

Appendix No.1

Environmental Commitment Plan

1.1 Introduction

The Large scale gemstone mining Licences herein applied for will adhere to the requirements of the Mines and Minerals Act No.7 Of 2008, the Mines and Minerals(Environmental)Regulations of 1997 and other relevant legislation that will include the following:-

- I The Environmental Protection and pollution Control Act, Chapter 204(EPPCA).
- ii The Water pollution Control (Effluent & Waste Water) Regulations, 1993.
- iii The Air Pollution Control (licensing & Emissions Standards)Regulations,1996.
- iv. The hazardous waste Management Regulations (S.I No.125 of 2001.
- Vii. The Mines and Minerals Development Act No. 7 of 2008.
- Viii. Environmental Protection Fund (EPF) Regulations (SI No.102 of 1998).
- ix Forestry Act, chapter 283
- X . Town and Country Planning Act, Chapter 283
- Xi The water Act of 1949.
- Xiii The National Heritage Conservation Act 1989.
- Xiv .The lands Acts of 1995,and the land Acquisition Act of 1995.
- xv. The public Health Act of 1996
- xvi The Explosive Act of 1971.

The gemstone prospecting and mining activities will as much as practically possible be environmental friendly, and with strict monitoring measures. The project will also put in measures the mitigation on any possible negative impact on the environment.

However, very negligible social-economic and environmental negative impact are expected in the targeted area.

During the period, prospecting operations will be labour intensive with minimal mechanization, and therefore negligible impact on the on the environment is expected.

1.2 Brief Description of area

The area is mainly characterized plain to rolling landscape, covered by some stretches of woodlands, with some isolated grasslands and dambos.

A few isolated open cultivate areas are mainly used for substance farming of mainly cassava, maize and finger millet. There are almost no grazing of domestic animals within the project a're. However; a few grazing areas are located near a few nearby Villages. few dambos are used to the nearby Villages for fish ponds.

No existence of large fauna is evident in the area. However, a few varieties of small mammals,birds,insects and reptiles exist in the area with habitation mainly provided by the scattered vegetation,grasslands,anthills,sub-surface and rock outcrops.

The area of interest is purely of rural setup and thinly populated with scattered human settlements and activities. A few social-economic activities are available in the area for the local population. Mostly; the local community is involved in subsistence farming of mainly finger millet, maize and cassava.

1.3 Expected social-Economic and Environmental Impacts.

1.3.1 Social-economic Impact

Negligible social-economic impact is expected. No resettlement resulting from the proposed prospecting would be necessary.

It is anticipated that direct and indirect employment for local Zambians would be created. The project would therefore contribute positively to the growth of the local economy resulting in improved household income in the local community.

On the other hand, the project will contribute to the increase in population and immigrants in the area, though negligible. With an increase in human population due to bring along socio-economic and cultural changes in the area. The increased population especially due to migration is also likely to contribute t o the change of prevalence pattern of the spread of HIV/AIDS in the area.

1.3.2 Environmental Impact

1.3.2.1 Expected Impact

Minimal impact may arise from the prospecting activities in the area. The increased Socio-economic activities may also impact on the environmental negatively though negligible.

The environment may be impacted in the following:-

i. Land use:-

- The area of interest mainly sparsely populated, most of the portion is not occupied and therefore there is no potential for and use in the project area. Minimal environmental impact is therefore expected on the land use potential
- Absolute minimal or no impact is expected on the land use due to expected solid waste generated from human activities at the project area.

ii. Water/drainage of area

- No possible water pollutions is expected within the project within the project area as no chemical would be used during prospecting operations. However, absolute minimum possible water pollution may occur at some nearby water outside the project area
- No impact is expected on the surface water quality and quantities in the project area.
- No impact is expected on the Aquifer recharge and water run-off rates.
- No impact is expected on the flow regime of water course,
- Minimal impact is expected on the compatibility of prospecting developments within surrounding areas.

