

Water Supply Zone: 0060	WESTERHAM	Population: 10,454			
Time Period: 1 Jan 2024 to 31 Dec 2024					

This report is based on the entire supply zone and is not specific to any individual property.

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Annual review of the water quality for water supply zone: WESTERHAM

Excellent quality water with no infringements to report for the Water Supply Zone.



Notes:

- Home bought chlorine / nitrate / hardness detection kits are not as accurate as the UKAS accredited laboratories where the majority of our samples are analysed.
- Radon is naturally occurring, produced by the radioactive decay of radium-226. This is found in a variety
 of rock types, mostly igneous and metamorphic such as granite, but to a lesser degree, in common rocks
 such as limestone.
- We don't add fluoride to the drinking water supply, but there is naturally occurring fluoride present in all drinking water supplied by Thames Water. The average fluoride concentration for the Thames Water supplied area in 2024 was 0.147 milligrammes per litre (legal limit is 1.5 milligrammes per litre).
- The average chlorine concentration for the Thames Water supplied area in 2024 was 0.58 milligrammes
 per litre total chlorine. Please note the drinking water supplied by Thames Water is either chloraminated
 or chlorinated.
- Levels of Magnesium are included mainly for the benefit of beer brewers. At levels of 10-30mg/l it is an important yeast nutrient, but above 30mg/l it can cause a sour/bitter taste to the beer.
- For some parameters, e.g. metaldehyde, monitoring occurs at the supplying Water Treatment Works rather than the Water Supply Zone These are marked with an *.

No extra commentary necessary.



Water Supply Zone: 0060		WESTERHAM				Population: 10,454		
Time Period: 1 Jan 2024 to 31 De		ec 2024 Concentration or Value (all samples)		No. of Samples		% of Samples		
Parameter	Units	Regulatory Limit	Min.	Mean	Max.	Total	Contravening	Contravening
Clostridium perfringens	no./100ml	0	0	n/a	0	4	0	0
Coliform bacteria	no./100ml	0	0	n/a	0	36	0	0
Colony count 22°C	no./ml	-	0	n/a	33	24	0	0
E. coli	no./100ml	0	0	n/a	0	36	0	0
Enterococci	no./100ml	0	0	n/a	0	8	0	0
Colour (Pt/Co scale)	mg/l	20	<1.8	<1.8	<1.8	24	0	0
Conductivity at 20°C	μS/cm	2500	336	589	636	24	0	0
Hydrogen Ion	рН	6.50-9.50	7.2	7.4	7.9	24	0	0
Turbidity	FTU	4	<0.09	0.1	0.29	24	0	0
Odour (quantatative)	dilution no.	0	0	n/a	0	24	0	0
Taste (quantatative)	dilution no.	0	0	n/a	0	24	0	0
Ammonium as NH4	mg/l	0.5	<0.03	0.04	0.07	8	0	0
Chloride as Cl	mg/l	250	36	44	49	8	0	0
Chlorine (Residual)	mg/l	-	0.11	0.35	0.67	36	0	0
Cyanide as CN	μg/l	50	<4.1	<4.1	<4.1	4	0	0
Fluoride as F	mg/l	1.5	0.08	0.11	0.13	8	0	0
Nitrate as NO3	mg/l	50	24	26	27	8	0	0
Nitrate/Nitrite calculation	mg/l	1	0.48	0.52	0.54	8	0	0
Nitrite as NO2	mg/l	0.5	<0.016	<0.016	<0.016	8	0	0
Sulphate as SO4	mg/l	250	30	40	46	8	0	0
Hardness (Total) as CaCO3	mg/l	-	279	294	309	4	0	0
Alkalinity as CaCO3	mg/l	-	230	232	234	4	0	0
Aluminium as Al	μg/l	200	<8.2	<8.2	<8.2	8	0	0
Antimony as Sb	μg/l	5	<0.3	<0.3	<0.3	8	0	0
Arsenic as As	μg/l	10	<0.7	<0.7	<0.7	8	0	0
Boron as B	mg/l	1	0.03	0.04	0.05	8	0	0
Cadmium as Cd	μg/l	5	<0.40	<0.40	<0.40	8	0	0
Chromium as Cr	μg/l	50	<3	<3	<3	8	0	0
Copper as Cu	mg/l	2	<0.014	0.058	0.362	8	0	0
Iron as Fe	μg/l	200	<5	5	10	8	0	0
Lead as Pb	μg/l	10	<0.9	1.6	3.5	8	0	0
Magnesium	mg/l	-	2.5	3.5	4.5	4	0	0
Manganese as Mn	μg/l	50	<0.5	<0.5	<0.5	8	0	0
Mercury as Hg	μg/l	1	<0.07	<0.07	<0.07	4	0	0
Nickel as Ni	μg/l	20	<0.7	0.8	1.1	8	0	0
Selenium as Se	μg/l	10	0.4	1	1.2	8	0	0
Sodium as Na	mg/l	200	17	23	30	8	0	0
Benzo (a) pyrene	μg/l	0.01	<0.001	<0.001	<0.001	8	0	0
PAHs (Sum of 4 substances)	μg/l	0.1	0	0	0	8	0	0
1,2 dichloroethane	μg/l	3	<0.1	<0.1	<0.1	8	0	0
Benzene	μg/l	1	<0.10	<0.10	<0.10	8	0	0
Tetra- & Trichloroethene calc	μg/l	10	0	0.6	0.9	8	0	0
Tetrachloromethane	μg/l	3	<0.1	<0.1	<0.1	8	0	0



