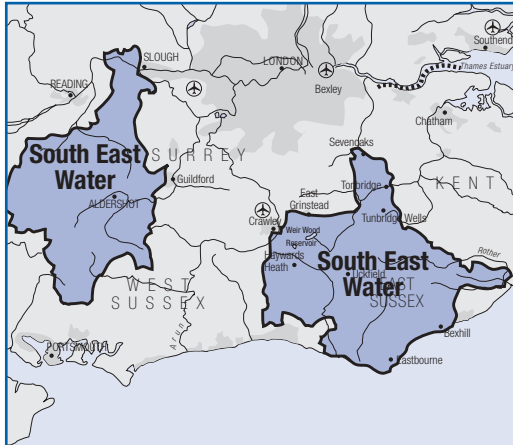


15 South East Water Plc

Overall water quality supplied by South East Water Plc in 2002

- A total of 63,885 tests were carried out by South East Water Plc in 2002.
- Of these tests, 99.78% complied with the Regulations.



Company Information

Amount of Water Supplied:	370 MI/d
Consumers Supplied:	1.4 million
Areas of Supply:	Parts of Hampshire, Berkshire, Surrey, West Sussex, East Sussex and Kent.
Water Composition:	28% from rivers and reservoirs 72% from boreholes and aquifers
Treatment Works:	63
Service Reservoirs:	171
Km of Mains:	9,663
Water Supply Zones:	90

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 63,885 tests on samples taken at water treatment works, from service reservoirs and in water supply zones and of these, 99.78% 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	63	63	63
COLIFORMS			
Total number of tests	5,903	5,623	5,564
– number containing coliforms	4	20	12
– % containing coliforms	0.07%	0.36%	0.22%
Treatment works with coliforms detected	3	17	11
– % of all works with coliforms detected	4.76%	26.98%	17.46%
FAECAL COLIFORMS			
Total number of tests	5,903	5,623	5,564
– number containing faecal coliforms	1	5	7
– % containing faecal coliforms	0.02%	0.09%	0.13%
Treatment works with faecal coliforms detected	1	5	7
– % of all works with faecal coliforms detected	1.59%	7.94%	11.11%

Failures of the coliform and faecal coliform standards at three works in 2002 were considered trivial or unlikely to recur. There has been a significant decrease since 2001 in the number of treatment works and tests carried out on samples taken from treatment works, in which total coliforms were detected. All other differences were not considered significant.

In 2002, 3,352 regulatory samples for *Cryptosporidium* were taken at 11 sites. Very low numbers of oocysts were detected in nine samples from five sites. All results were well below the treatment standard and there were no reported outbreaks of cryptosporidiosis.

Water Quality in Service Reservoirs

	2002	2001	2000
Number of service reservoirs	171	170	172
COLIFORMS			
Total number of tests	8,698	8,811	8,789
– number containing coliforms	36	36	37
– % containing coliforms	0.41%	0.41%	0.42%
Service reservoirs with coliforms detected	27	31	29
Service reservoirs with coliforms detected in more than 5% of tests	3	1	3
– % of all service reservoirs	1.75%	0.59%	1.74%
FAECAL COLIFORMS			
Total number of tests	8,698	8,811	8,789
– number containing faecal coliforms	2	5	7
– % containing faecal coliforms	0.02%	0.06%	0.08%
Service reservoirs with faecal coliforms detected	2	5	7
– % of all service reservoirs with faecal coliforms detected	1.17%	2.94%	4.07%

