



SCOPING ENVIRONMENTAL IMPACT
ASSESSMENT REPORT FOR THE
PROPOSED EXPLORATION
ACTIVITIES ON EPLs 8576 & 8577 IN
OPUWO AREA KUNENE REGION

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DOCUMENT AUTHENTICATION

This Scoping Environmental Impact Assessment report has been prepared by Eco-Wise Environmental Consulting cc in accordance with the Environmental Management Act No 7 of 2007 (EMA) and its regulations of 2012, which requires that every mining related project may not be undertaken without an environmental clearance certificate. We the undersigned, certify that the particulars in this report are correct and righteous to the best of our knowledge.

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ENVIRONMENTAL AUTHORIZATION INFORMATION

Please note that the environmental clearance certificate should be issued out to the client. All comments and enquiries during the evaluation of this document must be addressed to the Environmental Consultants. Please forward the clearance certificate to the consultant.

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ACRONYM

ACRONYM	MEANING
BID	Background Information Document
EIA	Environmental Impact Assessment
EAP	Environmental Assessment Practitioner
EMP	Environmental Management Plan
EPL	Exclusive Prospecting License
I&APs	Interested and Affected Parties
LTD	Limited Company
PPP	Public Participation Process
PTY	Proprietary
ToR	Terms of Reference

EXECUTIVE SUMMARY

Proponent

The Proponent, Precious Kaoko Prospecting (Pty) Ltd, proposes to conduct exploration activities on the following EPLs 8576 & 8577. The EPLs are located approximately 86 km south-west of Opuwo Town, near Otjiu- West in Kunene Region. Precious Kaoko Prospecting (Pty) Ltd is a registered Namibian company. The study area, might have different minerals but the Proponent is mainly aiming to discover, copper of medium to large minable deposits. Given that a discovery of copper deposit is found, it may form an alternative source of concentrate for the Tsumeb smelter.

Environmental Assessment Consultants

The Environmental Impact Assessment (EIA) for the proposed exploration was conducted by Eco-Wise Environmental Consulting cc. The study was carried out according to the requirements of the Environmental Management Act (Act No.7 of 2007) and its regulations of 2012.

Objectives of the EIA

- Generally, the main objective of the study was, to determine the potential environmental and socio-economic impacts derived from the exploration activities.

Specific objectives included:

- To determine the potential environmental impacts derived from exploration activities.
- To establish baseline environmental conditions so that relevant impacts could be projected and sufficient mitigation measures could be designed
- To consult with key, interested and affected stakeholders so that their concerns are considered in the formulation of the scoping EIA report and implementation of the Environmental Management Plan
- To propose alternative measures where it is noticed that adverse effects may occur
- To design an EMP with sound and relevant mitigation measures
- Coordinate the whole application process of the Environmental Clearance Certificate (ECC) until the issuance of the certificate.

Environmental Impact Assessment Methodology

The following methodologies were used during the study; desktop studies, observations through site visit, public meeting, advertisement, secondary data collection and distribution of questionnaires and letters. **See Appendix A**, for meeting minutes, questionnaires and adverts.

Environmental Impact Assessment

This is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse. The Environmental Consultants undertook this Environmental Impact Assessment (EIA) study, to predict the impacts of the

proposed activity on the environment and to propose mitigation measures. The EIA covered the following aspects; project description, baseline studies, public participation process, environmental, socio-economic impact assessment and environmental management. All identified impacts were addressed and mitigation measures were brought forward.

The main findings obtained from the assessment showed that the project will have more positive impacts in future thus during mining phase. If this initiative grows and ultimately develop into an active mine, this will support many Namibians. Positive impacts which will likely happen in future include transfer of skills, employment creation, community development and boosting Namibia's copper supplies and mineral exports. However, the project might also have negative impacts on the landscape, soil, fauna and employees working on the site.

Draft Scoping Report

The draft scoping report was made available to the public for commenting. The draft report included all comments raised during the public meetings. All impacts identified through the site visit, professional expertise and comments from the public were incorporated in the report. An Impact Assessment matrix was used to establish the environmental risk of the overall project. In a bid to ensure that the proposed mitigation measures will be implemented, an Environmental Management Plan was developed to guide all activities of the project during all its phases.

Final Scoping Report and EMP

The final report was sent to the Proponent, Ministry of Mines and Energy and Ministry of Environment Forestry and Tourism: DEA.

CHAPTER ONE: BACKGROUND

1.1 INTRODUCTION

Precious Kaoko Prospecting (Pty) Ltd being the Proponent proposes to conduct exploration activities approximately 86 km south-west of Opuwo Town, near Otjiu-West in Kunene Region. Exploration activities will be conducted on EPL 8576 & 8577. The EPLs were both checked on Ministry of Mines and Energy portal and were found not to be falling under environmental sensitive areas or withdrawn areas.

Eco-Wise Environmental Consulting being an independent consultant was hired to conduct a scoping EIA for the proposed exploration activity. Eco-Wise Environmental Consulting cc conducted a site visit on 8 and 9 November 2022. The consultant was mainly guided by the Environmental Management Act (No. 7 of 2007) and Environmental Impact Assessment Regulations (2012) during the process of the EIA. The EIA regulations (2012) states all the activities, which require an Environmental Impact Assessment and among the listed activities is annexure 3, mining and quarrying activities where this project is classified under. *Annexure 3.2 states that other forms of mining or extraction of any natural resources whether regulated by law or not and 3.3 Resource extraction, manipulation, conservation and related activities may not be undertaken without an EIA.* The competent authority will be, Ministry of Environment and Tourism.

1.2 NEED FOR THE PROJECT

1.2.1 Promote local empowerment

Precious Kaoko Prospecting (Pty) Ltd is a Namibian company, hence if the project is given an opportunity it will result in empowering the locals.

1.2.2 Economic development

The motivation for Namibia to support the project is economic and strategic in nature. Given that, medium to large minable copper deposits are explored, this will boost Namibia's copper supplies and mineral exports. In addition, the Proponent will generate revenue for the government through taxes. Revenue generated through taxes will be used for economic development.

1.2.3 Employment creation

Given that this initiative grows and ultimately develops into active mining, local people will benefit. Employment creation will be high in future, thus during mining phase. Job opportunities will be created during the life span of the project. The type of jobs will range from skilled, semi-skilled and unskilled. During the exploration phase, mainly professionals with the expertise will be hired to explore the area. Casual labour might however be sourced from locals when the need arises.

1.2.4 Local development

Generally, the area of Opuwo rural is remote hence this project will have a potential to boost the development of the area. If a mine is established in future, this might likely

lead to upgrading of roads, establishment of infrastructure, increase of people which will have a consequence of increasing demand hence promoting local sells and products.

1.3 SCOPE OF THE PROJECT

The scope of the study required the consultant to conduct a scoping environmental impact assessment putting into consideration relevant Namibian legislations (Environmental Management Act (No 7 of 2007) and its regulations of 2012).

1.4 TERMS OF REFERENCE

The approach to undertake the work was guided by the following ToR, which were provided by the Proponent;

- Conduct scoping environmental impact assessment.
- Determine the possible environmental and socio-economic impacts associated with the project.
- Conduct a public consultation process to gather the views of Interested and Affected Parties.
- Design an EMP with sound and relevant mitigation measures for monitoring purposes.
- Compile a scoping EIA report for submission to Ministry of Environment Forestry and Tourism and Ministry of Mines and Energy.
- Coordinate the whole application process of the ECC until the issuance of the certificate.

1.5 OBJECTIVES

The objectives of the study were derived from the ToR and they are as follows:

1.5.1 General objective

- To determine the potential environmental and socio-economic impacts derived from the exploration activities

1.5.2 Specific Objectives

- To determine the potential environmental impacts derived from exploration activities.
- To establish baseline environmental conditions so that relevant impacts could be projected and sufficient mitigation measures could be designed
- To consult with key, interested and affected stakeholders so that their concerns are considered in the formulation of the scoping EIA report and implementation of the Environmental Management Plan
- To propose alternative measures where it is noticed that adverse effects may occur
- To design an EMP with sound and relevant mitigation measures
- Coordinate the whole application process of the ECC until the issuance of the certificate.

