seswater.co.uk

ses WATER

Water Quality 2019

January 2020

Table of Contents

Document prepared by Jessica Reid, Water Quality Scientist
Document authorised by Rob Baldry, Water Quality Science Manager

1. Introduction

SES Water supplies drinking water to approximately 712,000 people in East Surrey, parts of West Kent and West Sussex, and the London Boroughs of Sutton, Merton and Croydon, over an area covering 835 square kilometres.

85% of the Company's water supplies come from boreholes in the chalk and lower greensand, and the remainder comes from Bough Beech reservoir. The reservoir is filled by abstracting water from the River Eden in Kent during the autumn and winter months.

Water is treated at eight treatment works to ensure any particles, bacteria, metals and trace contaminants are removed before it is distributed to customers, and the hard chalk groundwater is also partially softened before supply.

Water is distributed to customers through 35 service reservoirs or water towers and approximately 3,500 kilometres of mains, covering 20 water supply zones. The average demand for water across the total population we serve is 165 Ml (165 million litres) per day.

Water suppliers must satisfy the requirements of the Water Supply (Water Quality) Regulations 2016 (as amended), which fully incorporate the requirements of the European Drinking Water Directive on the quality of water intended for human consumption. The Regulations impose standards for drinking water to ensure water is safe to drink, and they also set limits for parameters that ensure that the appearance and taste of the water is acceptable to our customers.

The Regulations define how many samples must be analysed to monitor water quality, where the samples must be taken from and at what frequency. Samples are taken from defined points at treatment works, service reservoirs and supply points, and at random from consumers' taps, in accordance with an annual programme.

Although the primary responsibility for monitoring water quality rests with the water supplier, water quality is also assessed by the Drinking Water Inspectorate (DWI), a division of the Department for Environment, Food and Rural Affairs. The DWI assesses the wholesomeness of water supplies and undertakes annual technical audits of water suppliers.

This report relates to water quality supplied by SES Water for the calendar year 2019.

2. Summary of Water Quality

SES Water's supplies are of very good quality. During 2019, 5840 samples of treated water were taken to satisfy the requirements of the Regulations and approximately 33,500 measurements were made on those samples to assess the extent to which our water supplies met the standards set in the Regulations.

The Regulations set Prescribed Concentrations or Values (PCVs) for parameters used to determine the wholesomeness of the water, and Specification Concentrations or Values (SCVs) for parameters that are additional monitoring requirements (otherwise known as indicator parameters), but which do not impact on the determination of the wholesomeness of the water supplied. In 2019, 99.98 % of the tests undertaken to determine compliance with the directive and national standards, and 100 % of the tests taken to determine compliance with the indicator parameters met the standards set. Details of the extent of compliance are given in Appendix 1 of this report.

Any contraventions of a standard are investigated in accordance with the guidance issued by the Drinking Water Inspectorate. In some cases, further sampling does not confirm the original findings and no further action is required, but in other cases remedial action such as mains flushing or lead pipe replacement may be required. In general, contraventions are associated with local conditions that are not representative of the water quality throughout a zone, and in particular, some contraventions can be associated with maintenance of the plumbing within an individual property. Irrespective of the cause of the problem, the affected consumers are advised of what action has been taken to remedy the situation, or what action they can take to ensure the problem does not recur.

Details of the numbers of tests carried out on samples taken from treatment works, service reservoirs, supply points and consumers' taps (or water supply zones) is given in Appendix 2. A summary of the key aspects of water quality, including commentary on any parameters where standards were exceeded in 2019, is given in Sections 3 and 4.

The Chief Inspector of the DWI produces quarterly reports on drinking water and an annual summary report of performance; the report for 2019 will be published in July 2020. The report includes a statistically determined measure for assessing water company performance – "Overall drinking water quality". The overall drinking water quality % for SES Water for 2019 was 99.94 %, and a summary of our historical performance in respect of this quality index, and our performance relative to that of the industry, is shown in Appendix 3.

Further details of the Inspectorate's assessments of the Company are available on their website – dwi.gov.uk.

