

## Gemfields PLC

### Update on trial underground mining of Zambian emeralds

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**7:00 am, 18 February 2010**

As announced in its last operation update dated 28 January 2010, Gemfields PLC (“Gemfields” or “the Company”, AIM:GEM) initiated a trial underground mining project that, if successful, could provide a number of opportunities for expansion into areas that have a history of high quality production at its Kagem mine in Zambia. The Company is pleased to announce, today, the first production from its trial underground mining operation. This innovation has the potential to transform Zambian emerald mining by allowing mining operations to follow the ore zone efficiently.

The trial underground mining project started in February 2009, and has now realised its first production. The shaft and tunnel system was designed, developed and constructed in-house, and is presently at a depth of 33 metres on dip. The first production of emerald and beryl gemstones occurred on Wednesday 10 February 2010, just six months after the first blast was completed. Robert Gessner (Project Manager) and Kevin Gallagher (Underground Manager) spearheaded the design, development and implementation of the underground project.

Ian Harebottle, CEO of Gemfields, commented:

*“Gemfields is delighted to be involved in what could become an historic achievement in emerald mining in Zambia. While our understanding of the economics of underground mining will develop over the months ahead, today’s announcement could ,pave the way for rolling out underground mining methods along the Zambian emerald belts.*

Zambian emerald mining has historically deployed only opencast mining techniques which involve high stripping ratios (the ratio of waste rock to ore). At Gemfields’ Kagem emerald mine, the stripping ratio typically exceeds 50:1 and approximately 1 gram of emerald and beryl is recovered for every tonne of rock handled. Underground mining has the potential to transform Zambian emerald mining by reducing rock handling requirements and allowing mining operations to follow the ore zone without the need to remove all of the surrounding rock.

If Gemfields’ trial underground shaft proves successful, the model could be rolled out to access emerald ore bodies in multiple locations within the Kagem mine. There are a number of locations at Kagem with historic production records indicating high quality and quantities of material. These projects have been abandoned due to the steep incline of the ore zone (+40<sup>0</sup>). In some cases, this incline has extended beyond 200m. This new underground mining method could mean that these projects become viable again.

Photographs of the underground mining operation can be viewed at: <http://gemfields.co.uk>

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