

# Z-Filter

## Environmental Solutions

### Z300A Application Summary: Piggery Effluent

**Trial Date:**

November 2014.

**Trial Location:**

Gingin, Western Australia.

**Z-Filter Feed Material:**

Wash-down effluent from pig sheds consisting of manure, urine and other general waste.

**Coagulation & Flocculation:**

The effluent was coagulated with a polymeric coagulant prior to flocculation using an acrylamide based polymer. 0.35 litres of coagulant was used per cubic metre of effluent. Polymer use was approximately 0.5 litres per cubic metre of effluent.

**Feed Flow Rate:**

Effluent was fed into the Z-filter at a rate of 27m<sup>3</sup>/h.

**Feed Dry Solids Content:**

2.8% to 3% dry solids.

**Filter Cake Dry Solids Content:**

26% dry solids with flocculation.  
(35% dry solids without flocculation – from previous test work).

**Filtrate Quality:**

0.3% dry solids.

**Nutrient Removal Rates:**

35% total nitrogen (N) removal.  
50% total phosphorus (P) removal.  
10% total potassium (K) removal.



Fig 1. Solids from the Z-Filter discharged into a pile.



Fig 2. Z300A Z-Filter trial setup at a piggery.



Fig 3. Solids from the Z300A being discharged onto a conveyor.



Fig 4. Filtrate being discharged from the Z300A unit.