3. Microbiological Quality

The primary aim of microbiological monitoring is to demonstrate that water supplies are safe to drink. Coliforms are bacteria that are widespread in the environment, and whose presence in water may indicate contamination of supplies and the possible presence of harmful organisms that may cause illness. When detected in water, however, they may also be indicative of the poor hygienic condition of the sampling location.

In 2019, 100% of all samples complied with the standards set for the coliform parameter. Any microbiological failures are notified to the relevant local authorities and health protection teams.

Water leaving treatment works was tested for total coliforms and E.*coli*. 100% of the 2099 samples taken from our treatment works were clear of both coliforms and *E.coli*.

Water leaving service reservoirs and towers was also tested for coliforms and *E.coli*. 100% of the 1817 samples taken from our reservoirs were clear of both coliforms and *E.coli*.

The Regulations include mandatory standards for *E.coli* and Enterococci in samples collected from consumers' taps. All of the 1849 consumer tap samples tested for E.*coli* and the 161 samples tested for Enterococci were free of these organisms.

1849 samples taken from consumer taps were tested for coliforms. All samples were free of these organisms.

Monitoring for *Clostridium perfringens* is carried out at supply points. The absence of this organism in treated water confirms an efficient treatment process. 100% of the 57 samples tested were free of *C.perfringens*.

4. Chemical Quality

Chemical monitoring includes tests for a great variety of compounds, including organics (such as solvents and pesticides), metals, inorganics (such as chloride and nitrate) and physical properties of the water, such as taste and odour. The majority of substances we check for are invisible to the consumer, but some do impact on the appearance, and therefore the acceptability of our product to our customers. Whilst it is impossible to comment on all the chemical parameters we monitor for, those generally of particular interest to our customers, are discussed below.

There were five exceedances of the standards set for chemical tests in 2019; two of these exceedances were due to the level of lead detected in customer properties. The other three exceedances were due to the level of iron detected in customer properties. Details of the investigations into these results are described below.

4.1 Iron

There were three exceedances of the standard set for the iron parameter in 2019. The standard set for iron is based on its effect on the appearance of the water, and not on health grounds. Iron may be present in the water due to the disturbance of iron particles, accumulated over time from the corrosion of iron mains.

The first exceedance of the standard for iron in a sample taken from a customer tap was in February 2019. No definitive cause could be determined. The original sample was not turbid nor had any other determinands with unusual or elevated results. All resamples from the affected property, neighbours and the wider area were compliant for iron, copper, zinc, manganese, total aluminium and turbidity. There was no indication of disturbance of naturally deposited iron mains or service pipework sediment.

In March 2019 there was another exceedance of the standard for iron in a sample taken from a customer tap. Investigation of operational activity immediately prior to the event identified that work was being carried out at our Godstone Treatment works on a treated water pump. Indications are that a pump fault caused a pressure surge in the mains network causing a disturbance of naturally deposited iron mains sediment. All other determinands tested complied with the Standards; however, the turbidity of the original sample was also slightly elevated. All resamples from the affected property, neighbours and the wider area were compliant for iron, copper, zinc, manganese, total aluminium and turbidity.

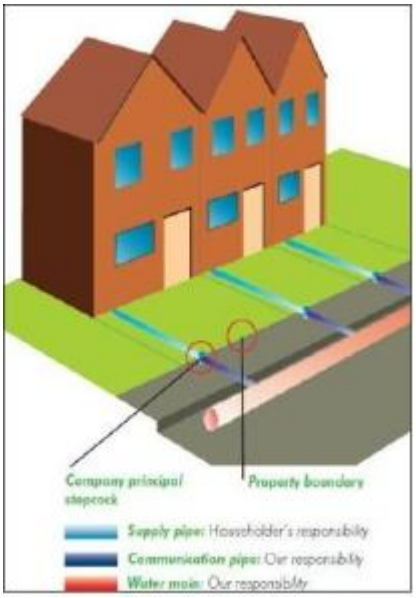
The third exceedance of the Standard for iron in a sample taken from a customer tap occurred in May 2019. No definitive cause could be determined. The original sample was not turbid nor had any other determinands with unusual or elevated results. All resamples from the affected property, neighbours and the wider area were compliant for iron, copper, zinc, manganese, total aluminium and turbidity. There was no indication of disturbance of naturally deposited iron mains or service pipework sediment.

