



halcyan  
water conditioners

## Perth Housing Authority, Case Study

In September 1986, the housing authority for Perth (WA) commissioned the Water Authority of Western Australia to conduct a case study test with the Halcyan Water Conditioner. The results of that test are detailed below.

The housing authority, known as HomesWest, had a problem. They were responsible for many thousands of properties, all of which were fitted with instantaneous hot water heaters (as boilers weren't necessary as no heating was required). They were being forced to remove and replace these heaters every 18–24 months due to the level of lime scale buildup inside, which was reducing the effectiveness of the equipment and prematurely destroying the units. They were keen to find a solution to this expensive and time consuming problem so they sought the assistance of the Water Authority testing facilities.

Two Pyrox Topliner Instantaneous Gas Water Heaters were installed in a domestic property in Exmouth, in December 1986, one was fitted with a Halcyan Water Conditioner, the other was a control unit. They were removed for inspection in April 1988, 16 months later.

In May 1988, Mr Vandenberg, the Product Authorisation Officer at the Technology Transfer & Technical Audit Branch described the inspection procedure of the two water heaters in the laboratory, as follows.

### *"1. Flow Tests*

*Each heater was mounted in the normal vertical position, and a water supply attached to the water inlet connection. A 400kPa pressure gauge was mounted at the inlet connection. The outlet connection of the heater was open to the atmosphere, and the discharge was measured using a graduated container.*

*With the water temperature control turned to the minimum setting (ie maximum water flow), a series of three flow tests were carried out at an inlet flow pressure of 300kPa. The water temperature control was then turned up to the maximum setting (ie minimum water flow) and a series of three flow tests carried out at an inlet flow pressure of 350kPa.*

## 2. Visual Examination

*The ends of the heat exchanger coil were cut off to enable an examination of the internal surfaces of the heat exchanger tubes to be made. The surfaces were checked for any scale build-up."*

The report on the unit with the Halcyan described their findings as follows.

*"Report on Unit No 2.*

*Flow Tests. 1. Through Heater. 2. Through Heat Exchanger Coil*

	<u>Temperature setting</u>	<u>Inlet Flow Pressure</u>	<u>Average Flow</u>
1	Minimum	300	13
	Maximum	350	5
2	n/a	100	19

*The above flow rates compare favourably with the figures supplied by the manufacturer for new heaters.*

*Visual Examination.*

*No evidence of any scale build-up was found. There was a very thin surface scale coating together with a greenish oxide deposit, otherwise the tubes were in excellent condition."*

This indicates the total contrast with what would normally be the case after this period of time, when the units would need to be replaced.

The final note from the Architect in Charge of the project at HomesWest, Mr W Phillips, was

*"Thank you for enabling us to test your product, which according to the flow tests and visual tests has been very successful in a known hard water area."*

HomesWest went on to stipulate that the Halcyan was to be fitted as mandatory to all of their future installations, and the last report indicated that the hot water units were now lasting in the region of 10 years.