iii. Ecology

- Absolute minimal negative impact may be expected on the number and diversity of flora and fauna due to prospecting activities in the area.
- Minimal visual impact is expected on the landscape due to removal of vegetation and some notable features in the area of project.
- Minimum impact is expected on the compatibility of prospecting developments within surrounding areas.

iv. Climate

- No impact is expected on climate pattern of the project area.

v. **Landscape**

- . Minimal impact is expected on the areas landscape due to some portions being opened up or closed down as a result of prospecting.
- .Minimal visual impact is expected on the landscape due to removal of vegetation and some notable features in the area of project.
- .Minimum impact is expected on the compatibility of prospecting developments within surrounding areas.

iv. **Air and noise quality**

- . No or absolute minimal negative impact expected on Air and noise quality by dust and emissions from prospecting activities, dust and fumes arising from mechanized vehicles and fuel propelled vehicle/machines.
- .No or absolute minimal imp[act is expected on the quality of the ambient air noise of the area.

Vii **.Social, Economic and Culture**

- . Positive impact is expected on generation of employment of employment.
- .Positive impact is expected on local, regional and national economic resulting from increased household income generation.
- .No or absolute minimal impact expected on social cohesion. No resettlement is expected
- .Minimal immigration expected due to the project.
- .Absolute minimal impact expected on communication infrastructure-roads opened closed or re-routed. Improvement of mainly access road will impact positively by easy access.
- Minimal impact on social amenities and on the rate of STIs and HIV/AIDS.

1.4 Mitigation on negative impacts

1.41 Fuel & noise

To avoid minor air pollution and noise, the consumption of fuel by the utility vehicles will be restricted to the absolute necessary minimum. Fuel propelled utility Vehicles and other fuel propelled exploration equipment will be maintained in good working order to avoid exhaustion and noise emission beyond permissible levels.

Refueling of utility vehicle and other fuel propelled equipment will be restricted to a designated re-fueling bay.

1.4.2 Domestic Waste

Any waste (plastic, organics, and ashes) will be collected in waste plastic bags and disposed off in a environmentally friendly manner as required by the Public Health Act.

In addition, environmental friendly pit latrine will be made plastic bags and disposed off in an environmentally points. These will be buried by the public Health Act.

1.4.3 Clearing of Vegetation

Clearing of vegetation will be limited to the absolute minimum necessary, and will involve only grass and shrubs at sampling points and camp sites. Absolute minimum necessary clearance will be done to facilitate passage for fuel propelled utility Vehicles and other equipment. The existing motorable tracks will be used as far as is practically possible.

.1.4.4Restricted

Excavations

For sampling and mapping purposes, all trenches and pits will be restricted in size to the absolute minimum necessary to avoid unnecessary disturbance to the environment. And all excavations not in use would be buried following soil layer sequence, and site rehabilitation.

1.4.5 Social, Economic and Culture

The project will promote health education among workers and workers and the surrounding community especially concerning STIs, TB and HIV/AIDS. Local entrepreneurs will also be supported by buying mine supplies from local business as much as practically possible. The project will also endeavors to interact with traditional local leaders and participate in upholding the cultural set up of the local community.