Water Supply Zone: 0		WESTERHAM				Population: 10,454		
Time Period: 1 Jan 2024 to 31 Dec 2024			Concentration or Value (all samples)			No. of Samples		% of Samples
Parameter	Units	Regulatory Limit	Min.	Mean	Max.	Total	Contravening	Contravening
Trihalomethanes	μg/l	100	11	16	22	8	0	0
Bromate as BrO3	μg/l	10	<0.5	<0.5	<0.5	4	0	0
Total Organic Carbon as C	mg/l	-	0.6	0.6	0.7	4	0	0
2,4-D	μg/l	0.1	<0.017	<0.017	<0.017	4	0	0
2,4-DB	μg/l	0.1	<0.016	<0.016	<0.016	4	0	0
Atrazine	μg/l	0.1	<0.005	<0.005	<0.005	4	0	0
Bentazone	μg/l	0.1	<0.012	<0.012	<0.012	4	0	0
Bromoxynil	μg/l	0.1	<0.019	<0.019	<0.019	4	0	0
Carbendazim	μg/l	0.1	<0.020	<0.020	<0.020	4	0	0
Carbetamide	μg/l	0.1	<0.007	<0.007	<0.007	4	0	0
Chlortoluron	μg/l	0.1	<0.006	<0.006	<0.006	4	0	0
Clopyralid	μg/l	0.1	<0.022	<0.022	<0.022	4	0	0
Dicamba	μg/l	0.1	<0.022	<0.022	<0.022	4	0	0
Dichlorprop	μg/l	0.1	<0.012	<0.012	<0.012	4	0	0
Diuron	μg/l	0.1	<0.006	<0.006	<0.006	4	0	0
Fluroxypyr	μg/l	0.1	<0.015	<0.015	<0.015	4	0	0
Isoproturon	μg/l	0.1	<0.005	<0.005	<0.005	4	0	0
Linuron	μg/l	0.1	<0.005	<0.005	<0.005	4	0	0
MCPA	μg/l	0.1	<0.020	<0.020	<0.020	4	0	0
Mecoprop	μg/l	0.1	<0.014	<0.014	<0.014	4	0	0
Metaldehyde	μg/l	0.1	<0.014	<0.014	<0.014	4	0	0
Monuron	μg/l	0.1	<0.005	<0.005	<0.005	4	0	0
Pentachlorophenol	μg/l	0.1	<0.008	<0.008	<0.008	4	0	0
Picloram	μg/l	0.1	<0.021	<0.021	<0.021	4	0	0
Propyzamide	μg/l	0.1	<0.006	<0.006	<0.006	4	0	0
Simazine	μg/l	0.1	<0.009	<0.009	<0.009	4	0	0
Triclopyr	μg/l	0.1	<0.016	<0.016	<0.016	4	0	0
Total Pesticides	μg/l	0.5	0	0	0	4	0	0



