

axis, and, at right angles to this, smaller tunnels are driven out every 22 feet 6 inches until they reach the hard rock on the side of the mine. These tunnels are widened, first along the rock until they connect one with another, and, at the same time the roofs, or "backs" are stopped up until they are within a few feet of the loose ground above, thus forming long galleries, filled more or less with blue ground, upon which the men stand when drilling holes in the backs. The working levels are 40 feet apart vertically. The broken blue ground lying in the galleries is taken out, as a rule, before there are any signs of the roof giving way. At times this is impossible, and the roofs cave upon the broken ground, and the blue ground is covered with reef. As the roofs cave or are blasted down, the blue ground is removed, and the loose reef lying above it comes down and fills the gallery. Tunnels are often driven through this loose reef, and the blue ground, which has been cut off and buried by debris, is taken out; but it is generally left for those working the next level below to extract.

After the first cut near the rock is worked out, another cut is made, and in this manner the various levels are worked back, the upper level in advance of the one below, forming terraces. The galleries are not supported in any way by timbers, but all tunnels in soft blue ground are timbered with sets of two props and a cap of round timber, and where necessary are covered with inch and a half lagging.

Soft blue ground is drilled with long jumper drills sharpened at both ends. In hard blue ground, short drills and single hand hammers are used. The native workers become very skilful in both methods of drilling.

The blue ground, when removed from the chambers, is tipped into passes to the tramming level. At this level it is again loaded into trucks and sent to the shaft by either a mechanical rope haulage or by electric locomotives. At the bottom of the shaft the blue ground is tipped into chutes with a capacity just equal to one skip load. DeBeers, Kimberley and Bultfontein skips hold 5 tons (128 c. f.), Du Toit's Pan and Wesselton skips 8 tons (160 c. f.)

The blue ground is then hoisted through the shaft in skips and dumped automatically into bins at the surface. All hoisting through the main shaft is done from the lowest level; the blue ground from the upper levels being dropped through passes to this level.

Mr. Lewkowicz,—

In reference to locating diamonds in the clays. How many tons of clay is it necessary to displace to find diamonds. I should like to know what the percentage is?