

Hi Sarah
To whom it may concern

As shown in the letter previously provided, the product has been approved by the Government of Western Australia, Department of Water. The product is new, and to my knowledge this is the only official approval by an environmental authority.

I attach a pamphlet from Reynolds Soil Technology (RST) for your information. It explains how the product is being used in the middle of the Perth drinking water catchment; i.e. a sensitive area where water quality is a primary concern. It took a year of field testing before permission was granted for its use of RT9 dust suppressant, and it has now been used for over four years.

Before using dust and erosion suppressant the West Australian Water Corporation had problems with finings being washed into the reservoir when the water level was low. This was caused by wind, rain and wave action on the exposed banks making the water turbid. This problem was resolved by spraying the banks with RT9 and consolidating the particles so any water run off ran clear. No concerns for the drinking water quality of the lake were raised.

Please contact me if you have any further queries regarding this matter.

Kind regards,

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Environmental Scientist

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The logo for Eliot Sinclair features the company name in a white serif font on a red rectangular background. Below the name, the words 'surveyors | engineers | planners' are written in a smaller, white sans-serif font.

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We have moved to 20 Troup Drive, Tower Junction, Christchurch.
Our new address is: **PO Box 9339, Tower Junction, Christchurch 8149.**

Overview

Date: 4 September 2012

**Subject: WESTERN AUSTRALIAN WATER CORPORATION
EMBANKMENT STABILISATION PROJECT OVERVIEW**

Reynolds Soil Technologies Pty Ltd (RST) develops systems, which incorporate products to solve problems associated with water and soil.

Over the past 12 years the company has been significantly involved in the mining industry with our Haul Road Management System (HRMS) being adopted by large mining houses such as BHP, Alcoa and WMC.

The system incorporates water-extending additive under a managed system to improve road performance whilst reducing haul road watering by approximately 40%.

Whilst introducing our HRMS into Alcoa's Huntly mine site in WA we were faced with the problem of the mine site being in the middle of Perth's water catchment area. Our goal was to reduce mine site watering by 40% in turn reducing the mine sites consumption of Perth's drinking water.

The main hurdle was that no chemicals could be used in our application that could have any possible effect on the water in the catchment area. Due to this Water Corporation rule we went about developing an additive that would be environmentally safe.

The product was Reynolds RT9 Solution, which uses polymer technology similar to that used in drinking water. We ended up with a product that after 12 months of laboratory testing was approved by The Health Department, The Department of Environmental Protection, Waters and Rivers and The Water Corporation.

Once the product was approved we were able to implement it at the mine site and have been there now for 4 years reducing the annual consumption of water by approximately 40%.

These savings mean that the mine actually makes money using our system, as it is cost negative. The other major benefit was with the mine expanding the amount of water required by the mine was more than was available from North Dandalup dam. With a reduction of 40% this allowed them to continue normal operations.

WA WATER CORPORATION

Due to the lack of rain in SW Western Australia the dams are at a record low (see picture 1). The large areas of exposed bank are being environmentally eroded through wind, water and wave action.



Picture 1

This erosion creates a major turbidity problem. The problem with turbidity is not just the visual effect of making our drinking water 'murky' but it also can promote algal bloom and other 'bugs' that can make people sick who drink it.

With the problem classed as a major incident. The Water Corporation had limited cost effective options. One was to place a geofabric membrane around the water line to stop wave action although this had limited effect on the water erosion coming down the bank. The other was to look at a binder of some kind to hold all the fine material in place.

The Water Corporation contacted RST, as we were the only company that had a product approved for use in these sensitive areas.

Because of products binding qualities we believed it would sufficiently hold the banks in place and stop the movement of fine particles into the dam.

As a trial we sent 1000 litres of RT9 Solution to Nth Dandalup dam and sprayed a 2400 m² section of embankment. (see picture 2 & 3)



Picture 2.

It was a wet day with constant rain periods. Due to the mode of action in the way the product works on the soil working in the rain was not an issue as the product does not require a drying phase.

Half way through the spray it absolutely poured with rain, where we had applied the product there was an instant result being that no fines were being washed down the bank, all small puddles were crystal clear and all water running into the dam was also crystal clear. This was compared to adjoining untreated areas where the fines were running down the hill into the water and all small puddles were very muddy.



Picture 3

RESULTS SUMMARY:

After this initial days trialing that proved instantaneous results greater than expected the Water Corp purchased more product to trial in 'Hot Spot' areas.

The product was supplied in 25 litre drums, which were poured into their fire fighting equipment and applied by them.

Again the results were instantaneous as the area was receiving quite a bit of rain over that period. Areas that were treated the previous week were working well with no turbidity at the water edge present at all compared to large-scale turbidity in untreated areas.

Water samples were taken by the Water Corporation of the water that was flowing over the treated areas into the dams. There were no detectable traces of the additive or any other 'nasties' in the water.

The product performed over and above all expectations stopping wind, water and wave erosion on the dam walls. The Geofabric is no longer required which would have been installed at great cost and time.

The Water Corporation is continuing with an on going spray program of all the metropolitan and rural dams using their own people and equipment with RST assisting with technical backup.