Key to table above:

no./ml Number per millilitre

μg/l Microgram per litre or parts per billionmg/l Milligram per litre or parts per million

FTU Formazin Turbidity Unit

Bq/l Becquerel per litre

μS/cm Micro Siemens per centimetre

pH potential Hydrogen (pH is the acid/alkaline balance) n/a Not applicable - There is no legal limit set in the

Regulations

no./100ml Number of unit per 100 millilitre

dilution no. Dilution number

< Below the limit of detection of our analysis



Glossary:

	Chemical paramete	rs / Microorganisms / Non regulatory parameters / Pesticides
Parameter	Water Quality Standard	Explanation
1,2-Dichloroethane		1,2-Dichloroethane is found in industrial solvents and can be detected in trace amounts in some source waters. They are removed by water treatment.
Acrylamide	0.10 micrograms per litre	Acrylamide monomer is found in polyacrylamide which can be used in the treatment of water to remove impurities. Use of polyacrylamide is tightly controlled.
Alkalinity as calcium carbonate	No limits. Results are displayed as milligrams per litre.	Alkalinity is naturally present in water and is known as 'temporary hardness' as it is removed by boiling.
Aluminium	200 micrograms per litre	Aluminium occurs as a natural constituent of many waters. At some treatment works aluminium salts are used to remove impurities.
Ammonia	0.5 milligrams per litre	Ammonia is a component of fertilizers and can be washed into rivers by rain. Ammonia is converted to nitrate and nitrite during the treatment process. In London, ammonia is added to the chlorine in a specific ratio to form chloramines. Chloramines are persistent and used to maintain disinfection in the water distribution system. Ammonia at levels greater than 1.0 milligrams per litre are associated with faecal contamination.
Antimony	5 micrograms per litre	Antimony is rarely found in water and when this does occur it is likely to be due to the water being in contact with brass fittings or lead free solder.
Arsenic	10 micrograms per litre	Arsenic occurs naturally in a small number of ground water sources. Specific treatments can be used but it is not normally found in the Thames Water area.
Benzene	1 microgram per litre	Benzene is used in the petrochemical and plastics industry. Occasionally it is found in source water but is removed by treatment.
Benzo (a) pyrene	0.010 micrograms per litre	Benzo (a) pyrene is one of several compounds known as polycyclic aromatic hydrocarbons. Trace levels can be found in drinking water where coal tar lining of mains was historically practiced to prevent corrosion.
Boron	1 milligram per litre	Boron occurs naturally at low levels in all water. Some industrial discharge and detergents can increase the concentrations in river water.
Bromate	10 micrograms per litre	Bromate is formed during the disinfection of drinking water through the reaction with natural bromide. It can also occasionally be detected in water through industrial pollution.
Cadmium	5 micrograms per litre	Cadmium occurs in a small number of ground water sources. Specific treatments can be used but it is not normally found in the Thames Water area.
Calcium	No limits - Results are displayed as milligrams per litre.	Calcium occurs naturally in most water sources and is the principle cause of hardness. Calcium is derived when water comes into contact with rocks, particularly chalk and limestone.
Chloride	250 milligrams per litre	Occurs naturally in water sources and is derived through contact with rocks.
Chlorine (free and total)	No limits - Results are displayed as milligrams per litre.	Chlorine is used as a disinfectant to ensure that the water is free from harmful bacteria. The remaining 'free chlorine' ensures the water stays safe as it passes through our distribution system to your home. Actions to avoid high levels in supply are taken in order to minimize associated taste and odours.
Chromium	50 micrograms per litre	Chromium is very rarely found in drinking water.



