shall not impact them severely. However, employees must be cautioned against poaching.	1. Do not kill animal, unless such animals pose eminent danger to humans 2. There must be ZERO tolerance to poaching to ensure this, no weapon and traps are allowed on site;	**Type**	-VE
		Severity	Medium
		Scale / Extend	Site Specific
		Probability	Probable
		Confidence level	High
		Without Mitigation	Medium
		With Mitigation	Low
		With Mitigation	Medium
Surface and Ground Water Pollution	1. Fuelling of heavy vehicle on site must be well coordinated at designated places, 2. Stationary vehicles must be provided	**Type**	-VE
		Severity	Medium
		Scale / Extend	Site Specific

Potential Environmental / Social Impact	Mitigation Measures	Significance of the Impact	
Heavy vehicle and machinery may pollute water sources from leakages of oils, hydraulic fluids, lubricants and greases. These pollutants may reach underground water through seepage. Further surface water may be polluted from surface run off soils that is polluted.	with drip tray to capture oil, lubricants and hydraulic fluids leakages 3. All vehicle and machinery must be well service to avoid leakages 4. Provide and train on oil spill emergency response 5. Servicing of vehicles and machinery must take place at designate places	**Probability** **Confidence level** **Without Mitigation** **With Mitigation**	Definite High Medium Low
Land Degradation The uncontrolled movement of heavy machinery at the project site as well as on access loads may cause land degradation.	1. Movement of heavy vehicles must be coordinated and restricted to be on access roads 2. Normally, public gravel roads are meant for light vehicles, exploration vehicles have the potential to damage the access roads. Hence proper road maintenance must be implemented to ensure that the roads are left on good state	**Type** **Severity** **Scale / Extend** **Probability** **Confidence level** **Without Mitigation** **With Mitigation**	-VE Medium Site Specific Definite High Medium Low
Waste Generation General household waste management measures must be put in place.	1. Provide Skip bins to collect waste and be disposed of at an approved disposal site 2. Do not burry waste on site	**Type** **Severity** **Scale / Extend**	-VE Medium Site Specific

Potential Environmental / Social Impact	Mitigation Measures	Significance of the Impact	
	3. Excavate a small biodegradable waste site that would be dump filled at the end of the project, alternatively, provide mobile toilets that will be disposed at an approved site 3. Used oil, grease and lubricants cans must be collected in appropriate drums and disposed of at an approved site.	**Probability**	Definite
		Confidence level	High
		Without Mitigation	Medium
		With Mitigation	Low
Noise Pollutions Noise from the aeroplane and heavy vehicles may disturb wild life	1. The aircraft must fly at heights which may not cause noise nuisance to animals 2. A fixed wind air craft is recommended than a helicopter 3. Heavy vehicles must be well serviced 4. Switch off engine for vehicles when not in use	**Type**	-VE
		Severity	Medium
		Scale / Extend	Site Specific
		Probability	Definite
		Confidence level	High
		Without Mitigation	Medium
		With Mitigation	Low

9. Decommissioning and Rehabilitation

The exploration activities do not necessarily yield into a decommissioning phase, but rather a rehabilitation phase. The rehabilitation shall include footprints that were created as a result of exploration mainly, access roads, trenches and drilled holes. Waste dumps with biodegradable materials must be backfilled as well as pit latrine toiled if any.

10. Conclusions and Recommendations

10.1. Conclusions

Normally, exploration phase does not yield high level bio-physical environmental damage. Negligible footprint from access roads, and drilling are not expected to cause irreversible harm to the environment. Trenches, drilled holes and access roads are normally fully rehabilitated and always re-vegetated after rainfall season. Henceforth, the proposed exploration activities are expected to be undertaken in an environmental sustainable manner. In events where this exploration yield into a feasibility mining operation, a comprehensive environmental impact assessment must be undertaken.

10.2. Recommendations

It is recommended to the approving authority for an issuance of the Environmental Clearance Certificate for the proposed Exploration activities on EPL 6878.

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