4.2 Turbidity

During 2019, there were no exceedances of the turbidity parameter in any of our water supply zones or treatment works. Turbidity is a measure of the suspended fine particulate material in a sample and the standard set for turbidity is based on its effect on the appearance of the water, and not on health grounds.

More information on iron and turbidity is available in the 'Discoloured water' fact sheet, available on our website.

4.3 Lead



Lead in drinking water arises from lead service pipes and fittings; it is not present in the mains water supplied. Whilst lead pipework has not been used for new installations for many years, there are still a large number of lead pipes in existence. The water supplier owns some of this pipework, but the vast majority actually belongs to the owner of the property. Lead can also be introduced by the inappropriate use of lead solder when internal plumbing work is carried out.

SES Water conditions the water supplied to minimise lead pick-up from any lead pipes that may be present in the distribution network, but in some cases this is still not adequate to prevent lead dissolving into standing water.

There were two exceedances of the lead parameter in the 161 compliance samples taken in water supply zones in 2019.

In May 2019, there was an exceedance of the Standard for lead at a customer property due to the presence of lead service pipework. The Company owned lead pipework was previously replaced in 2004. Samples from one of the neighbouring properties also contained levels of lead above the Standard. However, samples confirmed that the Company owned pipework was no-longer contributing to the level of lead in the customers' supplies. The customers have been advised of how best to minimise their intake of lead. There is no further action for the Company to take.

In August 2019, there was a further exceedance of the Standard for lead from a sample taken at a customer property. This was due to the presence of lead service pipework. We replaced the Company owned lead pipework prior to resamples being taken from the affected property. All resamples from the affected property and neighbours were compliant for lead. The customer has been advised of how best to minimise their intake of lead.

The Company also carries out operational testing for lead, and conducts tests in response to customer requests. A low number of these samples exceeded the regulatory limit for lead in 2019 and in these cases there was a full investigation, as there would be for an exceedance of the standard in a compliance sample. If it is found that the Company owned pipework is lead, then it is replaced with an alternative material free of charge. If the pipework

owned by the customer is shown to be lead, or it is identified that the problem is due to the use of lead solder, then the customer is advised to consider replacing their problem pipework.

In all cases where a customer chooses not to replace their part of the lead service pipework following a failure of the lead standard, or following the detection of lead greater than 10 Qg/l, they are advised to thoroughly flush the pipework after a period of non-use, before taking any water for drinking or food preparation purposes, in order to minimise their exposure to lead. The flushing water does not have to be wasted and can be used for watering plants.

More information on lead is available in the 'Lead in drinking water' fact sheet, available on our website.

4.4 Nickel

Although nickel may be naturally present in drinking water at low concentrations, high concentrations generally only arise due to contamination from nickel coatings used on some domestic taps and water fittings.

There were no exceedances of the standard for nickel at customer properties in 2019.

4.5 Hardness

Hardness is caused by naturally occurring calcium and magnesium salts dissolved in the water. Although hard water can cause scale build-up on fittings and in pipework, and can leave a scum on the surface of boiled water, it is not harmful to health.

Many of SES Water's borehole sources are in chalk aquifers that are naturally hard. The Company partially softens the water at five of the larger treatment works to reduce the effects caused by hard water. At our other treatment works, the water is naturally softer.

Under the current Regulations there are no requirements to monitor and report on water hardness levels. We continue to monitor hardness levels, however, to ensure the efficient operation of the softening process, and to enable us to provide the information to customers if required.

More information on hardness in general is available in the 'Hardness and scale' fact sheet on our website.

Customers can check the average hardness of the water in their area of supply on our website.

4.6 Metaldehyde

Metaldehyde is a selective pesticide, used by farmers and gardeners to control slugs in a wide variety of crops. The standard for the individual pesticide parameter is a target for treatment, and is not based on the impact to health.