	Chemical paramete	rs / Microorganisms / Non regulatory parameters / Pesticides
Parameter	Water Quality Standard	Explanation
Clostridium perfringens	0 per 100 millilitres	Clostridium perfringens is a bacterium that can produce spores which can persist in the environment for long periods of time. Their presence in water can indicate historic contamination.
Coliforms <i>E. coli</i> Enterococci	0 per 100 millilitres	E. coli and enterococci are associated with the presence of faeces. Coliforms are common environmental bacteria. Disinfection during treatment removes these bacteria from water supplies. These bacteria have the ability to flourish in the household environment through contact with the tap and your hands, food or dishcloths. Many instances of coliforms in samples taken from customers' taps are due to contamination of the tap, particularly from the kitchen sink. The kitchen tap should be cleaned regularly with a household disinfectant to maintain cleanliness.
Cobalt	No limits - Results are displayed as micrograms per litre.	Cobalt occurs as a hard brittle metallic. It is used in alloys, metal electroplating, glass, porcelain and enamel industries.
Colony Counts	No abnormal change. Results are displayed as per millilitre.	Low levels of harmless bacteria may be present in the water supply since water supplies are disinfected and not sterilized. They are monitored over time to give an indication as to the hygienic state of an internal plumbing system and the drinking water supply.
Colour	20 Hazen units	Drinking water should be clear and bright. Disturbances to chalk and iron deposits from iron mains can cause brown and yellow discolouration. Allow sediment to settle by not drawing water for half an hour.
Conductivity	2500 micro siemens per centimetre	A measure of the amount of dissolved minerals naturally present in the water.
Copper	2 milligrams per litre	Copper is not found in water at source but may be dissolved from customers internal pipework. Copper can cause black or green staining to limescale, for example, in the kettle or around the tap. Excess copper can cause a metallic taste to the water.
Cryptosporidium	Less than 1 oocyst per 10 litres	Cryptosporidium is a microscopic parasite that can cause gastroenteritis. It produces oocysts that can find their way into water. Careful control of treatment processes are required to protect public health. Continuous monitoring is undertaken at treatment works that have been identified as being at risk.
Cyanide	50 micrograms per litre	Cyanide is very rarely found in drinking water.
Dissolved hydrocarbons total (DHCs)	No limits - Results are displayed as micrograms per litre.	DHCs can indicate the presence of certain petrochemical products (petrol, whitespirit, oil, solvents etc). Some DHCs are linked to the coal tar lining of mains which was historically practiced to prevent corrosion. Spilt petrochemical products in a domestic property can enter the internal plumbing system. The result is a measure of benzene, cumene, decane, ethylbenzene, heptane, naphthalene, octane, phenanthrene, tetradecane and toluene.
Epichlorohydrin	0.10 micrograms per litre	Epichlorohydrin is found in polyamines which can be used in the treatment of water to remove impurities. The use of polyamines is tightly controlled.



