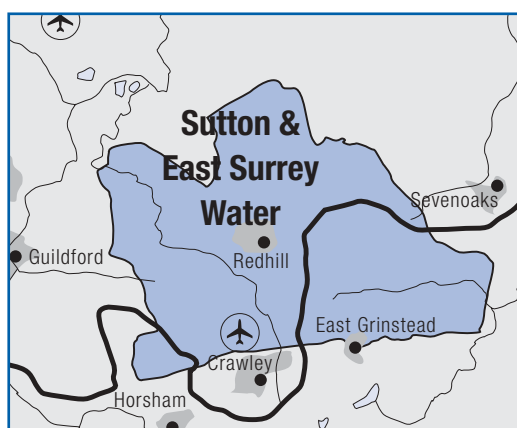


# 19 Sutton and East Surrey Water Plc

## Overall Water Quality supplied by Sutton and East Surrey Water Plc in 2002

- A total of 23,905 tests were carried out on samples taken by Sutton and East Surrey Water Plc in 2002.
- Of these tests, 99.83% complied with the Regulations.



### Company Information

Amount of Water Supplied:	160 MI/d
Consumers Supplied:	637,000
Areas of Supply:	Sutton, Croydon, Merton and parts of Surrey, Sussex and Kent
Water Composition:	15% from rivers and reservoirs 85% from boreholes and aquifers
Treatment Works:	8
Service Reservoirs:	33
Km of Mains:	3,373
Water Supply Zones:	22

## 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 23,905 tests on samples taken at water treatment works, from service reservoirs and in water supply zones and of these, 99.83% 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
<b>Number of water treatment works</b>	8	8	9
<b>COLIFORMS</b>			
<b>Total number of tests</b>	2,223	2,189	2,279
– number containing coliforms	2	1	0
– % containing coliforms	0.09%	0.05%	0.00%
<b>Treatment works with coliforms detected</b>	<b>1</b>	<b>1</b>	<b>0</b>
– % of all works with coliforms detected	12.50%	12.50%	0.00%
<b>FAECAL COLIFORMS</b>			
<b>Total number of tests</b>	2,223	2,189	2,272
– number containing faecal coliforms	0	0	0
– % containing faecal coliforms	0.00%	0.00%	0.00%
<b>Treatment works with faecal coliforms detected</b>	<b>0</b>	<b>0</b>	<b>0</b>
– % of all works with faecal coliforms detected	0.00%	0.00%	0.00%

Failures of the coliform standard at one works in 2002 were considered unlikely to recur as a result of remedial action taken by the Company. There were no failures of the faecal coliform standard. 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, 366 regulatory samples for *Cryptosporidium* were taken at one site. Very low numbers of oocysts were detected in two samples from one site. All results were well below the treatment standard and there were no reported outbreaks of cryptosporidiosis.

### Water Quality in Service Reservoirs

	2002	2001	2000
<b>Number of service reservoirs</b>	33	33	33
<b>COLIFORMS</b>			
<b>Total number of tests</b>	1,723	1,763	1,768
– number containing coliforms	3	0	0
– % containing coliforms	0.17%	0.00%	0.00%
Service reservoirs with coliforms detected	3	0	0
<b>Service reservoirs with coliforms detected in more than 5% of tests</b>	<b>0</b>	<b>0</b>	<b>0</b>
– % of all service reservoirs with coliforms detected	0.00%	0.00%	0.00%
<b>FAECAL COLIFORMS</b>			
<b>Total number of tests</b>	1,723	1,763	1,768
– number containing faecal coliforms	1	0	0
– % containing faecal coliforms	0.06%	0.00%	0.00%
<b>Service reservoirs with faecal coliforms detected</b>	<b>1</b>	<b>0</b>	<b>0</b>
– % of all service reservoirs with faecal coliforms detected	3.03%	0.00%	0.00%