1.6 METHODOLOGY USED FOR THE STUDY

- a) **Desktop Study**- This involved review of documents and relevant legislatives. Documents containing geological, vegetation, climatic, demographic and hydrological data for Namibia were reviewed.
- b) **Site Visits** –The EIA team visited the site on the following dates 8 and 9 November 2022. The field visit was meant for physical inspections of the EPLs in order to gather information on the state of the environment.
- c) **Public Consultation** -consultation was done through advertisement and a public meeting. The meeting was held on 09/11/ 2022 in Otjiu- West at the Conservancy Office at 11.31am.
- d) **Mapping**-More data was obtained from the maps which were produced by the consultant GIS personal. The maps included vegetation, hydrogeology and location.
- e) **Reporting**- all data gathered was used to compile a scoping EIA and EMP report which was submitted to Ministry of Environment Forestry and Tourism and Ministry of Mines and Energy.

1.7 LAND OWNERSHIP

The land is under communal land, see Appendix B consent letter from the traditional authority. The Proponent was granted the EPLs by Ministry of Mine and Energy.

1.8 OVERVIEW OF EIA REPORT

The remaining part of this report has been designated for the following aspects;

- Project Description.
- Relevant legislation
- Description of the affected environment
- Public Consultation
- Assessment of environmental impacts
- Environment Management and Monitoring Plan
- Conclusions and Recommendations.

CHAPTER TWO: PROJECT DESCRIPTION

The following issues will be clarified under project description;

- Project location.
- Project activities.
- Project cost.

2.1 PROJECT LOCATION

Precious Kaoko Prospecting (Pty) Ltd proposes to conduct exploration activities on EPL 8576 & 8577 situated approximately 86 km south-west of Opuwo Town, near Otjiu-West in Kunene Region. To note, EPL 8576 & 8577 share a boundary. Figure 1 below shows the Location Map and Table 1 the coordinates, conservancies around the EPLs and area of the EPLs.

Table 1: shows coordinates for EPL 8576 & 8577

EPL	AREA (HECTARES)	CONSERVANCY	COORDINATES				
			Corner 1	Corner 2	Corner 3	Corner 4	Centre
8576	8481.8975	Otjiu-West	18°19'09"S 13°18'57"E	18°19'18"S 13°23'56"E	18°24'47"S 13°23'09"E	18°26'23"S 13°20'51"E	18°21'57"S 13°21'35"E
8577	22647.2039	Otjiu-West & Ombujokanguindi	18°19'21"S 13°24'04"E	18°20'57"S 13°32'06"E	18°30'22"S 13°34'29"E	18°24'33"S 13°23'17"E	18°23'12"S 13°28'06"E

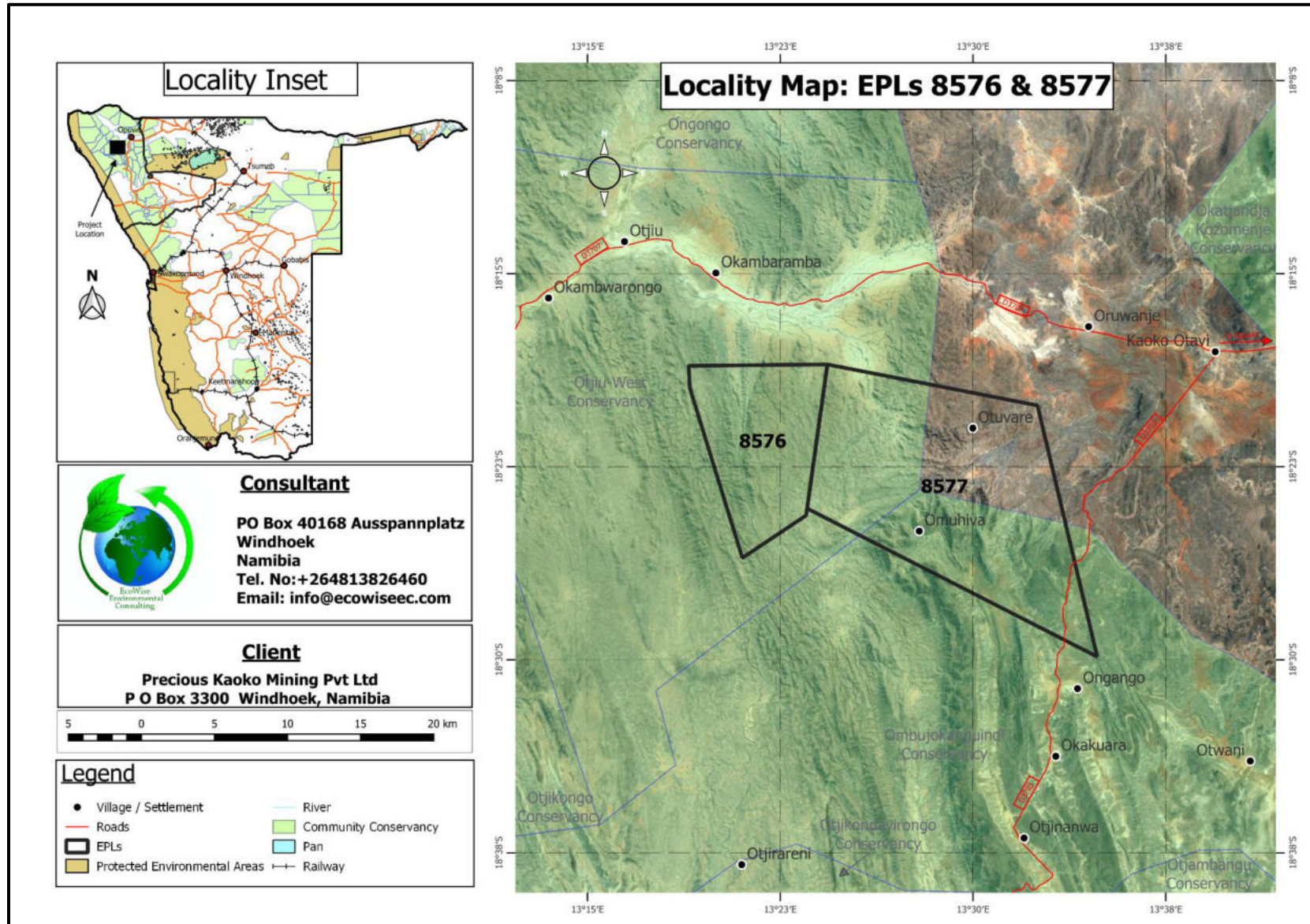


Figure 1: shows location map

2.2 SURROUNDING LAND USES

EPL 8576 & 8577 is surrounded mainly by open areas. North-west of the EPLs there is Hoarusib River which is approximately 9.3km and north there is the D3707 road which is approximately 4.8km. East there is the D3705 road which also passes through EPL 8577 and South-east there is Ongango settlement which is approximately 2.6km. Within the EPLs there are mountains and valleys. In addition, inside EPL 8577 there are settlements namely Otuvare and Omuhiva. Images below show features within the EPLs.

a)



b)





c)



d)

Site image 1: shows the study area (a-d)

2.3 PROJECT ACTIVITIES

Exploration is a stage of investigating or examining about the geological condition of an area. The main aim at this stage is to find high quality ore. The below activities shall be conducted during the exploration phase. It is essential to note that, during the

exploration phase, no construction activities shall be done. Existing roads shall be used hence reducing the impact of clearing vegetation. Roads in bad conditions will be upgraded and where the EPLs are inaccessible, cut lines will be created for accessibility of vehicles.

2.3.1 RESEARCH AND RECONNAISSANCE

The Proponent shall conduct some researches using i.e survey of existing literature, examination of aerial photographs and satellite imagery alongside acquisition of geophysical data and geological maps of the prospective region. The desktop information is used to generate a geological model on which all the future exploration activities will be based.

Reconnaissance will involve walking around the EPLs so as to try and identify areas with ore deposits. In a case that a potential area is identified, the chief geologist will further make a verification. During this stage, prospectors will only look in the rocks thus for useful minerals and other clues to where a deposit may be hidden. The main purpose of carrying a reconnaissance is to reduce the areas of study by identifying select ones for further studies.

