KAGEM MINING LTD

PROPOSED PROGRAMME FOR PROSPECTING AND MINING OPERATIONS

(Appendix No. 2)

KAGEM MINING LICENCE
(GL-713)

APRIL 2009

PROJECT DESCRIPTION

Project Motivation

KML is injecting investment into the Kagem Emerald Project for the following reasons:-

- The Kagem emerald field has continued to operate economically and profitably. However there has not been an estimate of the resource and lifetime of the Kagem deposit. Further exploration activities will enhance the future development potential of the project;
- Kagem mine employs 397 workers who depend on the mine for their income. The continuation of the project and possible future expansions will increase job opportunities for the regional population;
- The skills of the employees will be increased through job training programs;
- Income will be generated for local and central government through the payment of taxes and royalties and the revenue generated through the Lusaka emerald exchange. This will assist the government in rejuvenating and stabilizing the Zambian economy; and
- There are positive multiplier effects throughout the economy from the preferential use of local suppliers and developers.

Project Outline

Kagem Mining Limited currently mines emeralds from the Fwaya Fwaya, F10 and Chama open pits. A new wash plant was constructed on the site and the current rated throughput is 50 tonnes per hour (tph). It is proposed to increase the capacity of the wash plant to 100tph by April 2009. The wash plant will operate on an 8-12hr shift depending on activities onsite.

An old wash plant exists on the site approximately 200m from the Kafubu River. Operations at this plant were discontinued in March 2008.

Capital Investment and Employment

The estimated initial capital investment for Phase 1 is US$24.05 million.

The annual operational costs for the project are estimated to be US$48 million at the optimal level of operation. A part of this operational cost will be generated for environmental management activities.

Exploration Program

Airborne high resolution radiometric and magnetic survey was conducted over the licence area in order to delineate potential prospects for detail exploration.

Historically there have been very short term estimates of the emerald resource of the Kagem emerald ore bodies. Exploration drilling along targets has been conducted and will be ongoing during the project.

Up to the 18th of January 2008, a total of 21,395m of diamond core drilling had been conducted. This exploration has allowed an estimated resource of 24 million tonnes (MT) that extends to a vertical depth of 150m and which covers a strike length of 920m. The drill holes have a diameter of 46mm.

Exploration is planned to continue during the mining operations using diamond drilling techniques. A total of 15,325m of drilling in 98 drillholes has been conducted in 2008-09in Fwayafwaya belt and Dabwisa.

Total investment on exploration since November 2008 is about US$ 3 million.

Exploration work will be continued in other prospects within the Kagem licence area during subsequent years.

Mining Methods, Equipment, Treatment and Disposal

Bulk blasting techniques will be used in the open pits. It is anticipated that the Fwayafwaya, Chama and F10 pits will evolve into one large open pit. Bulk blasting will remove the waste rock and then small scale blasting will be conducted closer to the biotite-phlogopite contact zones between the quartz-tourmaline veins and the TCTM schists. A hydraulic excavator will load the material into trucks which will transport the reaction zone material to the wash plant (1.95km). A total of 236.23MT of material will be removed from the open pit of which 22.5MT is ore and 213.73MT is waste. This is a stripping ratio of approximately 1:9. The final open pit will be 1,500m long, 815m wide and 150m deep.

The waste rock will be removed by dump trucks to the waste rock dumps (more than 0.6km) on the footwall of the ore body to the northwest of the open pit. The waste rock dumps will be engineered to maximise the angle of repose of the material. During mining operations backfilling of the open pit will be conducted. This will reduce the impact of the mining activities on the landscape. Backfilling will be conducted at a rate of **16 Mt/annum** at optimal level of production.

The mining activities were historically mechanised. The equipment fleet will be expanded over the first three years of the project.

Noise will be generated during blasting operations and it is advisable that employees in the area and mining equipment operators are supplied with personal protective equipment (PPE). **Table 1** shows the preliminary mining schedule for 2008 to 2017.

Table 1 Preliminary mining schedule from 2008 to 2018

Year	Ore (MT)	Waste (MT)	Total (MT)
2007 – 2008	0.12	2.28	2.40
2008	1.46	8.11	9.57
2009	2.00	14.00	16.00
2010	2.50	20.00	22.50
2011	2.50	22.50	25.00
2012	2.50	20.00	22.50
2013	2.50	22.50	25.00
2014	2.50	23.75	26.25
2015	2.50	23.75	26.25
2016	2.50	25.00	27.50
2017	1.42	31.84	33.26
Total	**22.5**	**213.73**	**236.23**