SES Water is working with other water companies, the Metaldehyde Stewardship Group, the Environment Agency, Natural England, the Drinking Water Inspectorate, local agronomists and farmers to ensure significant reductions are seen in the levels of metaldehyde in water sources through improved practices of product application. These catchment management activities and the installation of improved treatment at our surface water treatment works has resulted in 100% compliance with pesticides in treated water since 2010.

Details of our Undertaking for metaldehyde, agreed with the Drinking Water Inspectorate, are shown in Appendix 4 below.

The Company will continue with catchment management activities to ensure that the risk from this and other pesticides are minimised.

4.7 Benzo(a)pyrene

Benzo(a)pyrene is a polycyclic aromatic hydrocarbon (PAH) that can be present in the coal tar or bitumen lining that was historically used to line some iron mains. It can be introduced in to water if that lining degrades or becomes damaged over time.
It is very unusual to detect benzo(a)pyrene or any other PAH substances in drinking water. There were no sample failures for Benzo(a)pyrene or PAH in 2019.

4.8 Gross alpha activity

Gross alpha activity is a surrogate measure for the indicative (radioactive) dose. It is only monitored at sites that have been identified as requiring surveillance, and elevated levels are usually due to naturally occurring radionuclides, due to the nature of the surrounding geology.
All samples taken in 2019 complied with the set standard.

5. Operational monitoring

In addition to the tests carried out on treated waters for regulatory purposes, SES Water takes a number of samples for operational reasons such as monitoring the efficiency of treatment processes and checking the integrity of the distribution network after maintenance work. We are also required to carry out regulatory monitoring of raw water abstraction points and we take samples to confirm source water quality and to verify the risk assessment of sources carried out as part of the Company's Drinking Water Safety Plans. Approximately 100,000 additional tests (operational and regulatory abstraction monitoring) were carried out for these purposes in 2019.

6. Improvement programmes

If a water sample exceeds a standard in the Regulations and the investigation concludes that it is likely to recur, the Secretary of State can require a water supplier to put in place a legally binding improvement programme of work to improve drinking water quality. This improvement programme can be in the form of an 'Undertaking' or an 'Authorised Departure'.

SES Water had no Authorised Departures in force during 2019, but had an Undertaking agreed with the Drinking Water Inspectorate in respect of the pesticide metaldehyde. This Undertaking places a legal obligation on the Company to complete a number of agreed steps, aiming to secure or facilitate compliance with the standards in the period to 31 March 2020. See Section 4.6 and Appendix 4 for further information.

7. Provision of Information

Water companies are obliged to maintain records and provide details of regulatory water quality analysis within seven days of a request from any person.

Customers wishing to see a water quality report for their area can download the latest report from our Company website. Access to reports, other general information and frequently asked questions about water quality can be found on our website seswater.co.uk/wq.

Alternatively customers can contact our Customer Services team on 01737 772000, or by email, customerrelations@seswater.co.uk.

8. Appendices

Appendix 1 – Summary of Water Quality, 2019

Schedule 1 Mandatory Determinands (Directive and National standards)			
Asset	No. of tests	No. of failures	% Compliance
Treatment Works	6,297	0	100.00
Service Reservoirs	3,634	0	100.00
Supply Points	1,830	0	100.00
Water Supply Zones	10,877	5	99.95
Total for mandatory determinands	22,638	5	99.98

Schedule 2 Indicator Determinands			
Asset	No. of tests	No. of failures	% Compliance
Treatment Works	4,198	0	100.00
Service Reservoirs	1,817	0	100.00
Supply Points	926	0	100.00
Water Supply Zones	3,389	0	100.00
Total for indicator determinands	10,830	0	100.00

Schedule 1 & 2, Mandatory & Indicator Determinands			
Asset	No. of tests	No. of failures	% Compliance
Treatment Works	10,495	0	100.00
Service Reservoirs	5,451	0	100.00
Supply Points	2,756	0	100.00
Water Supply Zones	14,766	5	99.97
Total mandatory & indicator determinands	33,468	5	99.99

Note:

- The figures in the tables above do not include tests for parameters that do not have a standard. 5729 additional tests were carried out for the determination of residual disinfectant, as required by the Regulations.
- Details of any failures are discussed in the main body of the report.