2.3.2 TRENCHING AND DRILLING

The Proponent intends to use limited trenching and mainly drilling. Trenching will be carried out to expose the ore body near to the surface while drilling will be used to have a better understanding of the subsurface geology. Exploratory openings or boreholes will be drilled at closer intervals along the strike and also depth wise, to accurately determine the shape, size, disposition of ore and grade of ore body. Water for exploration drilling will be obtained from nearby villages.

2.3.3 GEOCHEMICAL SAMPLING AND ANALYSIS

Samples will be collected during trenching and drilling and sent for chemical analysis/testing.

2.3.4 MAPPING

A map will be produced showing areas with potential deposits. Such maps will be of great importance during the mining phase.

2.4 POST EXPLORATION PHASE

This phase can be termed as decommissioning or post exploration phase, when exploration activities come to an end. The main issue at this stage will be rehabilitation. All affected areas will be rehabilitated so as to try to restore the environment to what it was before. Activities which will be done include, backfilling all pits and stockpiling disturbed bedrock.

2.5 PROJECT COST

The total funding required to set up the project is not yet established.

CHAPTER THREE: ANALYSIS OF ALTERNATIVES

The following chapter will focus on the alternatives to the project. Alternatives to the project are different options, other possibilities or other course of action, which can be adopted. The alternatives to the proposed project are:

Option 1 – Alternative locations

Option 2 – No project alternative

Option 3 – Continue with the project

3.1 ALTERNATIVE LOCATIONS

Option 1, which is alternative locations, implies that a different location to carry out the development must be acquired somewhere else other than the chosen site. Nevertheless, the fact that there are possibilities of copper deposit basing on past researches justify the use of the proposed sites for further studies.

3.2 THE “NO PROJECT” ALTERNATIVE

Option 2, which is “no project alternative”, implies that the project must not be undertaken on the proposed land rather the land should remain undisturbed. However, the “no project alternative” will be less favorable from the socio-economic perspective due to the following factors:

- **Local Empowerment-** the shareholders of the company are local people hence the project will help to reduce poverty rate thus improving their social wellbeing.
- **Transfer of skills-** in future (mining phase) the project will probably enable locals to obtain skills and knowledge through trainings.
- **Growth and development-** the project has the potential to benefit the locals mainly in future. If medium to large copper deposit are discovered during exploration phase, plans to start mining will be done which will result in growth and development of the area in terms of human capital and infrastructure.
- **Employment creation-**if the project is implemented, more jobs will mainly be created in future thus during the mining phase.

3.3 OTHER ALTERNATIVES

Table 2: shows exploration methods

Method	Pros	Cons
Limited Trenching	- Ideal for understanding surface geology.	-Difficult in areas with limited access
Drilling	-Easier installation in areas with limited access (under buildings, roads, railway tracks, hills, rivers, ponds, heavily-wooded areas) -Ideal when one requires to understand subsurface geology -Less impact on job site and public -Reduced restoration costs due to minimal impact on land -Maintains a cleaner job site -Environmentally-friendly process	-Drilling is also not an option for shallow trenches less than 2 ft. deep.

Table 3: shows services alternatives

Services	Proposed source	Alternative source
Water	-Local water sources from the nearby villages will be used.	-Transporting water from other sources out of the project area so as to supplement local water
Power for drilling	-Diesel generators	-Solar
Power for cooking	-Gas stoves	-Fire wood
Workers' accommodation	-Campsite in the nearest village for geologist, assistant and drilling crew. -Other employees for manual labor will be sourced from the nearest villages.	-Accommodation can be sourced from the nearest town which is Opuwo.
Road (site accessibility)	-EPL to be accessed from D3705 road	
Waste Management		
Sewage	-Portable toilet to be used and these are advantageous because they are easy to transport and environmentally friendly (if properly disposed)	-Ventilated improved pit (VIP) latrine.

3.4 ALTERNATIVES ASSESSMENT OUTCOMES

Option 3, which promotes the continuation of the project, has been reckoned as the preferred alternative. Option 3, was viewed as beneficial given the benefits that come with the project. In addition, both methods (limited trenching and drilling) shall be used when necessary. Both methods will be used depending on the condition of the ground and the required depth. Furthermore, water for the proposed activity will be sourced from the nearest village. In cases that the water sources from the village have low yields, water will be transported by trucks from other villages around the area. Apart from that,

power for drilling will come from a diesel-powered generator. The D3705 route will be used. Portable toilets shall be used at the village and site where the contractor crew, geologist and assistant will be staying and working respectively. Portable toilets are easily transportable and environmentally friendly (if properly disposed).

CHAPTER FOUR: RELEVANT LEGISLATION

This chapter reviews various applicable legislations, which govern the project. The objective is to ensure that the proposed project comply with Namibia's relevant laws, policies and regulations. Table 4 below indicates laws and policies, which relates to the project.

Table 4: shows relevant legislations related to the project

Aspect	Legislation	Relevant Provisions	Relevance to the Project
The Constitution	Namibian Constitution First Amendment Act 34 of 1998	<ul style="list-style-type: none"> - According to article 91(c) it provides for duty to guard against “the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia” - Article 95 (l) deals with the “maintenance of ecosystems, essential ecological processes and biological diversity” and sustainable use of the country’s natural resources. 	<ul style="list-style-type: none"> - During exploration activities, sustainable practices should be performed.
Environmental	Environmental Management Act 7 of 2007	<ul style="list-style-type: none"> - States that, projects with significant environmental impacts are subject to an environmental assessment process (Section 27). - Requires for adequate public participation during the environmental assessment process for interested and affected parties to voice their opinions on a project (Section 2). 	<ul style="list-style-type: none"> - The EMA should guide the management of this project. - Adverts should be published in two local newspapers twice. - The public and relevant authorities should be consulted during the process of public participation as per the requirement of the act - The EMP which will guide on the management of the environment should be drafted as per the requirement of the act
	EIA Regulations (2012)	<ul style="list-style-type: none"> - Lists all activities, which cannot be undertaken without an EIA. 	<ul style="list-style-type: none"> - This project is listed under mining and quarrying activities.

			- Activity 3.3 states that resource extraction, manipulation, conservation and related activities require an environmental clearance certificate.
	Convention on Biological Diversity (1992)	- Article 1 lists the conservation of biological diversity amongst the objectives of the convention.	- The Proponent should consider the impact of the project on the biodiversity of the area.
	Nature Conservation Ordinance No. 4 of 1975	Chapter 6 provides for legislation regarding the protection of indigenous plants	- Indigenous and protected plants should be protected within the areas of works.
	Environmental Assessment Policy of Namibia (1995)	The Policy seeks to ensure that the environmental consequences of development projects and policies are considered, understood and incorporated into the planning process, and that the term "environment" is broadly interpreted to include biophysical, social, economic, cultural, historical and political components.	- The EIA considers this term of "environment".
	Minerals (Prospecting and Mining) Act, 1992 (Act 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. "mineral" means any substance, whether in solid, liquid or gaseous form, occurring naturally in, on or under any land and	- The intended activity involves exploration of minerals mainly copper ore.

		having been formed by, or subjected to, a geological process, excluding-(c) subject to the provision of subsection (2) , soil, sand, clay, gravel or stone (other than rock material specified in Part 2 of schedule 1)	
Soil	Soil Conservation Act 6 of 1969	This act covers the prevention and combating of soil erosion; the conservation, improvement and manner of use of the soil and vegetation; and the protection of water sources	- Limited trenching will leave earthed soils hence it should not be left unrehabilitated.
Water	Water Act 54 of 1956	- Prohibits the pollution of underground and surface water bodies.	- If drilling activities go below the level of the water table, they might be possibilities of pollution. Hence the pollution of water resources should be avoided during the exploration process.
Health and Safety	Labour Act (No 11 of 2007)	- This act emphasizes and regulates basic terms and conditions of employment, it guarantees prospective health, safety and welfare of employees and protects employees from unfair labour practices.	- The Proponent will be obliged to create a safe working environment for the employees.
	Public Health and Environmental Act, 2015	- The act mainly emphasis on proper management of the environment, to prevent negative health impacts. - The act promotes proper waste management.	- Proper waste management should be promoted to prevent nuisance, which can consequently affect public health.

