

DGMS(TECH) CIRCULAR No.4 of 2003. Dhanbad, dated the 09/05/2003.

To
Owners, Agents & Managers of all Mines.

In some mines, inclines are opened from the bed of quarry for working deeper horizon by belowground method. These openings are used as haulage roadways, travelling roadways and fan drift etc. This requires deployment of persons and equipment in the vicinity of high benches which have been reduced to final limit and may collapse.

Recently, in a manganese mine, openings to belowground workings had been established from the bed of the quarry at a depth of about 75m. One of the openings was provided with the main mechanical ventilator at a distance of about 5m from foot of the benches on the footwall side. The contact zone between the footwall and ore body, dipping at 55° to 75° consisted of weak formations like muscovite schist, pink gneiss and pegmatite. Subsequently, after a heavy rainfall, a portion of benches on the footwall side measuring about 35m in length, 23m in breadth and 8m in width slid along the weak contact zone between the ore body and the footwall and rested on the opening housing the fan drift. This resulted in collapse of the fan drift and complete damage of the fan house. The mine had to be kept stopped for about a month till a new mechanical ventilator was installed in another opening on hanging wall side.

In order to prevent recurrence of such incidences, it is essential to ascertain the stability of the benches which have been reduced to final limits, especially near weak zones at regular interval. All openings from the edge of the quarry should be made safe by constructing side walls and roofing of substantial strength preferably with RCC so as to sustain the load of the benches, should a collapse of the benches takes place. Such structures should protrude to a distance sufficiently ahead of the edge of the quarry so as not to be affected by any falls of benches at a later date.

The matter is brought to your notice so that adequate corrective measures are taken under similar conditions.

(Ravindra Sharma)
Director-General of Mines Safety.