Appendix 2 – Annual Water Quality Report, 2019

Quality of Water at Water Treatment Works *Number of water treatment works: 8 (all 8 in operation in 2019)*						
Parameter	No. samples	PCV or SCV and Units	Samples Contravening PCV or SCV		Water Treatment Works Contravening PCV or SCV	
			No.	%	No.	%
Schedule 1 parameters						
Total coliforms	2,099	0 /100ml	0	0.00	0	0.00
E.coli	2,099	0 /100ml	0	0.00	0	0.00
Nitrite	2,099	0.1 mg NO_2/l	0	0.00	0	0.00
Indicator parameters						
Colony count 72h 22°C	2,099	(N/A) No./ml	0	0.00	0	0.00
Turbidity	2,099	1 NTU	0	0.00	0	0.00
Residual Disinfectant	2,099	(N/A) mg/l	-	-	-	-

Quality of Water at Service Reservoirs *Number of service reservoirs: 35*						
Parameter	No. samples	PCV or SCV and Units	Samples Contravening PCV or SCV		Service Reservoirs Contravening PCV or SCV	
			No.	%	No.	%
Schedule 1 parameters						
Total coliforms	1,817	0 /100ml	0	0.00	0	0.0
E.coli	1,817	0 /100ml	0	0.00	0	0.00
Indicator parameters						
Colony count 72h 22°C	1,817	(N/A) No./ml	0	0.00	0	0.00
Residual Disinfectant	1,817	(N/A) mg/l	-	-	-	-

Note:

- Compliance with the required standard for total coliforms at a service reservoir is achieved if coliforms are absent in 95% samples taken at any single reservoir. All reservoirs complied with this standard.

Quality of Water at Supply Points *Number of Supply Points: 8*						
Parameter	No. samples	PCV or SCV and Units	Samples Contravening PCV or SCV		Supply Points Contravening PCV or SCV	
			No.	%	No.	%
Schedule 1 parameters						
Bromate	56	10 Qg BrO_3/l	0	0.00	0	0.00
Cyanide	56	50 Qg CN/l	0	0.00	0	0.00
Fluoride	56	1.5 mg F/l	0	0.00	0	0.00
Mercury	56	1 Qg Hg/l	0	0.00	0	0.00
Pesticides						
2,4-D	8	0.1 Qg/l	0	0.00	0	0.00
Aldrin	60	0.03 Qg/l	0	0.00	0	0.00
Atrazine	56	0.1 Qg/l	0	0.00	0	0.00
Azoxystrobin	56	0.1 Qg/l	0	0.00	0	0.00
Boscalid	56	0.1 Qg/l	0	0.00	0	0.00
Bromoxynil	56	0.1 mg/l	0	0.00	0	0.00
Carbendazim	56	0.1 Qg/l	0	0.00	0	0.00
Carbetamide	56	0.1 Qg/l	0	0.00	0	0.00
Chlorotoluron	8	0.1 Qg/l	0	0.00	0	0.00
Clopyralid	60	0.1 Qg/l	0	0.00	0	0.00
Dieldrin	56	0.03 Qg/l	0	0.00	0	0.00
Diflufenican	56	0.1 Qg/l	0	0.00	0	0.00
Dimethenamid	56	0.1 Qg/l	0	0.00	0	0.00
Diuron	56	0.1 Qg/l	0	0.00	0	0.00
Epoxiconazole	56	0.1 Qg/l	0	0.00	0	0.00
Flufenacet	8	0.1 Qg/l	0	0.00	0	0.00
Fluroxypyr	56	0.1 Qg/l	0	0.00	0	0.00
Flutriafol	8	0.1 Qg/l	0	0.00	0	0.00
Heptachlor	60	0.03 Qg/l	0	0.00	0	0.00
Heptachlor Epoxide	60	0.03 Qg/l	0	0.00	0	0.00
Isoproturon	56	0.1 Qg/l	0	0.00	0	0.00
MCPA	8	0.1 Qg/l	0	0.00	0	0.00
Mecoprop	8	0.1 Qg/l	0	0.00	0	0.00
Metaldehyde	22	0.1 Qg/l	0	0.00	0	0.00
Metazachlor	56	0.1 Qg/l	0	0.00	0	0.00
Methabenzthiazuron	56	0.1 Qg/l	0	0.00	0	0.00
Pendimethalin	56	0.1 Qg/l	0	0.00	0	0.00
Picloram	48	0.1 Qg/l	0	0.00	0	0.00