			<ul style="list-style-type: none"> - Recycling, reuse and reduce must be practised at all times thus if any waste is generated.
	Heritage Act	<ul style="list-style-type: none"> - The Heritage Act of 2004 makes provision for the developer to identify and assess any archaeological and historical sites of significance. The existence of any such sites should be reported to the Monuments Council as soon as possible. The Council may serve notice that prohibits any activities as prescribed within a specified distance of an identified heritage/archaeology site. 	<ul style="list-style-type: none"> - In an event that, the Proponent comes across any archaeological or historical sites of significance, they should report immediately to the Monuments Council

N.B: The Proponent shall be required to comply with the legislations. Where there is need to engage private consultants to facilitate compliance, the Proponent is encouraged to consult qualified and certified personnel. The Environmental consultant is supposed to conduct legal compliance audits and produce bi-annual reports, which will be required during the renewal of the environmental clearance certificate. The Proponent should also renew the permit from National Heritage Council.

CHAPTER FIVE: DESCRIPTION OF THE AFFECTED ENVIRONMENT

This chapter describes the environmental setting of the project, which includes the biophysical environment and the socio-economic environment. The baseline information will assist in the monitoring of the environmental impacts during the exploration phase.

5.1 BIO-PHYSICAL ENVIRONMENT

5.1.1 Climate

The area under study is located on the north-west part of Namibia and generally, the area receives little rainfall. The average annual rainfall received in the area is 300-350 mm per annum. Maximum temperatures can reach 34°C-36°C during the summer months (Mendelsohn et al 2003). Agriculture and many other human activities in the area of study are severely limited by the shortage of moisture. Table 5 below briefly describe the general climatic conditions experienced within the area of study, as deduced from the Atlas of Namibia, by Mendelsohn et al 2003. Figure 2, shows the precipitation and average temperatures for Otjiu-West.

Table 5: shows general climate data

Average Annual rainfall:	Average rainfall in the area is between 300-350mm per year
Average evaporation:	Average evaporation in the area is between 2240-2380mm per year.
Precipitation:	January-March receives high rainfall. June being the driest months
Water Deficit:	Average water deficit in the area is between 1700-1900mm per year.
Temperatures	Annual temperatures are 20-22 °C per year Average maximum temperature 34°C-36°C Hottest month February Average minimum temperatures 6°C-8°C Coldest month July
Wind direction	Wind directions in the area are predominantly from the southeast.
Humidity	Most humid month is March with 80%-90% and September being the least with 10%-20%

(Source: Atlas of Namibia, 2003)

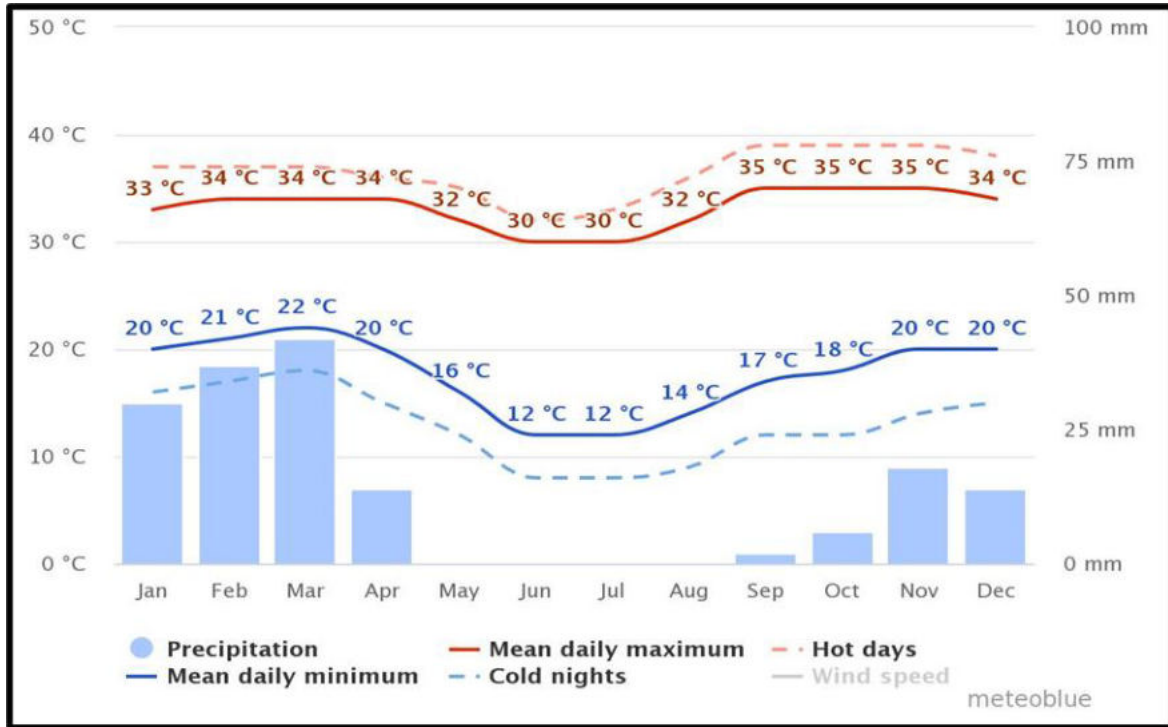


Figure 2: shows precipitation and average temperatures for Otjiu-West

5.1.2 Topography and Geology

Kunene Region consists of a variety of rock formations, most of them exposed in a rugged landscape of valleys, escarpments, mountains and large open plains. The topography of the region is mainly mountainous. The elevation of the region is 868m above sea level. Geology of Kunene Region is classified mainly under the Otavi Group (Ls). Mendelsohn (2000) noted that, Kunene Region has the oldest rocks and the Damara supergroup and gariiep complex. Mendelsohn (2000) further pointed that; besides diamond all valuable minerals are found in the western side of the country. Rock type which is dominate on the EPLs is limestones and dolomites, complex and schist dolomites see figure 3 below, Hydrogeology Map and also see table 6 which shows the possible commodities.

Table 6: shows the commodities for EPL 8576 & 8577

EPL	COMMODITIES
8576	Base & rare metals, dimension stone, industrial minerals, nuclear fuel minerals, precious metals, semi-precious stones
8577	Base & rare metals, dimension stone, industrial minerals, nuclear fuel minerals, precious metals, semi-precious stones

