

THE IMPACT OF ILLEGAL MINERS AT HISTORIC GOLD MINE LOCATIONS, GIYANI GREENSTONE BELT, SOUTH AFRICA

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During a review of historic mines and prospect sites, it became apparent that the infrastructure of several historic gold mines has fallen prey to illegal mining activities. The initial target of opportunistic scavengers after a mine was abandoned is the steel infrastructure that is stripped and sold as scrap metal. Any remaining infrastructure is then usually randomly vandalized. After all the high-value material is stolen, illegal mining activities may commence on site. In the case of the abandoned mines around Giyani, the buildings used for the processing of ore are targeted. Mill-sites and any building that may have accumulated gold-bearing fines is demolished, excavated to the foundations, crushed and washed. Access to the old workings is obtained by either breaking through the barricade erected at the access to underground or by digging a secondary access. Tailings- and rock dumps are also targeted for washing.

The impacts of these activities are very diverse. The most obvious is the destruction of buildings that may have had some historic significance. In the case of the Giyani gold field, mining and related activities have taken place since the late nineteenth century. Any attempt at bringing the mine back into production is hampered by the removal- and damage to infrastructure. The cost associated with the revitalization of underground workings, may factor into a project being deemed uneconomical. The environmental impact is mostly focused on the area around water sources, especially rivers. The riverbank is damaged during the creation of washing sites. If the river is only seasonal, the effect of the damage is exacerbated by working constantly being moved as the water at a specific position is depleted or too much washed material waste is accumulated. The main health risk is the use of mercury to accumulate gold from washings by the illegal miners.

[299/300 words max]

Biographical note

Nicolaas Casper Steenkamp, Vannessa Clark-Mostert are Geologists. Combined the authors spent over two years developing greenstone hosted gold projects in the greater Giyani area as part of a TWP Projects (Pty) Ltd consulting team. This presentation is based on the observations made during this time.

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