Quality of Water at Supply Points *Number of Supply Points: 8*						
Parameter	No. samples	PCV or SCV and Units	Samples Contravening PCV or SCV		Supply Points Contravening PCV or SCV	
			No.	%	No.	%
Propyzamide	56	0.1 Qg/l	0	0.00	0	0.00
Prosulfocarb	56	0.1 Qg/l	0	0.00	0	0.00
Quinmerac	8	0.1 Qg/l	0	0.00	0	0.00
Simazine	1	0.1 Qg/l	0	0.00	0	0.00
Tebuconazole	56	0.1 Qg/l	0	0.00	0	0.00
Total Pesticides	56	0.5 Qg/l	0	0.00	0	0.00
Tri-Allate	56	0.1 Qg/l	0	0.00	0	0.00
Triclopyr	56	0.1 Qg/l	0	0.00	0	0.00
Indicator parameters						
Chloride	56	250 mg Cl/l	0	0.00	0	0.00
Clostridium perfringens	57	0 /100ml	0	0.00	0	0.00
Conductivity	682	2500 QS/cm	0	0.00	0	0.00
Sulphate	56	250 mg SO_4/l	0	0.00	0	0.00
Total Organic Carbon	56	(N/A) mg C/L	0	0.00	0	0.00
Gross alpha activity	9	0.1 Bq/l	0	0.00	0	0.00
Gross beta activity	9	1 Bq/l	0	0.00	0	0.00

Note:

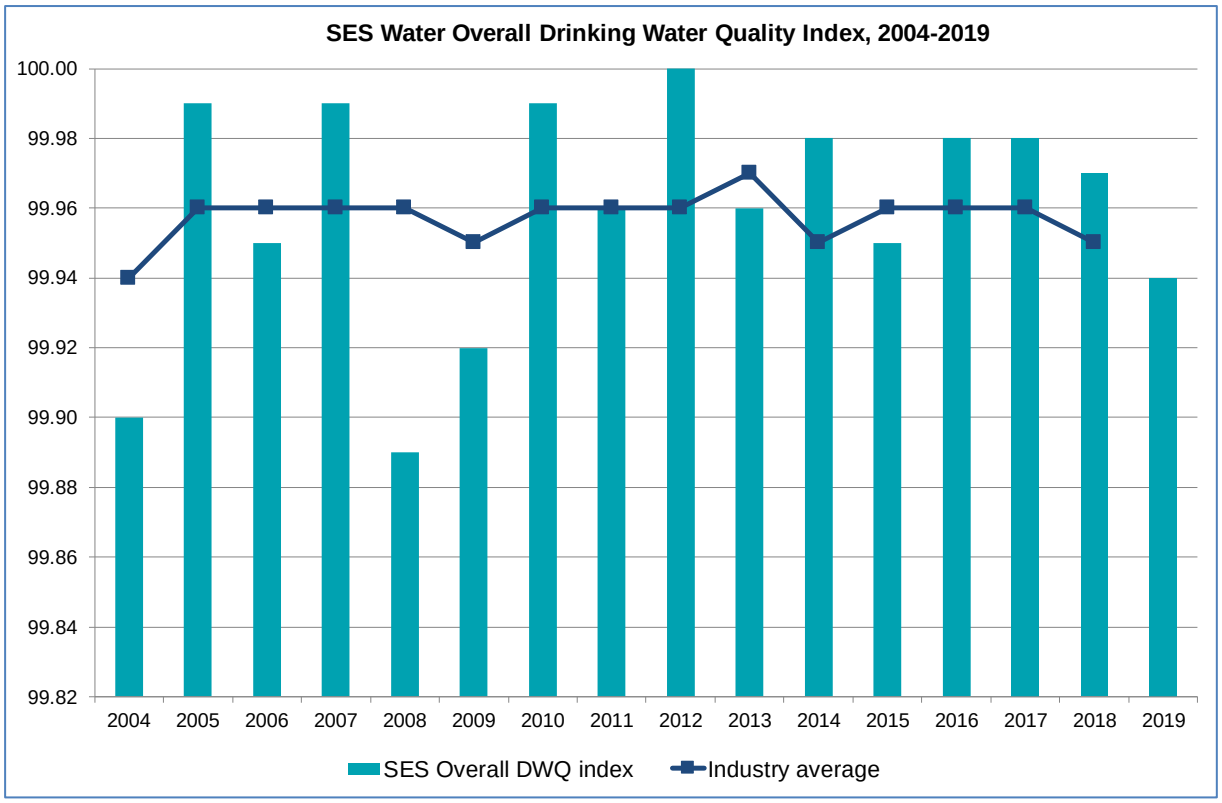
- A supply point is a monitoring point at a water treatment works, service reservoir, blending point or fixed point in distribution where the result of analysis of the water at that point will not change in material respect in its passage to the consumer's tap. SES Water monitored for supply point parameters at water treatment works.