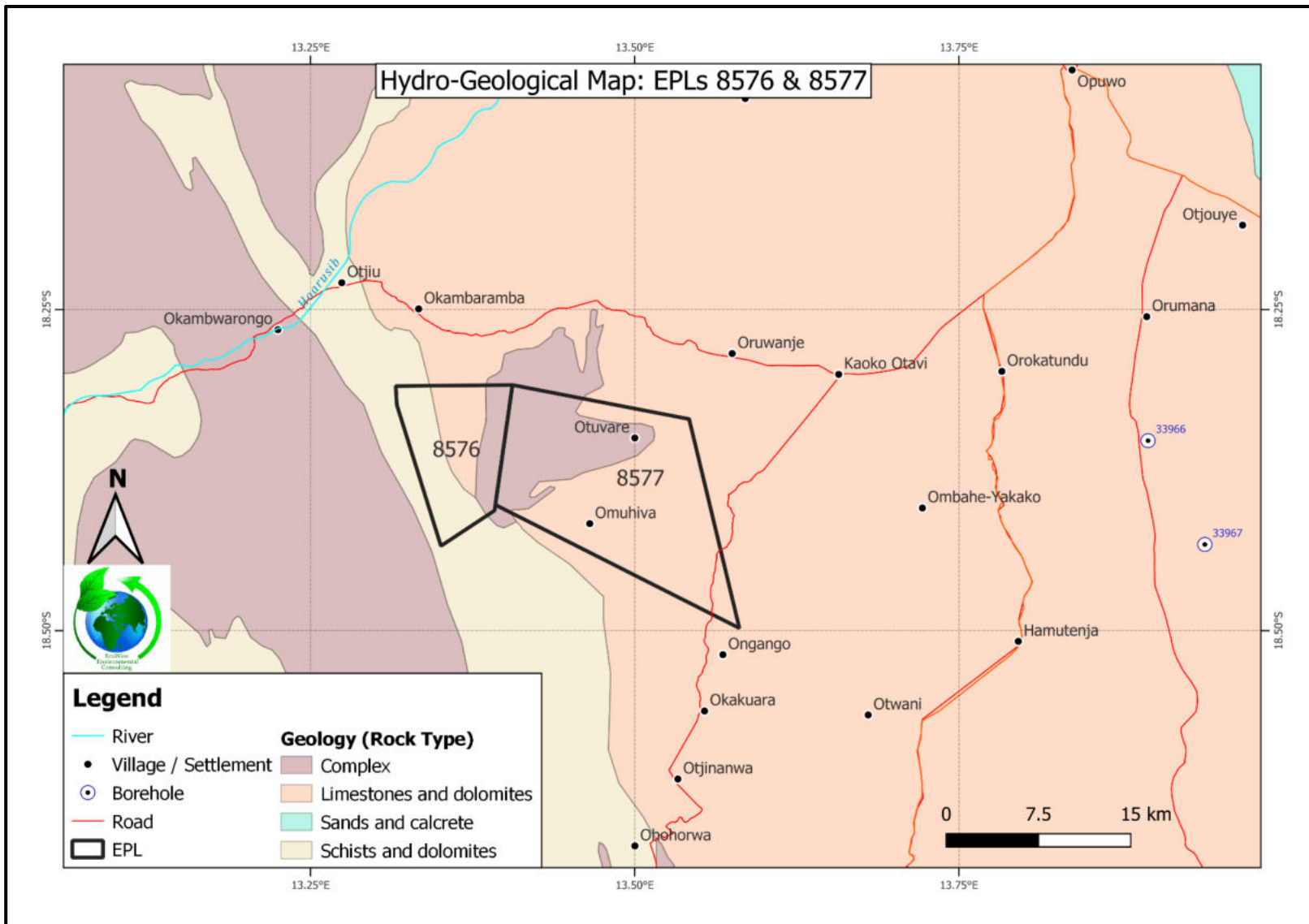


Figure 3: shows hydrogeological map

5.1.3 Hydrology

Generally, the region has low groundwater potential aggravated by the sparse knowledge of the aquifers. The quality of groundwater is potable with total dissolved solids amounting to less than 1000mg/l. The nearest river to the EPLs is Hoarusib River which is approximately 9.3km.

5.1.4 Soils

The study area is mainly covered by lithic leptosols soil which are very thin and shallow. Eutric regosols (fertile soils with high base saturation) and calcareous fluvisols (soils containing calcareous) are also partly found around EPL 8576 & 8577. Leptosols typically form in actively eroding landscapes, especially in the hilly or undulating areas that cover much of southern and north-western Namibia (Mendelsohn 2000). Leptosols are coarse-textured soils which are characterized by their limited depth caused by the presence of a continuous hard rock, highly calcareous or cemented layer within 80cm of the surface. The leptosols are, therefore the shallowest soils to be found in Namibia and they often contain much gravel. Their water holding capacity is low and vegetation in areas in which they occur is often subject to drought (Mendelsohn 2000). Rates of water run-off and water erosion can be high when heavy rains fall. Leptosols can only support low densities of livestock and wildlife.



a)



b)

Site image 2: shows soil type (a-b)

5.1.5 Vegetation of the study area

On a regional scale, the vegetation structure can be described as the Acacia Tree and Shrub Savanna. The vegetation specifically falls under western highlands and the plant structure is grasslands and scattered trees. EPL 8576 & 8577 falls under sparse shrubland and woodland, **see figure 4 below, Vegetation Map**. Protected plant species within the EPLs is *Colophospermum mopane*. It is essential to note that, the area under study receives low rainfall and due to climate change issues, the amount of rainfall received in the area has decreased over the years hence affecting the density and growth of vegetation as shown on site images below.

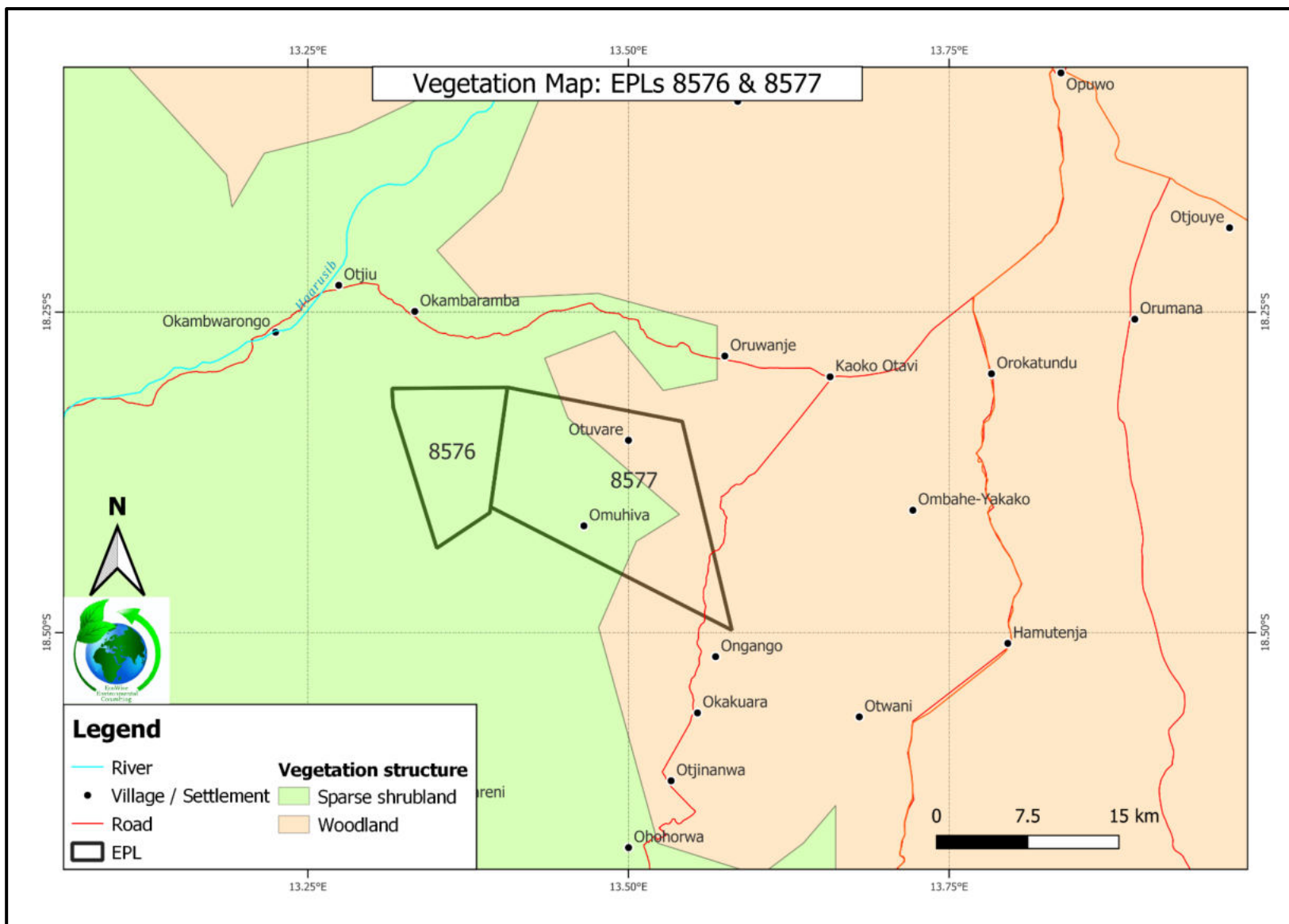


Figure 4: shows vegetation map



a)



b)



c)

Site image 3: shows vegetation within the EPLs (a-c)

5.1.6 Fauna

The area under study generally receives low rainfall which makes it difficult for animals to survive. Generally small animals like goats are mainly domesticated which can feed on tree leaves and survive in arid like conditions. During the site visit, it was observed that animals like cows and goats normally visits the study area, as shown on the site images below. Table 8 below indicate the general fauna data for small creatures.