1.4.6 Summary of Environmental Negative impact and mitigation

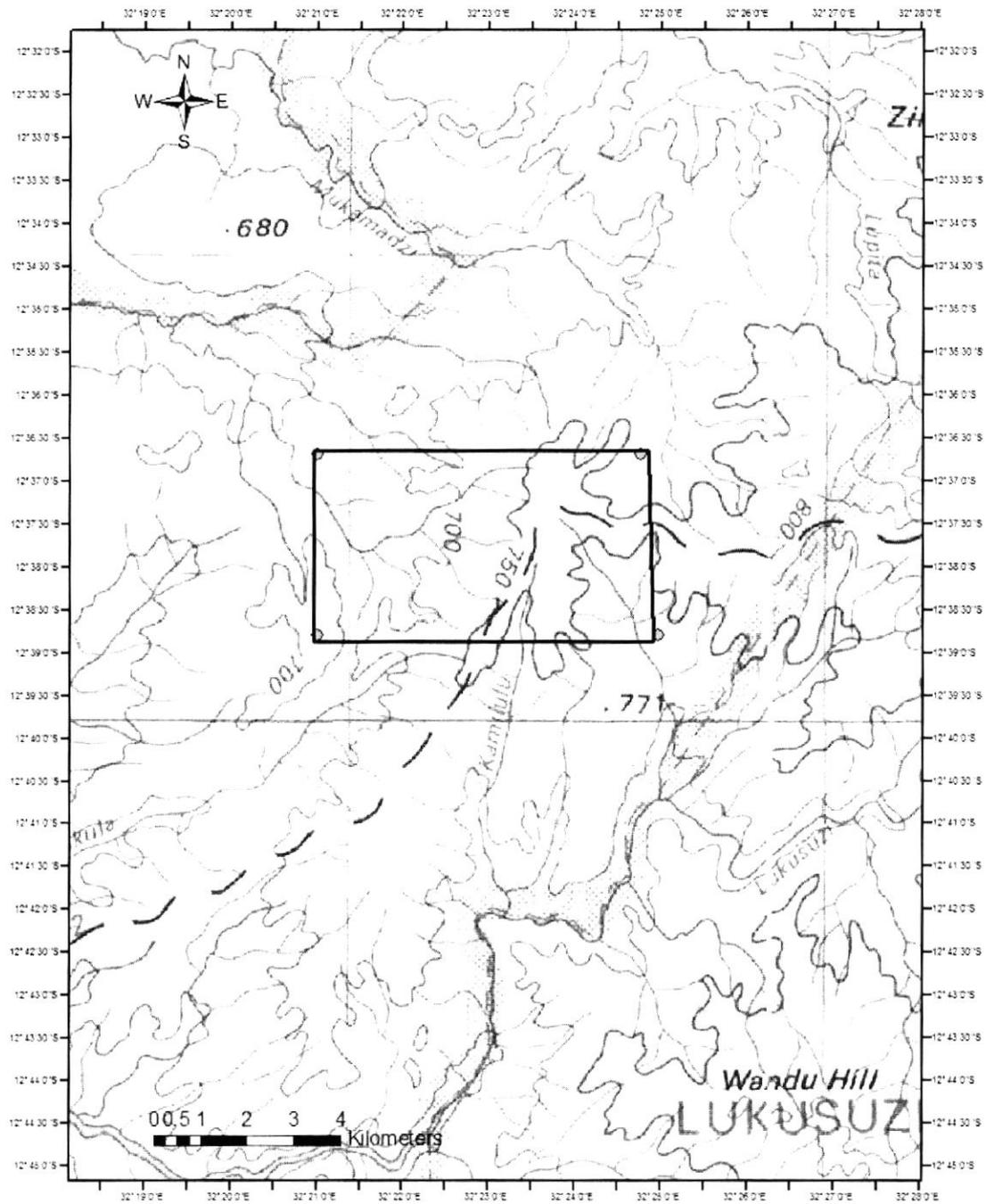
Impact	Effect	Mitigation Measures
Fuel(Burning)	Minor air pollution	1.Minimise driving utility vehicle and operation of fuel propelled mining equipment 2.Good maintance of utility vehicle and fuel propelled mining equipment
Fuel(spillage)	Contamination of soil vegetation and ground water	1.Good maintence of utility vehicle and fuel propelled mining equipment 2. Fuel storage and refueling restricted to designated re-fueling bay. 3.Immidiate cleaning and correct disposal of any spillage
Waste(domestic)	Contamination of site (surface and soil and ground water)	1.Minimise generation of waste 2.collect and dispose correctly
Waste(sewer)	Contamination of site(surface soil and ground water)	1.Construct environmentally and public health friendly pit latrines

Appendix No. 2

Proposed Programme of Prospecting Operation

2.1. Location and accessibility of the area

The area of interest is located on the Eastern Province of Zambia and is marked below



The Location Map of area of interest