Quality of Water in Water Supply Zones (at consumers' taps) *Number of Water Supply Zones: 20*						
Parameter	No. samples	PCV or SCV and Units	Samples Contravening PCV or SCV		Water Supply Zones Contravening PCV or SCV	
			No.	%	No.	%
Schedule 1 parameters						
E. coli	1,849	0 /100ml	0	0.00	0	0.00
Enterococci	161	0 /100ml	0	0.00	0	0.00
1,2-Dichloroethane	160	3 Qg/l	0	0.00	0	0.00
Aluminium	417	200 Qg Al/l	0	0.00	0	0.00
Antimony	160	5 Qg Sb/l	0	0.00	0	0.00
Arsenic	160	10 Qg As/l	0	0.00	0	0.00
Benzene	160	1 Qg/l	0	0.00	0	0.00
Benzo(a)pyrene	160	0.01 Qg/l	0	0.00	0	0.00
Boron	160	1 mg B/l	0	0.00	0	0.00
Cadmium	160	5 Qg Cd/l	0	0.00	0	0.00
Chromium	160	50 Qg Cr/l	0	0.00	0	0.00
Colour	680	20 mg/l Pt/Co	0	0.00	0	0.00
Copper	160	2 mg Cu/l	0	0.00	0	0.00
Iron	548	200 Qg Fe/l	3	0.55	3	15.00
Lead	161	10 Qg Pb/l	2	1.24	2	10.0
Manganese	417	50 Qg Mn/l	0	0.00	0	0.00
Nickel	160	20 Qg Ni/l	0	0.00	0	0.00
Nitrate	680	50 mg NO_3/l	0	0.00	0	0.00
Nitrite	680	0.5 mg NO_2/l	0	0.00	0	0.00
Nitrite/Nitrate formula	680	1	0	0.00	0	0.00
Odour	682	0 Dil. Num.	0	0.00	0	0.00
Selenium	160	10 Qg Se/l	0	0.00	0	0.00
Sodium	160	200 mg Na/l	0	0.00	0	0.00
Sum Tetra- and Trichloroethene	160	10 Qg/l	0	0.00	0	0.00
Taste	682	0 Dil. Num.	0	0.00	0	0.00
Tetrachloromethane	160	3 Qg/l	0	0.00	0	0.00
Total PAH (4 substances)	160	0.1 Qg/l	0	0.00	0	0.00

Quality of Water in Water Supply Zones (at consumers' taps) *Number of Water Supply Zones: 20*						
Parameter	No. samples	PCV or SCV and Units	Samples Contravening PCV or SCV		Water Supply Zones Contravening PCV or SCV	
			No.	%	No.	%
Total Trihalomethanes	160	100 Qg/l	0	0.00	0	0.00
Turbidity	680	4 NTU	0	0.00	0	0.00
Indicator *parameters*						
Total coliforms	1,849	0 /100ml	0	0.00	0	0.00
Colony count 72h 22°C	655	(N/A) No./ml	0	0.00	0	0.00
Ammonium	680	0.5 mg NH4/l	0	0.00	0	0.00
Hydrogen Ion (pH)	680	9.5 (6.5min) pH units	0	0.00	0	0.00
Residual Disinfectant	1,849	(N/A) mg/l	-	-	-	-

Appendix 3 – Overall Drinking Water Quality, 2004 - 2019

The following chart shows the Company performance in the Overall Drinking Water Quality Index, as defined by the Drinking Water Inspectorate, over the past fifteen years. The Company performance is compared to that of the published industry average.