There were failures of the coliform standard at three service reservoirs. However, the Company has taken remedial action at all three reservoirs. Failures of the faecal coliform standard at two service reservoirs were considered trivial. 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	4,189	47	1.12	0	1	0	0
Faecal coliforms	4,189	2	0.05	0	2	5	4
Colour	380	0	0.00	0	0	0	0
Turbidity	458	1	0.22	1	1	1	0
Odour	445	0	0.00	0	0	1	0
Taste	420	0	0.00	0	0	0	0
Hydrogen ion	924	0	0.00	0	0	0	0
Nitrate	488	0	0.00	0	0	0	0
Nitrite	386	3	0.78	0	1	0	0
Aluminium	414	0	0.00	0	0	0	1
Iron	1,018	21	2.06	11	9	13	13
Manganese	487	0	0.00	0	0	1	3
Lead	274	0	0.00	0	0	3	1
PAH	465	25	5.38	0	12	14	18
Trihalomethanes	247	0	0.00	0	0	0	0
Total pesticides	702	0	0.00	0	0	0	0
Prochloraz	227	0	0.00	0	0	0	1
Other pesticides	9,022	0	0.00	0	0	0	0
Faecal Streptococci	318	1	0.31	0	1	0	0
Oxidizability	101	0	0.00	0	0	1	0
All others	6,177	0	0.00	0	0	0	0
TOTAL	31,331	100	0.32%	12			

90 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	527	1.0 µg/l	0
Bromate	527	10.0 µg/l	1
1,2 dichloroethane	527	3.0 µg/l	0
Nitrite (ex-water treatment works)	207	0.1 mg/l	0
<i>Clostridium perfringens</i>	523	0/100 ml	0
Enterococci	524	0/100 ml	1

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	82	10.0 µg/l	0	5.0 µg/l	0
Arsenic	82	50.0 µg/l	0	10.0 µg/l	0
Boron	79	2.0 mg/l	0	1.0 mg/l	0
Copper	109	3.0 mg/l	0	2.0 mg/l	0
Lead	274	50.0 mg/l	0	25.0 mg/l ¹ 10.0 mg/l ²	5 15
Nickel	90	50.0 µg/l	0	20.0 µg/l	0
Nitrite (at consumers' taps)	386	0.1 mg/l	3	0.5 mg/l	0
PAH	465	0.2 µg/l	25	0.1 µg/l	0
Tetrachloroethene	250	30.0 µg/l	0	} 10.0 µg/l	1
Trichloroethene	250	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
Announced inspection of laboratory analysing for <i>Cryptosporidium</i>	March 2002
Audit of progress with regulatory programmes of work	March 2002
Unannounced inspection of laboratory analysing for <i>Cryptosporidium</i>	August 2002
Review of the distribution system undertaking	September 2002
Audit of response to selected consumer complaints	October 2002
Review of plumbosolvency treatment and control programmes of work for lead	November 2002
Inspection of one water treatment works and one service reservoir	November 2002
Audit of sampling arrangements	November 2002
Audit trails of ten test results	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 sampling practice, the audit trails, the operation of treatment works, the distribution system undertaking and plumbosolvency treatment for lead.

Incidents

The Inspectorate regarded one of the events 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 operation of the distribution system.

Nature of incident	No. of incidents	Assessment completed affected	Area affected	Population potentially	
Microbiological contamination of supplies		1		Yes	Parts of Uckfield and surrounding villages (June) 5,250

Enforcement Action

The table below indicates areas where, in 2002, the Inspectorate considered taking enforcement action for regulatory breaches, and where an undertaking was submitted or where the Company took appropriate action.

Parameter/Area	Regulation breached	Location	Outcome
Iron	3(3)(c)	Greatham, Telham and Blackhurst Water Supply Zones	Undertakings submitted

Undertakings and other Improvement Programmes

Water treatment works and service reservoirs

Five statements of intent to reduce the risk of *Cryptosporidium* breaching the treatment standards were due for completion during 2002. The programmes were completed on schedule.

No other improvement programmes were due for completion during 2002.

Distribution

The ongoing distribution system undertaking has been progressing satisfactorily. During 2002, 233.7 km of mains have been renovated. The Company is required to renovate a further 493.7 km of mains by December 2005. In addition, one undertaking to monitor and if necessary remove iron from the distribution system in Furnace Wood, was due for completion during 2002. This was completed on schedule.

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.