

# Water treatment system with green credentials

An increasing number of mining companies across Australia are choosing to use Hydrosmart's unique water conditioning system to treat water high in calcium, salt or iron levels.

Hydrosmart's environmentally sustainable product has been available for 14 years and is growing in popularity - for industrial, agricultural and domestic applications - due to its consistent success without the expense and environmental repercussions associated with chemical methods.

Not only does the system offer performance and environmental advantages but it also offers users considerable cost cuts.

By using a unique computerised iconic bond breaking approach, Hydrosmart utilises virtually no power, needs no consumables and costs under \$10 annually to run.

"The no-maintenance, no-operational cost approach now has mining companies such as Rio Tinto, BHP Billiton and Crocodile Gold utilising it as a tool with which to treat various water issues," said managing director Paul Pearce.

Hydrosmart works fundamentally by breaking down or weakening the bonds of minerals and



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compounds in the treated flow path of water.

The Hydrosmart System is being used on Xtstrata and Theiss mine truck washes and to soften calcium-rich bore water at a Rio minesite accommodation village.

Also in use protecting BHP housing development's against

bore water scale, hardness and corrosion issues.

Red Earth is just one of Hydrosmart's more recent clients. Red Earth Group was associated with a heap leach mining operation where crushed heaps are irrigated with a cyanide solution to leach silver into solution and

was interested in reducing or eliminating anti-scaling chemical from the process.

After a bench trial was conducted in late 2009 which found no conflicts in the process, Red Earth decided to push ahead with a full site trial in early 2011 at a Queensland silver mine.

"We were able to observe and monitor the level of scale build-up and it was soon evident that the scale propensity had improved due to treatment," said Red Earth Group principal metallurgist Rob Gobert.

"No solid scale formed on the scale coupon (installed to monitor build-up). Whereas usual behaviour was that without the addition of antiscalent chemicals, significant scaling would form and be visible within a matter of days.

"This beneficial behaviour continued and whilst the nearly 2000ppm TDS water being pumped was now milky in colour, there was no longer the build-up and blockage issues we had been experiencing previously," Mr Gobert said.

The Hydrosmart Minemaster units are in constant operation at the minesite.

Hydrosmart is currently undertaking further research into its already groundbreaking system.

"We keep learning new things about the promising capabilities for sustainable change brought about when breaking bonds in water and wastewater," said Mr Pearce.

"I love my job and after all these years, it's still exciting coming to work every day."