



# ecosoft water

Getting tough on hard water



## Rio Tinto (Hope Downs) – Ecosoft Water Conditioner Trial

In February 2014 the Mobile Equipment Maintenance (MEM) department at Rio Tinto (Hope Downs) instigated a trial of an Ecosoft Water Conditioner on one of their Caterpillar MD6240 drill rigs.

The aim of the trial was to ascertain the effectiveness of the Ecosoft Water Conditioner in protecting the flushing water system and associated equipment from the build up lime-scale caused by the use of ground (hard) water in the system.

Problems associated with the build up of scale included:

- Reduced system pressure and flow
- Premature system failure
- Increased maintenance
- Over heating

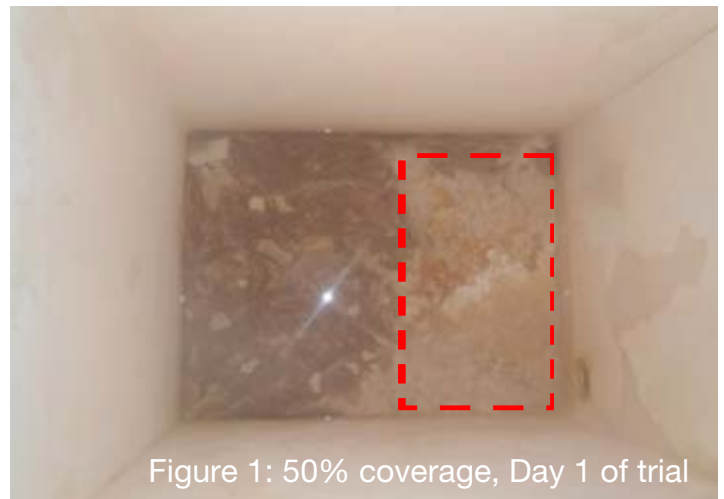


Figure 1: 50% coverage, Day 1 of trial

Figure 1 shows the build up of lime scale in one of the holding tanks that feed the flushing water system. It can be seen that the walls of the tanks are almost completely encrusted with scale. The floor of the tanks also show significant scale build up with approximately 50% coverage.

Prior to installing the Ecosoft Water Conditioner the existing scale was removed with the use of chemicals along with manual scrapping, chiselling etc.



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AFTER 8 WEEKS



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After 8 weeks the MD6240 taken off line for routine maintenance and inspection of the water system. The following observations were made:

- Pre-existing scale in the tanks reduced by ~50% - Figure 2 & 3
- Remaining scale was becoming softer and easier to remove
- Suction line: “No visible build off scale inside the line” - Figure 4
- Y-Strainer: “Clean, no scale deposits”, residue “was very easy to scratch off” - Figure 5
- No new scale build up



Figure 2: 25% Coverage

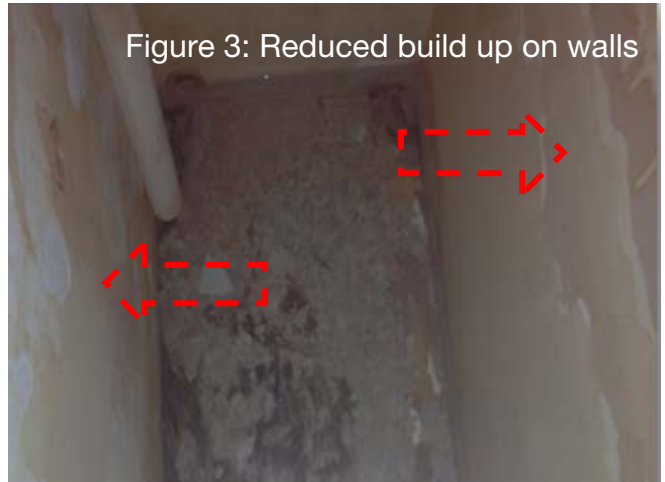


Figure 3: Reduced build up on walls



Figure 4: Suction Line



Figure 5: Y Strainer Mesh



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AFTER 16 WEEKS



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On the 15 of June 2014 (after 16 weeks) the MD6240 was again taken off line for routine maintenance and inspection.



Figure 6



Figure 7

Figures 6 & 7 show the total amount of scale that was removed from the tanks. This scale was soft and pliable and easily removed by hand.



Figure 8

In Figure 8 the bottom of the tank is now clearly visible showing the degree to which the pre-existing scale has been dissolved by the Ecosoft Water Conditioner.

**No new scale build up was found.**

*The RioTinto, Mobile Equipment Maintenance Planner who oversaw the trial is extremely pleased with the results and has ordered a further 8 x ECO335 Ecosoft Water Conditioners to be fitted to the remainder of the drill fleet at Hope Downs.*



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