

EXECUTIVE SUMMARY

Pressure is mounting on regulators and mine operators to address the negative impacts of mining on the water environment. Millions of Rands are spent annually on mining related research which could help them to do so but most water users are unaware of this ever-increasing mass of useful information. Others find that use and accessible information, generally in full written report format, is difficult and time-consuming.

Although the need for effective information transfer has long been recognised, most water users lack the capability to keep abreast of technological developments. Research organisations and consultants keep up to date and "Guideline Documents" have been produced, but again as written reports with limited cross-referencing.

This project aimed at partly solving some of these problems with a computerised Information Transfer, Extraction and Management System (ITEMS) which gives users access to local and international information on mine water quality, management treatment and research.

The information requirements on the mining industry, government departments and other interested organisations were investigated and assessed and a range of databases available worldwide and locally were accessed and evaluated. The result is ITEMS: 18 databases containing approximately 200 tables of data each holding between 20 and 100 records. The total computer file size of the database is 90 Mb.

An uncluttered interface has been developed and a simple step-by-step procedure elicits the specific information required. Software is on CD for ease of installation.

The ITEMS system enables users to obtain access to information, which includes the following:

- DWAF water quality guidelines
- International water quality guidelines
- Water chemistry calculations
- Relevant research projects undertaken
- Manual to assess and manage the impact of mining on surface water quality
- Manual on current mine-water management and treatment practices
- Extended literature database on mine water