Table 7: shows summary of general fauna data

Type of fauna	Number of different species/genera	Total around Namibia
Mammal Diversity	61-75 Species	217
Bird Diversity	111- 140Species	658
Reptile Diversity	51-60 Species	258
Frog Diversity	1-3 Species	50
Termite Diversity	7-9 Genera	19
Scorpion Diversity	12-13 Species	21

Source: Atlas of Namibia (2003)



a)



b)

Site image 4: shows cow & goat dung

5.2 SOCIO-ECONOMIC ENVIRONMENT

Kunene Region is located on the northwest of Namibia and the Skeleton Coast Park forms its entire west coast on the Atlantic Ocean. The Kunene River with its Epupa Falls divides the region from Angola to the north. Omusati region makes a boundary on the northeast and the southern side is Erongo and Otjozondjupa regions. The following six political constituencies comprises Kunene Region; Opuwo, Sesfontein, Epupa, Khorixas, Kamanjab and Outjo. Outjo is classified under municipality, Khorixas and Opuwo as towns, Kamanjab as a village. Sesfontein, Fransfontein and Okangwati have been proclaimed and targeted for urban development. Opuwo Rural is an electoral constituency in the Kunene Region and its' administrative centre is the settlement of Otwani.

5.2.1 Population

In the census that was conducted in 2011, the population for Kunene Region was 86 856 of which 43 253 are female and 43 603 are males (NPC 2011). According to NPC (2011), there was an increase in population from 2001 (68 735) to 2011 (86 856). In 2011, Kunene Region had a relatively young population, with about 42% of the whole population being less than 15 years of age hence it is vital to bring projects which create employment and empower the youths.

By region, Kunene Region among the other regions has the lowest percentage of people living with HIV. By region it has 9.7% people living with HIV/AIDS (MHSS 2015).

5.2.2 Education Profile

According to (EMIS, 2012) there are 41 Primary schools, 12 Combined school and 6 Secondary schools, in total there are 120 schools which is too low as compared to other regions. Of the 120 schools, 114 are state owned and 6 privately owned. 73 out of 838 teachers in Kunene Region are without training. Of the population aged 6 years and above in Kunene Region, 35.9 % never attended school, 50% left school and 9% are currently at school (NPC 2011). The major problem in the region is shortage of schools such that learners travel long distances to school which might be a factor to high dropouts in the region. In addition, another challenge is lack of proper teaching facilities and buildings to accommodate learners and teachers. Given the scenario above, if the project is to be implemented, the Proponent should try to help the community as a social responsibility of the company.

5.2.3 Employment Opportunities

According to NPC (2011), 64 % of the economically active population aged 15 years and above are employed and 36% unemployed in Kunene Region. Many people in the region rely on wages and salaries. According to NPC (2011), 32% of the population in the region relies on farming, 41% on wages and salaries, 5% on cash remittance, 8% on business and 12% on pension.

CHAPTER SIX: PUBLIC CONSULTATION

Public consultation process is a fundamental principal of the EIA process and it involves engaging members of the public to express their views about a certain project. Public involvement is a valuable source of information on key impacts, potential mitigation measures and the identification and selection of alternatives. The Environmental Management Act (No 7 of 2007) and the Environmental Impact Assessment Regulations of 2012 empowers the local

community to participate in projects conducted within their jurisdiction. Section 21 to 24 of the EIA regulations of 2012 describe the public consultation process. During the public consultation of the proposed exploration project, the following principals were used: inclusivity, transparency and relevance.

6.1 OBJECTIVES OF THE STAKEHOLDER CONSULTATION PROCESS

The objectives of the public consultation are;

- To inform I&AP about the proposed activity and to give them the opportunity to express their views, concerns or opinions.
- To reduce conflict through early identification of contentious issues
- To gather potential negative and positive environmental impacts associated with the proposed project from the stakeholders' perspectives.
- To engage stakeholders for the effective mitigation and enhancement of negative and positive impacts arising from the proposed project respectively.

6.2 PRINCIPLES GOVERNING PUBLIC CONSULTATION

The following principals were used during the public participation:

6.2.1 Inclusivity

The public participation was open for everyone; invitation to make comments and attend the meeting was announced in the local newspapers, New Era and Windhoek Observer. To ensure that all stakeholders were involved, the consultant compiled a list. Both locals, traditional authorities and Kunene Regional Council were conducted; **see Appendix A, letters sent to stakeholders.** The list included the following:

- Kunene Regional Council
- Traditional Authority
- Locals

6.2.2 Open and transparency

The consultant took time to explain the background of the project and both positive and negative impacts associated with the project. All people who registered as Interested and Affected Parties were also given a BID and full document of the scoping EIA was available upon request.

6.2.3 Relevance

The consultant remained focused on subjects related to the project. Interested and Affected Parties were supposed to make comments relating to socio-economic and environmental impacts associated with the project. Political and other non-related comments were considered not relevant.

6.3 NOTIFICATION OF INTERESTED AND AFFECTED PARTIES

The consultation was facilitated through the following means:

6.3.1 Background Information Document (BID)

The consultant prepared a BID, which was circulated to Interested and Affected Parties. A BID is a short document, which briefly gives the background of the project. The main aim of distributing the BID to Interested and Affected Parties is to bring awareness and clarity about the proposed project. **A copy of the BID is provided in Appendix A.**

6.3.2 Advertisement

Adverts were placed in two local newspapers namely, New Era and Windhoek Observer as shown in table 9 below.

Table 8: shows details of the public notification for the project

Newspaper	Area of Distribution	Language	Date Placed
Windhoek Observer	Country Wide	English	2 October 2022
Windhoek Observer	Country Wide	English	9 November 2022
New Era	Country Wide	English	2 November 2022
New Era	Country Wide	English	9 November 2022
Site notices	Otjiu-West Clinic & Otjiu-West Conservancy	English	9 November 2022

(See Appendix A)

6.3.3 Public Meeting

The public meeting was announced in the New Era and Windhoek Observer. The meeting was held on 9 November 2022 at Otjiu-West Conservancy as shown on site images below. For more information on issues raised during the meeting, **see Appendix A, Meeting Minutes.**



a)



b)



c)



d)

Site image 5: shows stakeholder meeting at Otjiu-West Conservancy (a-d)

6.3.4 Questionnaires

Questionnaires were also distributed amongst the participants so as to gather more information on their views towards the project. Distribution of questionnaires was also done to allow stakeholders to air their views privately. The questionnaires were open-ended whereby the respondent was free to express their views and ideas. **The questionnaires are attached in Appendix A.**

6.3.5 Public Notices

Notices with project information were placed at Otjiu-West Conservancy and Otjiu-West Clinic. Site images below show the notices.



Site image 6: shows public notices at Otjiu-West Conservancy & Otjiu-West Clinic respectively

6.4 SUMMARY OF STAKEHOLDERS CONSULTATION.

During the public participation process, all people viewed the project as beneficial to the community. For more issues raised during the public participation process, **see Appendix A, Meeting Minutes and Questionnaires.** In summary, the following major issues were brought forward:

i. Precise location of the EPLs

The participants wanted to know the exact area for the proposed exploration activities. The Proponent and the consultant therefore took the representatives which had been appointed by the Chief to the site. The Proponent showed the delegation the area. The meeting was then resumed again around 4pm whereby the delegation to the site gave a report back about the exact location of the EPLs to the whole community. The meeting ended with everyone satisfied with the explanation.

6.4.1 Stakeholders' Recommendations

The project was recommended to go ahead.

CHAPTER SEVEN: ASSESSMENT OF ENVIRONMENTAL IMPACTS

This section serves to identify all the potential impacts both negative and positive. In identifying these potential impacts, mitigation measures have been proposed so that the Proponent may carry out the process in an environmentally sound manner. The methodology, which was used to assess impacts and alternatives, include the following:

- Public consultation
- Site visit
- Professional experience

7.1 IDENTIFICATION OF POTENTIAL IMPACTS OF THE PROJECT

Positive Impacts

- Local empowerment
- Employment creation.
- Land utilization for the benefit of people

Negative impacts

Air Environment

- Dust

- Noise

Land Environment

- Impact on landscape

- Vegetation loss

- Generation of waste

- Impact on fauna

- Impact on soil

Water Environment

- Impact on surface and groundwater sources

Socio -Economics

- HIV/AIDS

- Occupational Health and Safety risks.

