WATER IN THE COAL MINING INDUSTRY

An assessment of water management issues facing the coal mining industry of the Witbank and Middelburg Dam catchments

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ABSTRACT

The coal mining and power generating industries of the Witbank and Middelburg Dam catchments in South Africa's Mpumalanga Province have received much criticism for their apparent apathy regarding water quality in the area. Although a number of previous studies have proved that several of the coal mines and power stations are directly responsible for point and diffuse discharges of acid leachate into the local water bodies, the limited case study conducted for the purpose of this thesis did not produce results that can be used to effectively describe a situation that gives cause for concern. The results do however display a number of trends:

- Coal 'grab' samples are likely to produce the most acid leachate
- Coal product samples are most likely to generate more alkaline leachate
- GIS maps are a commendable method of correlating a range of information contained in a number of databases and provide a user-friendly, interactive means to access a wide range of data at once

In order to meet the water quality management objectives of the catchment management forums, it will be necessary for all coal mines and power generation facilities in the area to come together and develop the most suitable water management programme to ensure that acid mine drainage does not render the regional water resources unfit for any use.

It is also important to be aware that the new National Water Act and associated environmental and mining laws discussed in this thesis are comparable with the highest standards internationally. At the same time, one must always include the factor of human well-being in the scope of the definition of the environment so as to ensure that opportunity is provided for the greatest benefit to be awarded to all components of both the natural and built environments.

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"He who aims for the moon,
May hit the top of the tree;
But he who aims for the tree,
May never get off the ground."