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EARTH: South Africa's Toxic Legacy: Acid mine drainage threatens water supplies

Alexandria, VA – In the Witwatersrand goldfields, not far from bustling Johannesburg, South Africa, more than a century of mining has left the region littered with mounds of waste and underlain by a deep underground network of abandoned mine shafts, which are gradually filling with water. Today, the mines are producing less and less gold — and more and more sulfuric acid.

Scientists estimate the volume of acid mine drainage from abandoned mines in the Witwatersrand goldfields alone could reach 350 million liters per day if something isn't done. A recent government report suggests that full cleanup will cost billions, not to mention the billions that would likely have to be spent to stop the ongoing damage. In "All That Glitters... Acid Mine Drainage: The Toxic Legacy of Gold Mining in South Africa" in the October issue, EARTH takes a look at how the toxic problem grew so massive, what steps could be taken to mitigate the damage before it is too late, and who should pay for the cleanup.

Read whether scientists think the government is doing enough to save South Africa's water, and read other stories on topics such as how one retired scientist spent years trying to confirm the discovery of an impact crater; how researchers are solving crimes and tracking fake whisky using isotopes; and how modern tools are helping researchers solve a World War I tunnel mystery in the October issue. And don't miss the second part of our series on the commercialization of geologic sites.

These stories and many more can be found in the October issue of EARTH, now available digitally (http://www.earthmagazine.org/digital) or in print. For further information on the October featured article, go to http://www.earthmagazine.org/earth/article/48e-7db-9-17

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