

"Development of Alternative Methods for Treatment and Handling of Acid Mine Drainage and Settled Sludge."

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ABSTRACT

As specialists in the field of waste water treatment and sludge handling, Techniflo Systems is developing and commercializing two unique alternative products which should solve many of the problems associated with these processes.

The **Techniflo Systems ILS System** (In-Line Mixing and Aeration System) provides efficient mixing and aeration of acid water. It offers superior treatment capabilities and by virtue of its design features, it can substantially reduce lime consumption (for one customer, by 66%). The **ILS** system provides excellent mixing, better pH control, easy maintenance and compact size. Several installations already in service are producing results which exceeded expectation. The **ILS** is simple and economical to install. Since there are no moving parts, it is easier and less expensive to operate and maintain than conventional mechanical aerators and mixers.

The **ClariShear™**, floating sludge collector*, is an alternative to conventional circular clarifiers or dredging operations. It provides continuous quiescent cleaning for waste water treatment applications such as: Mine Tailings, Mine Drainage Ponds, Flyash Ponds, Mill Scale Sludge, and Sewage Sludges. A full scale prototype installed at a local acid mine drainage pond has been in operation for over a year removing hardened AMD sludge. The same standard unit can be adapted for use in ponds or basins of any size and most shapes, or retrofitted into existing settling areas. Therefore, it costs a fraction of the price of conventional rake-type thickeners where price increases with size. Moreover, the load capabilities exceed those of the heaviest thickener drives. The standard unit consists of a 12' x 12' winch driven scraping device equipped with a submersible pump and suspended from a floating access platform. The device traverses a pond in a linear fashion. Reliable and efficient operation is ensured by the unit's non-overloading features and its automatic remote controls. This simple, yet sophisticated design virtually eliminates costly shutdowns or process interruption.