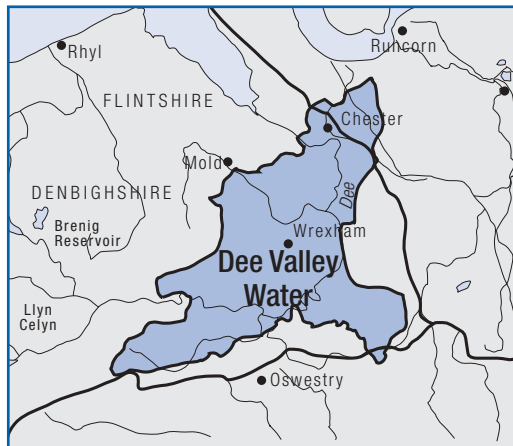


6 Dee Valley Water Plc

Overall Water Quality supplied by Dee Valley Water Plc in 2002

- A total of 14,071 tests were carried out on samples taken by Dee Valley Water Plc in 2002.
- Of these tests, 99.86% complied with the Regulations.



Company Information

Amount of Water Supplied:	71 MI/d
Consumers Supplied:	258,500
Areas of Supply:	Chester, Wrexham, Llangollen and surrounding areas of Denbighshire and Flintshire.
Water Composition:	96% from rivers and reservoirs 4% from boreholes and aquifers
Treatment Works:	7
Service Reservoirs:	31
Km of Mains:	1,953
Water Supply Zones:	18

Water Quality at Treatment Works, in Service Reservoirs and in Water Supply Zones

To be wholesome, water must comply with the standards for the parameters set out in the Water Supply (Water Quality) Regulations 1989. In 2002, the Company carried out a total of 14,071 tests on samples taken at water treatment works, from service reservoirs and in water supply zones and of these, 99.86% complied with the relevant water quality standards set down in the Regulations. A list of the parameters, the relevant standards and their significance can be found at the beginning of this section.

Water Quality leaving Treatment works

	2002	2001	2000
Number of water treatment works	7	7	8
COLIFORMS			
Total number of tests	1,356	1,352	1,376
– number containing coliforms	0	0	1
– % containing coliforms	0.00%	0.00%	0.07%
Treatment works with coliforms detected	0	0	1
– % of all works with coliforms detected	0.00%	0.00%	12.50%
FAECAL COLIFORMS			
Total number of tests	1,356	1,352	1,376
– number containing faecal coliforms	0	0	0
– % containing faecal coliforms	0.00%	0.00%	0.00%
Treatment works with faecal coliforms detected	0	0	0
– % of all works with faecal coliforms detected	0.00%	0.00%	0.00%

There were no failures of the coliform and faecal coliform standards at any of the Company's treatment works in 2002. Differences over the last three years in the number of treatment works, and in the number of tests carried out on samples from treatment works, in which coliforms were detected were not considered significant.

In 2002, 1,103 regulatory samples for *Cryptosporidium* were taken at three sites. Very low numbers of oocysts were detected in three samples from two sites. All results were below the treatment standard and there were no reported outbreaks of cryptosporidiosis.

Water Quality in Service Reservoirs

	2002	2001	2000
Number of service reservoirs	31	30	31
COLIFORMS			
Total number of tests	1,586	1,569	1,580
– number containing coliforms	0	2	2
– % containing coliforms	0.00%	0.13%	0.13%
Service reservoirs with coliforms detected	0	2	2
Service reservoirs with coliforms detected in more than 5% of tests	0	0	0
– % of all service reservoirs with coliforms detected	0.00%	0.00%	0.00%
FAECAL COLIFORMS			
Total number of tests	1,586	1,569	1,580
– number containing faecal coliforms	0	1	2
– % containing faecal coliforms	0.00%	0.06%	0.13%
Service reservoirs with faecal coliforms detected	0	1	2
– % of all service reservoirs with faecal coliforms detected	0.00%	3.33%	6.45%

There were no failures of the coliform or faecal coliform standard at any of the service reservoirs. Differences over the last three years in the number of service reservoirs, and in the number of tests carried out on samples from service reservoirs, in which coliforms or faecal coliforms were detected were not considered significant.

Water Quality in Water Supply Zones

The table below shows the data for the key parameters and any other parameters where there was a failure of the standard. All other parameters were fully compliant.