There were no failures of the coliform standard at any of the service reservoirs. The detection of faecal coliforms at one service reservoir was 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	1,706	1	0.06	0	0	0	0
Faecal coliforms	1,706	0	0.00	0	0	0	1
Colour	191	0	0.00	0	0	0	0
Turbidity	447	0	0.00	0	0	0	1
Odour	191	0	0.00	0	0	0	0
Taste	191	0	0.00	0	0	0	0
Hydrogen ion	1,705	0	0.00	0	0	0	0
Nitrate	191	0	0.00	0	0	0	0
Nitrite	305	28	9.18	0	4	4	5
Aluminium	191	0	0.00	0	0	0	0
Iron	349	2	0.57	1	2	4	1
Manganese	91	0	0.00	0	0	0	0
Lead	1,706	2	0.12	0	2	1	1
PAH	99	0	0.00	0	0	1	0
Trihalomethanes	89	0	0.00	0	0	0	1
Total pesticides	186	0	0.00	0	0	0	0
Other pesticides	1,656	0	0.00	0	0	0	0
Total Hardness	39	1	2.56	1	0	0	
All others	4,608	0	0.00	0	0	0	0
<b>TOTAL</b>	<b>15,647</b>	<b>34</b>	<b>0.22%</b>	<b>1</b>			

22 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	33	1.0 µg/l	0
Bromate	36	10.0 µg/l	0
1,2 dichloroethane	33	3.0 µg/l	0
Nitrite (ex-water treatment works)	143	0.1 mg/l	0
<i>Clostridium perfringens</i>	32	0/100 ml	0
Enterococci	89	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	22	10.0 µg/l	0	5.0 µg/l	0
Arsenic	22	50.0 µg/l	0	10.0 µg/l	0
Boron	22	2.0 mg/l	0	1.0 mg/l	0
Copper	89	3.0 mg/l	0	2.0 mg/l	0
Lead	1,706	50.0 µg/l	2	25.0 µg/l <sup>1</sup> 10.0 µg/l <sup>2</sup>	7 25
Nickel	22	50.0 µg/l	0	20.0 µg/l	0
Nitrite (at consumers' taps)	305	0.1 mg/l	28	0.5 mg/l	0
PAH	99	0.2 µg/l	0	0.1 µg/l	0
Tetrachloroethene	89	30.0 µg/l	0	} 10.0 µg/l	0
Trichloroethene	89	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
Audit of progress with regulatory programmes of work	March 2002
Audit trails of five test results	August 2002
Inspection of one service reservoir	August 2002
Audit of response to selected consumer complaints	September 2002
Review of the operation and management of the distribution system	September 2002
Audit of <i>in situ</i> lining of mains	November 2002
Review of plumbosolvency treatment and control programmes of work	November 2002
Audit of sampling arrangements	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 audit trails, the service reservoir, the regulatory programmes of work, the operation and management of the distribution system, sampling arrangements, *in situ* lining of mains 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 was assessed by the Inspectorate. It was of short duration and the Company has taken appropriate remedial action. One recommendation was made.

One incident assessment from 2001 remains under consideration.

Nature of incident	No. of incidents	Assessment completed affected	Area affected	Population potentially	
Failure of disinfection system			1	Yes	Kenley WTW (April) 89,655

## Enforcement Action

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

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## Undertakings and other Improvement Programmes

### Water treatment works and service reservoirs

One statement of intent to reduce the risk of *Cryptosporidium* breaching the treatment standards was due for completion during 2002. The programme was not completed on schedule because the Company is reviewing its approach. The Inspectorate is awaiting receipt of further information from the Company before deciding on the action required.

One statement of intent for parameters other than *Cryptosporidium* was due for completion during 2002. The programme was 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, 65 km of mains have been renovated. The Company is required to renovate a further 76 km of mains by June 2004. In addition, one undertaking to remove iron by refurbishing the distribution system in Dry Hill, 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.