

## ***Brokk robots breaking gold in South Africa!***

### **Job location / plant**

Sibanye Gold, Johannesburg South Africa.

### **Number and type of machines**

Two Brokk 260 equipped with MMB260 – 240 drill complete with face drilling positioner.

### **Name and general facts about the contractor / user.**

Sibanye Gold, is an independent, domiciled mining group which currently owns and operates four underground gold mining operations in the west Witwatersrand region to the west of Johannesburg. Sibanye is the largest individual producer of gold from South Africa and is one of the 10 largest in the world. Sibanye is listed on the JSE limited in South Africa and the New York stock exchange.

### **Project description**

In line with their strategy to create value by extending the lives of group mines, Sibanye embarked on a project to mine the many support pillars which were left in place by previous mining operators. These pillars contain extremely high grams per ton of ore. The mining operation becomes highly rewarding, but also dangerous if the correct machinery is not used. This is where the remote controlled Brokk machines prove their worth.

Fitted with either a Hydraulic hammer, a drilling attachment or a loading bucket, the compact Brokk machine is sent in to the old unstable areas to carry out various functions “to make safe”, such as drilling for roof and side wall support, scaling loose hanging, breaking and loading rock and excavating new access tunnels. This is all made easy by the Brokk quick hitch system which allows for quick change of implements.

This is all done while the operator is in a safe position away from the working area.

### **Reason for choosing Brokk**

There are four main reasons for choosing Brokk for this application, a) the compact design of the Brokk allows the machine to access the working areas,

b) The electric powered Brokk is quiet and non- polluting.

c) Most importantly, because the Brokk is remote controlled, the operator is not at risk in the unstable working areas and

d) The quick change of implements makes the entire operation faster.

**How would this work otherwise have been carried out**

The conventional method as done in previous similar operations like this would have used manual hand held drilling and loading systems which were extremely slow and dangerous.

**Factors complicating the Job and how these were dealt with**

The project presented some real challenges and complications in introducing mechanised methods to carry out this project.

Due to the close vicinity to the main shaft of the mine, no blasting is allowed.

Limited access to and at the work site meant small, compact, but powerful machinery would be required.

Due to the unstable environment, safety had to be a major consideration.

The compact remote controlled Brokk with its ability to carry out the various functions safely and productively, made it most suitable for this project.

**General information about the performance of the Brokk machines**

For many years Sibanye Gold have been using the smaller Brokk 180 / 160 machines for what is referred to as “opening up”, meaning cleaning out and making safe old underground mining areas so that the rich gold bearing ore left over in years gone by, can be recovered. Sibanye therefor had no hesitation in considering Brokk machines for this larger project.



The Brokk machines, supplied and supported by Demolition and Drilling Equipment (Pty) Ltd, based in Boksburg, have always proved very reliable and suitable for the job they were used for.



**For further questions please contact:**

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