Parameter	Total number of tests	Tests not meeting the prescribed concentration or value		Number of failures covered by undertakings	Number of zones not complying with the standards		
		No	%		2002	2001	2000
Coliforms	803	1	0.1	0	0	0	0
Faecal coliforms	803	0	0.0	0	0	0	0
Colour	115	0	0.0	0	0	0	0
Turbidity	115	0	0.0	0	0	0	1
Odour	115	0	0.0	0	0	0	0
Taste	115	0	0.0	0	0	0	0
Hydrogen ion	586	0	0.0	0	0	0	0
Nitrate	119	0	0.0	0	0	0	0
Nitrite	225	11	4.9	0	5	4	1
Aluminium	115	0	0.0	0	0	0	1
Iron	161	1	0.6	0	1	1	3
Manganese	277	7	2.5	3	5	2	1
Lead	72	0	0.0	0	0	0	0
PAH	72	0	0.0	0	0	0	0
Trihalomethanes	72	0	0.0	0	0	0	0
Total pesticides	72	0	0.0	0	0	0	0
Other pesticides	1,441	0	0.0	0	0	0	0
All others	1,806	0	0.0	0	0	0	0
TOTAL	7,084	20	0.28%	3			

18 zones in 2000, 2001 and 2002

The fifth column indicates the number of failures in zones already covered by legally-binding undertakings given by the Company. These undertakings require remedial work to be carried out to ensure compliance with the individual standard.

The New Regulations

In 2002, the Company carried out monitoring for the six new parametric values set down in the new Water Supply (Water Quality) Regulations 2001*. These Regulations come into force on 25 December 2003. The results are shown in the table below.

* Water Supply (Water Quality) Regulation 2000 in England

Parameter	Total number of tests	New standard	Tests not meeting the new standard
Benzene	28	1.0 µg/l	0
Bromate	77	10.0 µg/l	0
1,2 dichloroethane	28	3.0 µg/l	0
Nitrite (ex-water treatment works)	28	0.1 mg/l	0
<i>Clostridium perfringens</i>	29	0/100 ml	2
Enterococci	77	0/100 ml	0

Compliance data for 2002 has also been analysed against the revised standards and the results are shown in the following table.

Parameter	Total number of tests	Current Standard	Number of tests not meeting current standard	Revised Standard	Number of tests not meeting revised standard
Antimony	18	10.0 µg/l	0	5.0 µg/l	0
Arsenic	18	50.0 µg/l	0	10.0 µg/l	0
Boron	18	2.0 mg/l	0	1.0 mg/l	0
Copper	72	3.0 mg/l	0	2.0 mg/l	0
Lead	72	50.0 µg/l	0	25.0 µg/l ¹ 10.0 µg/l ²	0 0
Nickel	18	50.0 µg/l	0	20.0 µg/l	0
Nitrite (at consumers' taps)	225	0.1 mg/l	11	0.5 mg/l	1
PAH	72	0.2 µg/l	0	0.1 µg/l	0
Tetrachloroethene	72	30.0 µg/l	0	} 10.0 µg/l	0
Trichloroethene	72	10.0 µg/l	0		

Details of the new and revised standards, and the reasons for the revisions where applicable, can be found in Chapter J “New Regulations and Associated Programmes of Work”.

1 from 25.12.03
2 from 25.12.13

Company Audit and Inspection

The Company was inspected or audited by the Inspectorate or its appointed consultants on a number of occasions during 2002. Where relevant, report summaries are available in the 'Business and Technical' section of the Inspectorate's web site under 'Audit and Inspection'.

Audit or Inspection	Date
Audit of regulatory <i>Cryptosporidium</i> monitoring sites	Various dates throughout the year
Audit of laboratory analysing for <i>Cryptosporidium</i>	January 2002
Review of distribution system undertaking	September 2002
Audit of response to selected consumer complaints	October 2002
Audit of sampling arrangements	October 2002
Inspection of one water treatment works and one service reservoir	October 2002
Audit of analytical requirements for nitrate and nitrate	November 2002
Audit trails of five test results	December 2002
Inspection of <i>in situ</i> lining of mains	December 2002

A number of recommendations were made in respect of action required to avoid the risk of a breach of a regulatory duty. These recommendations were in relation to the *in situ* lining of mains and the analytical requirements for nitrite and nitrate.

Incidents

No events were notified during 2002 by the Company. For further details on the classification of incidents, see Chapter C "Events affecting Water Quality", in Part 3.

Enforcement Action

No enforcement action was considered for the Company as a result of the Inspectorate activities during 2002.

Undertakings and other Improvement Programmes

Water treatment works and service reservoirs

There were no improvement programmes due for completion during 2002.

Distribution

The ongoing distribution system undertaking has been progressing satisfactorily. During 2002, 30 km of mains have been renovated. The Company is required to renovate a further 45 km of mains by October 2004.

Lead

The Company has a Regulation 41 Programme of work to meet the revised standard for lead set down in the new Water Supply (Water Quality) Regulations 2000, which will come into force on 25 December 2003. Progress with the delivery of the programme is monitored by the Inspectorate and has been satisfactory.