In 2019 Company performance was affected by two exceedances of the standard for lead, and three exceedances of the standard for Iron, as described in Section 4.3 above.

The fluctuations in Company performance, compared to the steady performance of the industry as a whole, reflects the fact that very low numbers of exceedances of the standards for some parameters, i.e. those such as lead or nickel that have a low regulatory monitoring frequency, can have a major impact on the overall index for a small water company. These parameters are also often affected by the conditions of customer taps or pipework and are therefore outside of the control of the Company.

Appendix 4 – Improvement Programmes in force during 2019

Undertaking in respect of Metaldehyde, in Water Supply Zones Supplied from Bough Beech TW		
Water Supply Zones affected	**Agreed steps to be taken**	**Status / Planned Completion date**
L03, L04, L08, L24 & L11 (part) will have had non-trivial breaches of the metaldehyde standard L17 could be at risk of exceeding the standard if receiving an input from Bough Beech TW L01 and L19 are not considered as being at risk of exceeding the standard, but they do receive a small input from Bough Beech TW	(a) Ensure that metaldehyde has been assessed as a hazard as part of the regulation 27 Risk Assessment for the supply system supplied by Bough Beech WTW according to a Drinking Water Safety Plan approach	Completed
	(b) Submit a comprehensive Action Plan identifying short, medium and long term mitigating steps, including catchment measures, to address the risk of the metaldehyde parameter associated with the connected supply system supplied by Bough Beech WTW. To include as a minimum the requirements within (c), (d) (e) and (f), and review regularly	Completed
	Short term measures: (c) (i) Continue the existing catchment measures as committed to in the Undertaking dated 30 October 2009 (ii) Continue to implement an enhanced monitoring strategy to supplement regulatory treated water monitoring (iii) Take such reasonable steps to ensure so far as practicable that the prescribed concentration is not exceeded. If the concentration of metaldehyde in any water supply zone listed in the Annex to this Schedule of Works exceeds the maximum concentration the Company has agreed with Public Health England, take all reasonable measures in consultation with local health professionals to minimise the impact on customers (iv) Report regulatory exceedances of the standards for metaldehyde (individual pesticide) parameter to DWI as part of the current monthly exception reporting process (v)Implement any appropriate and practicable short-term operational measures	Completed On-going On-going On-going For the duration of the Undertaking

	Medium Term Measures: (d) Implement appropriate catchment measures as identified in the Action Plan submitted under step (b).	For the duration of the Undertaking
	(e) Implement appropriate operational medium-term measures as identified in the Action Plan submitted under step (b), which include: (i) Abstraction management (ii) Treatment optimisation (iii) Research and Development	For the duration of the Undertaking
	Long term measures: (f) Continually appraise the risk of metaldehyde as a hazard as part of the Regulation 27 Risk Assessment for the supply system(s) associated with Bough Beech WTW according to a Drinking Water Safety Plan approach, and ensure that Regulation 28 documents are regularly reviewed and updates provided.	For the duration of the Undertaking
	Reporting: (g) Provide DWI with reports on progress made with carrying out the steps set out in the Action Plan.	Yearly, by 31 January each year
	(h) Provide a report to DWI on the progress to date and outcomes of the catchment measures included in this Undertaking, and proposals for any further measures required to secure or facilitate compliance. Include in this report proposals for demonstration of delivery of the required outcomes in the period to 31 December 2019	Completed
	(i) Provide a final report to DWI on the efficacy of the catchment solutions and the conclusions drawn from other work carried out as part of this Undertaking. Include as evidence of closure for this scheme appropriate documentation to confirm that the actions set out in this Schedule of Work have been completed and the required outcomes have been achieved	31 March 2020