- Heritage impact

- Population influx

Indirect Impacts

- Cumulative impacts

7.2 IMPACT ANALYSIS

In this section, the impacts of the proposed project on human and biophysical environment are evaluated and analyzed. Following the identification of the various potential environmental impacts, the matrix method was used to evaluate the impacts.

Table 9: ranking matrix

	Temporal scale		Score	
	Short term	Less than 5 years	1	
	Medium term	Between 5 and 20 years	2	
	Long term	Between 20 and 40 years (a generation) and from a human perspective almost permanent.	3	
	Permanent	Over 40 years and resulting in a permanent and lasting change that will always be there.	4	
	Spatial Scale			
	Study area	The proposed site /within immediate area of the activity	1	
	Beyond project boundary	Surrounding area outside the project boundary	2	
	Regional	District and Provincial level	3	
	National	Country	4	
	International	Internationally	5	
EFFECT	Severity		Benefit	
	Slight/Slightly Beneficial	Slight impacts on the affected system(s) or party(ies)	Slightly beneficial to the affected systems(s) or party(ies)	
	Moderate/Moderately Beneficial	Moderate impacts on the affected system(s) or party(ies)	An impact of real benefit to the affected system(s) or party (ies)	
	Severe/Beneficial	Severe impacts on the affected system(s) or party(ies)	A substantial benefit to the affected system(s) or party(ies)	
	Very Severe/Very Beneficial	Very severe change to the affected system(s) or party(ies)	A very substantial benefit to the affected system(s) or party(ies)	
	Likelihood			
LIKELIHOOD	Unlikely	The likelihood of these impacts occurring is slight	1	
	May occur	The likelihood of these impacts occurring is possible	2	
	Probable	The likelihood of these impacts occurring is probable	3	
	Definite	The likelihood is that this impact will definitely occur	4	

Table 10: ranking matrix for environmental significance

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

Table 11: matrix to show environmental significance

		3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
2	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
3	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
4	7	8	9	10	11	12	13	14	15	16	17	18	19	20	

7.3 IMPACT EVALUATION

7.3.1 Negative impacts associated with exploration phase:

1. Impact on landscape

Identified Impact	Effect					Score	Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact				
Impact on landscape Unmitigated	Short term	1	Study area	1	Moderate impact	2	Definite	4	8
Mitigated	Short term	1	Study area	1	Slight impact	1	May occur	2	5

During the exploration phase, the original landscape will be disturbed when activities such as drilling and limited trenching will be done. Disturbance of rocks will cause alternation of existing landscape. However, less harm is generally expected during the exploration phase given that trenching shall be limited and done at a small scale with the use of shovels and picks. No machinery shall be used during trenching. If mitigation measures are implemented, the impact is expected to be of low environmental significance.

Mitigations and recommendation

- Limited trenching should be done to understand the surface geology but when need arise to understand the subsurface geology, drilling should be used.
- Removed rocks and soil should be replaced back and levelling of the area done so as to try to restore the area to its natural state

2. Dust

Identified Impact	Effect						Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score			
Dust Unmitigated	Short term	1	Study area	1	Slight impact	1	Probable	3	6
Mitigated	Short term	1	Study area	1	Slight impact	1	May occur	2	5

Dust is expected to be generated during movement of vehicles given that the roads are dust roads. Dust is likely to be produced also during limited trenching and drilling. The severity of the impact is expected to be slight such that it will not affect by-passers or animals. Employees working in the area are the ones who might be at risk hence they are expected to cover themselves with dust masks. The impact is however expected to be of low environmental significance.

Mitigations and recommendation

- Soil watering when soil works are being executed and where dust is emitted
- People at site should be provided with dust masks
- Regular monitoring and review to ensure safe operation

3. Noise impact

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

During exploration, noise above the ambient levels of the area might be generated locally from exploration activities such as drilling and frequenting vehicles. Noise generated is not expected to affect outside the boundaries of the EPLs. Noise generated might affect employees working at the site hence posing a risk of ear damage. The normal levels of 55 decibels recommended by World Health Organization (WHO) might be surpassed during the exploration phase. Drilling machines can produce noise of around 95- 100 decibels hence the allowable exposure of the employees should be put into consideration. However, the impact of noise will remain of low environmental significance if mitigation measures are implemented.

Mitigations and recommendation

- A drilling interval should be established, used and adhered to and working hours should be limited to minimum of 8 hours per day
- Noise should be addressed and mitigated at an early stage.
- Proper and timely maintenance of machineries and vehicles
- Employees should be equipped with ear protection equipment.

4. Vegetation loss

Identified Impact	Effect					Risk or Likelihood	Score	Overall Significance	
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact				
Vegetation Loss Unmitigated	Medium term	2	Study area	1	Slight impact	1	May occur	2	6
Mitigated	Medium term	2	Study area	1	Slight impact	1	May occur	2	6

The Proponent will use existing roads and in cases that the roads need improvement, they will be upgraded. No new roads will be established but cutlines might only be created for accessibility of vehicles thus when there is need. Vegetation might also be lost during limited trenching and drilling although the severity is expected to be slight. The study area

receives little rainfall and it is generally rocky which affects density and growth of vegetation in the area. To note, the EPLs falls under conservancies hence the Proponent shall be compelled to protect the natural resources around the area.

Mitigations and recommendation

- Protected plant species should not be removed but preserved and the activities should fit into the environment without affecting the protected trees.
- Massive clearing shall not be allowed

5. Impact on soil

Identified Impact	Effect						Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score			
Soil Unmitigated	Short term	1	Study area	1	Moderate impacts	2	Definite	4	8
Mitigated	Short term	1	Study area	1	Slight impacts	1	Definite	4	7

Soil will be disturbed during drilling and limited trenching. Soil might also be partly affected by oil or fuel leakages from vehicular and drilling machines. The impact is expected to affect only the study area and it will be definite that soil will be disturbed.

Mitigations and recommendation

- After completion of exploration activities such as trenching, removed soil layers must be replaced and levelling must be done so that the original condition is restored.
- Proper care should be taken so that there is no spill that would cause soil contamination
- If any hazardous waste is produced it should be properly handled and sent for disposal to appropriate disposal areas
- Fuels shall not be kept/stored at the site.

6. Impact on surface and groundwater sources

Identified Impact	Effect					Risk or Likelihood	Score	Overall Significance	
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact				Score
Surface & groundwater Unmitigated	Short term	1	Study area	1	Slight impact	1	May occur	2	5
Mitigated	Short term	1	Study area	1	Slight impact	1	Unlikely	1	4

There will be no storage of oils and fuel on site, however there is risk of spillage of hydrocarbons from vehicles and drilling machine which may result in environmental contamination. It is essential to note that, the nearest river (Hoarusib River which is also ephemeral) to the EPLs boundary is approximately 9.3km which will make surface water sources less likely at risk. Groundwater sources might be the one at risk if any spillages occur.

Mitigations and recommendation

- Implement a maintenance programme to ensure all vehicles, machinery and equipment remain in proper working condition and maintenance should be conducted in designated areas only, preferably off-site.
- Waste oils and fuels from drip trays on stationery vehicles and machinery should be disposed of as hazardous waste at a licensed disposal facility.

7. Impact on fauna

Identified Impact	Effect					Risk or Likelihood	Score	Overall Significance	
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact				Score
Impact on fauna Unmitigated	Short term	1	Study area	1	Moderate impact	2	Definite	4	8
Mitigated	Short term	1	Study area	1	Slight impact	1	Unlikely	1	4

Exploration activities (walking around, trenching and drilling) might result in loss for animal habitancy. Noise generated from these activities might scare away animals. In addition, wild animals might also be at risk if prospectors practice poaching activities for meat.

Mitigations and recommendation

- Working hours should be limited to during the day, thus enabling wildlife to roam freely at night.
- Poaching shall not be allowed

8. Generation of waste

Identified Impact	Effect					Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact			
Impact of waste Unmitigated	Short term	1	Study area	1	Slight impact	1	4	7
Mitigated	Short term	1	Study area	1	Slight impact	1	1	4

Waste might be generated from unearthed rocks and soil, oils, fuel, food leftovers, papers and plastics. It is definite that waste will be generated from unearthed rocks and soil but if mitigation measures are implemented the impact will be of low environmental significance.

