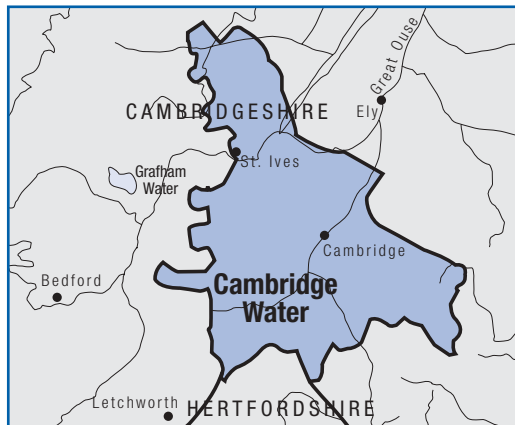


4 Cambridge Water Company

Overall Water Quality supplied by Cambridge Water Company in 2002

- A total of 11,446 tests were carried out on samples taken by Cambridge Water Company in 2002.
- Of these tests, 99.84% complied with the Regulations.



Company Information

Amount of Water Supplied:	72 MI/d
Consumers Supplied:	291,700
Areas of Supply:	Cambridge and surrounding areas
Water Composition:	100% from boreholes and aquifers
Treatment Works:	22
Service Reservoirs:	33
Km of Mains:	2,194
Water Supply Zones:	14

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 11,446 tests on samples taken at water treatment works, from service reservoirs and in water supply zones and of these, 99.84% 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	22	22	23
COLIFORMS			
Total number of tests	1,587	1,448	1,647
– number containing coliforms	0	0	7
– % containing coliforms	0.00%	0.00%	0.43%
Treatment works with coliforms detected	0	0	5
– % of all works with coliforms detected	0.00%	0.00%	21.74%
FAECAL COLIFORMS			
Total number of tests	1,587	1,448	1,647
– 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%

All of the Company's 22 treatment works complied fully with the total coliform and faecal coliform standards. There has been a significance decrease since 2000 in the numbers of treatment works and samples from treatment works in which total coliforms were detected.

The Company has no sites that require regulatory monitoring for *Cryptosporidium*.

Water Quality in Service Reservoirs

	2002	2001	2000
Number of service reservoirs	33	33	33
COLIFORMS			
Total number of tests	1,733	1,787	1,716
– number containing coliforms	1	1	5
– % containing coliforms	0.06%	0.06%	0.29%
Service reservoirs with coliforms detected	1	1	5
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	1,733	1,787	1,716
– number containing faecal coliforms	0	0	0
– % containing faecal coliforms	0.00%	0.00%	0.00%
Service reservoirs with faecal coliforms detected	0	0	0
– % of all service reservoirs with faecal coliforms detected	0.00%	0.00%	0.00%

At all of the Company's service reservoirs, coliforms were absent from at least 95% of samples. There were no failures of the faecal coliform standard. 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 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	856	4	0.47	0	0	0	0
Faecal coliforms	856	1	0.12	0	1	0	0
Colour	88	0	0.00	0	0	0	0
Turbidity	88	0	0.00	0	0	0	0
Odour	96	0	0.00	0	0	0	0
Taste	96	0	0.00	0	0	0	0
Hydrogen ion	90	0	0.00	0	0	0	0
Nitrate	328	7	2.13	6	3	3	0
Nitrite	88	0	0.00	0	0	0	0
Aluminium	94	0	0.00	0	0	0	0
Iron	154	0	0.00	0	0	0	1
Manganese	88	0	0.00	0	0	0	0
Lead	18	0	0.00	0	0	0	0
PAH	100	3	3.00	0	2	1	1
Trihalomethanes	41	0	0.00	0	0	0	0
Total pesticides	27	0	0.00	0	0	0	0
Other pesticides	496	0	0.00	0	0	0	0
Hydrocarbons	18	1	5.56	0	1	1	0
Phosphorus	170	1	0.59	0	1	1	0
Potassium	40	0	0.00	0	1	0	0
All others	974	0	0.00	0	0	0	0
TOTAL	4,806	17	0.35%	6			

14 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 2000. These Regulations come into force on 25 December 2003. The results are shown in the table below.

Parameter	Total number of tests	New standard	Tests not meeting the new standard
Benzene	77	1.0 µg/l	0
Bromate	86	10.0 µg/l	0
1,2 dichloroethane	85	3.0 µg/l	0
Nitrite (ex-water treatment works)	84	0.1 mg/l	0
<i>Clostridium perfringens</i>	4	0/100 ml	0
Enterococci	53	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 or tests	Current Standard	Number of tests not meeting current standard	Revised Standard	Number of tests not meeting revised standard
Antimony	14	10.0 µg/l	0	5.0 µg/l	0
Arsenic	14	50.0 µg/l	0	10.0 µg/l	0
Boron	14	2.0 mg/l	0	1.0 mg/l	0
Copper	14	3.0 mg/l	0	2.0 mg/l	0
Lead	18	50.0 µg/l	0	25.0 µg/l ¹ 10.0 mg/l ²	0
Nickel	14	50.0 µg/l	0	20.0 µg/l	0
Nitrite (at consumers' taps)	88	0.1 mg/l	0	0.5 mg/l	0
PAH	100	0.2 µg/l	3	0.1 µg/l	0
Tetrachloroethene	41	30.0 µg/l	0	} 10.0 µg/l	0
Trichloroethene	41	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 progress with regulatory programmes of work	March 2002
Review of plumbosolvency treatment and control programmes of work for lead	October 2002
Audit of response to selected consumer complaints	October 2002
Audit of analytical requirements for nitrate and nitrite	November 2002
Audit trails of five test results	November 2002
Inspection of one water treatment works and three service reservoirs	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 analytical requirements for nitrate and nitrite and plumbosolvency treatment for lead.

Incidents

The Inspectorate regarded the single event notified during 2002 by the Company as an incident. For further details on the classification of incidents, see chapter C "Events affecting Water Quality" in Part 3.

The incident has been assessed by the Inspectorate. It was of short duration and the Company has taken appropriate remedial action. A number of recommendations were made regarding sampling and procedures.

During the 2002 reporting period, assessment was also completed for one incident which occurred in 2001.

Nature of incident	No. of incidents	Assessment completed affected	Area affected	Population potentially
Microbiological contamination of supplies	1	Yes	Horseheath (February)	125

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

No improvement programmes were due for completion during 2002.

Distribution

The Company had completed its distribution system undertaking by December 2001.

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.