Mitigations and recommendation

- Contaminated wastes in the form of soil, litter and other material must be disposed off at an appropriate disposal site.
- Strictly, no burning of waste on the site or at the disposal site is allowed as it possess environmental and public health impacts
- After completion of exploration activities such as trenching, removed soil layers and rocks must be replaced and levelling must be done so that the original condition is restored

7.3.2 Negative socio-economic impacts associated with exploration phase:

1. Occupational Health and Safety Risks

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

Noise, dust and occupational stress are hazards, which are likely to be encountered during the exploration phase. Dust emitted during trenching and drilling can cause pneumoconiosis to employees thus if they are exposed to it for prolonged periods. Moreover, work pressure on employees can cause stress which can result into accidents.

Mitigations and recommendation

- Conduct Hazard identification and risk assessments
- Comply with all Health and Safety standards specified in the Labor Act.
- Provide all staff on site with protective equipment (helmets, gloves, dust masks, work suits, earplugs, goggles and safety shoes where applicable).

2. Population Influx

Identified Impact	Effect					Score	Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact				
Population Influx Unmitigated	Short term	1	Beyond project boundary	2	Slight impact	1	Unlikely	1	5
Mitigated	Short term	1	Beyond project boundary	2	Slight impact	1	Unlikely	1	5

During the exploration phase, there will be people coming to work at the site. However, the Proponent is expecting to hire a few people given that this stage of the project is not labor intensive as compared to mining. The Proponent will hire two permanent employees (geologist and assistant to the geologist), contractors for drilling and locals for manual labor when the need arises. Therefore, the impact of population influx is expected to remain of low environmental significance.

Mitigations and recommendation

- Local employment should be a priority so as to reduce the number of outsiders entering Opuwo area

3. Heritage impact

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

At the sites, there are no known heritage areas or artefacts deemed to be impacted by the exploration activities. The nearest heritage site (Dorsland Trekker Cottage) is approximately 62.2 km from the nearest boundary of the EPL. However, the Proponent is required to consult with the headman of the area before any work is done so that if there are any areas

which are holy or with graves, the Proponent would be aware. In addition, if the Proponent come across archaeological features or objects that possess cultural values (e.g. Pottery, bones, shells, ancient clothing or weapons, ancient cutlery, graves etc.), the area should be barricaded off and the relevant authorities should be contacted immediately.

Mitigations and recommendation

- The Proponent should consult the headman of the area before conducting any work.
- All works are to be immediately ceased should an archaeological or heritage resource be discovered.
- The National Heritage Council of Namibia (NHCN) should advise with regards to the removal, packaging and transfer of the potential resource.

4. Risk and spread of HIV/AIDS

Identified Impact	Effect						Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact	Score			
HIV/AIDS Unmitigated	Short term	1	Regional	3	Severe impact	4	May occur	2	10
Mitigated	Short term	1	Beyond project boundary	2	Slight impact	1	Unlikely	1	5

The fact that people will be coming from different locations and meeting at one place can result in anti-social behaviours like prostitution hence the spread of HIV/AIDS. If mitigation measures are implemented, it will be unlikely that the virus will spread and the impact will be of low significance.

Mitigations and recommendation

- Employer should allocate time for employees to visit their families.
- Free distribution of condoms

5. Cumulative Impacts

Identified Impact	Effect					Score	Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact				
Cumulative impacts Unmitigated	Short term	1	Study area	1	Slight impact	1	Probably	3	6
Mitigated	Short term	1	Study area	1	Slight impact	1	May occur	2	5

Alternation of existing landscape caused by limited trenching and drilling might result in loss of habitancy for some animals which can further affect the food web.

Mitigations and recommendation

- Limited trenching should be done to understand the surface geology but when need arise to understand the subsurface geology, drilling should be used.
- Removed rocks and soil should be replaced back and levelling of the area done so as to try to restore the area to its natural state

7.3.3 Positive impacts associated with the project

1. Employment creation

Identified Impact	Effect					Score	Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact				
Employment creation Unmitigated	Short term	1	National	4	Very beneficial	8	Definite	4	17
Mitigated	Short term	1	National	4	Very beneficial	8	Definite	4	17

It is definite that jobs will be created during the exploration phase. The type of jobs will range from skilled, semi-skilled and unskilled and locals will definitely be recruited when manual labour is required.

2. Local Empowerment

Identified Impact	Effect					Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact			
Local Empowerment Unmitigated	Permanent	4	Regional	3	Very beneficial	8	4	19
Mitigated	Permanent	4	Regional	3	Very beneficial	8	4	19

The shareholders of Precious Kaoko Prospecting (Pty) Ltd are Namibian citizens. If the deposits are discovered in future, the shareholders and those who depend on them will benefit as long as the mine is operating.

3. Community development

Identified Impact	Effect					Risk or Likelihood	Score	Overall Significance
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact			
Community development Unmitigated	Permanent	4	Beyond project boundary	2	Very beneficial	8	4	18
Mitigated	Permanent	4	Regional	3	Very beneficial	8	4	19

The project has a high probability of improving the general welfare for the local population. If minable deposits are discovered and the project moves to mining phase, the locals will benefit in a great way.

4. Generation of Revenue

Identified Impact	Effect					Risk or Likelihood	Score	Overall Significance	
	Temporal Scale	Score	Spatial Scale	Score	Severity of impact				
Revenue Unmitigated	Permanent	4	National	4	Very beneficial	8	Definite	4	20
Mitigated	Permanent	4	National	4	Very beneficial	8	Definite	4	20

Precious Kaoko Prospecting (Pty) Ltd will pay tax hence generating revenue. More taxes will also be generated through contracted and subcontracted companies.

7.3.4 Post-Exploration Phase

The stage of exploration is expected to have minimum damage to the environment as compared to mining. However, pits created during limited trenching need to be rehabilitated. The following shall be done as a way to restore the environment:

- All pits shall be backfilled or contoured to a stable angle of repose.
- Stockpile disturbed bedrock on site in a safe and stable manner.

7.4 SUMMARY & ANALYSIS OF IMPACTS

During the exploration phase, the following impacts will fall under moderate environmental impacts if no mitigation measures are put in place; impact on landscape, fauna, soil and HIV/AIDS. However, if the project is well managed and the proposed mitigation measures are implemented accordingly, all the identified impacts will present minimum or no harm to the environment and to local people.

CHAPTER EIGHT: ENVIRONMENT MANAGEMENT AND MONITORING PLAN

Environmental planning and management as a concept seek to improve and protect environmental quality for both the project site and the neighborhood through segregation of activities that are environmentally incompatible. Environmental planning and management integrate land use structure, social systems, regulatory law, environmental awareness and ethics. Environmental Management Plan (EMP) is a vital output for an Environmental Impact Assessment as it provides a checklist for project monitoring and evaluation.

EMP for the proposed project is aimed at providing a logical framework within which identified negative environmental impacts can be mitigated and monitored. **See Appendix C**, for the EMP.

CHAPTER NINE: CONCLUSIONS AND RECOMMENDATIONS

9.1 CONCLUSION

In the past, researches have been done on environmental impact assessment associated with exploration activities. However, knowledge gap remains on this project given that no EIA has been done earlier before. It was therefore, very essential to have profound research and a critical analysis on the Environmental Impact Assessment for exploration activities in relation to the proposed area of development.

From the foregoing analysis, the social and economic rating for this project is highly positive. The project does not pose any serious and negative environmental impacts. Adequate mitigation measures have been proposed to address any of the negative impacts arising from the project. Should the Proponent implement all the suggested mitigation measures, the consultant recommends the issuance of the Environmental Clearance Certificate.

9.2 RECOMMENDATIONS

The following recommendations have been brought forward:

- Unnecessary clearing of vegetation shall not be allowed unless when the need arise to create cutlines for accessibility of vehicles.
- After exploration activities, the Proponent should rehabilitate the area by backfilling the pits or contour to a stable angle of repose
- Environmental monitoring by an independent environmental consultancy must be carried out during the exploration phase to monitor environmental compliance. Bi-annual reports should be written and submitted to MEFT. These monitoring reports should accompany the application for renewal of the environmental clearance certificate after 3 years

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