	Chemical paramete	rs / Microorganisms / Non regulatory parameters / Pesticides
Parameter	Water Quality Standard	Explanation
Fluoranthene	No limits - Results are displayed as micrograms per litre.	Fluoranthene is one of several compounds known as polycyclic aromatic hydrocarbons. Trace levels can be found in drinking water where coal tar lining of mains was historically practiced to prevent corrosion.
Fluoride	1.5 milligrams per litre	Fluoride occurs naturally in many water sources. Some water companies add fluoride to the water supply at the request of health authorities to protect against tooth decay. This is not undertaken in Thames Water.
Giardia	0 in any volume	Giardia is a microscopic parasite that can cause gastroenterit. Once a person has been infected with Giardia, the parasite lives in the intestines and is passed in faeces. Because of its large size and relative susceptibility to water treatment processes Giardia is not recognised as a significant risk within drinking water.
Hardness as calcium carbonate	No limits - Results are displayed as milligrams per litre. Hardness in the Thames Water area varies between 80 - 365 milligrams per litre.	Hardness is caused by compounds of calcium and magnesium which occur naturally in the water. The minerals that dissolve into the water as it passes through chalk limestone rocks causes the water in the Thames region to be naturally hard. Total hardness comprises permanent and temporary hardness.
Iron	200 micrograms per litre	Iron occurs naturally in some water. High levels are treated to reduce the iron content. A number of our mains are made of iron. Brown discolouration complaints are associated with corroding iron mains. Iron is not harmful to health.
Lead	10 micrograms per litre	Lead is rarely found in source waters but can be found in drinking water due to pick up from lead pipes and fittings. Where required Thames Water treats supplies to minimise concentrations.
Magnesium	No limits - Results are displayed as milligrams per litre.	Magnesium is a naturally occurring element, found within rocks particularly chalk based ones, forms part of water 'hardness' calculation and a constituent part of 'lime scale'. Concentration is of special interest to brewers and wine makers as part of the fermenting process.
Manganese	50 micrograms per litre	Manganese occurs naturally in water. It can form black tealeaf like particles in the drinking water supply.
Mercury	1 microgram per litre	Mercury is very rarely found in drinking water.
Nickel	20 micrograms per litre	Nickel is rarely found in source water. In the Thames Water area, nickel in drinking water is normally associated with nickel coatings used on some domestic taps and fittings.
Nitrate	50 milligrams per litre	Nitrate occurs naturally in most source waters but concentrations can be increased as a result of fertiliser use. Where necessary concentrations in drinking water can be reduced by diluting with sources where nitrate levels are low or through specific treatment.
Nitrate/Nitrite calculation	<=1	Nitrate/nitrite is a measure of the combined concentrations of these two compounds in drinking water.
Nitrite	0.50 milligrams per litre	Nitrite occurs naturally at low levels in some waters but is removed by treatment. It is sometime produced as a by-product when chloramine is used as a disinfectant.



	Chemical paramete	rs / Microorganisms / Non regulatory parameters / Pesticides
Parameter	Water Quality Standard	Explanation
Pesticides	0.03 micrograms per litre for aldrin, dieldrin, heptachlor and heptachlor epoxide. 0.1 micrograms per litre for other individual pesticides. 0.5 micrograms per litre for the total of all pesticides detected.	Pesticides are a diverse group of organic compounds that include herbicides, insecticides and fungicides. Thames Water is actively working with users and manufacturers to reduce pesticides in water sources. Where required, treatment is in place to remove pesticides from drinking water.
pH value	6.5 – 9.5	A measure of the acidity or alkalinity of the water. Drinking water in the Thames region is between 6.5 - 8.5.
Phenols	No limits - Results are displayed as micrograms per litre.	Phenols are a group of chemical compounds which can cause a TCP-like taste in water. This taste can be caused by chlorine in tap water reacting with particular substances/materials used in internal plumbing systems (for example tap washers, plastic kettles, washing machines, dishwashers, connection hoses and plastic pipework).
Polycyclic aromatic hydrocarbons (PAHs)	0.1 micrograms per litre	PAHs can be found in drinking water where coal tar lining of mains was historically practiced to prevent corrosion. The standard is a measure of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene and indeno(1,2,3-cd)pyrene.
Pseudomonas	No limits - Results are displayed per 100 millilitres.	Opportunistic bacteria which more commonly affect the young, infirm and immuno- suppressed. There presence is undesirable and can impart a taste to the drinking water. Bacteria can multiply when nutrients are available, usually derived from unsuitable materials within the internal plumbing system.
Radioactivity - Radon	100 Becquerels per litre	Radon is a naturally occurring gaseous element formed in the radioactive decay chain from uranium to lead. We have very low levels of radon as primary sources are rocks formed of granite and basalts not the chalks, sandstones and clays of the Thames region. Radon is monitored as it can be breathed in releasing radioactivity directly in the lungs.
Radioactivity - Tritium	100 Becquerels per litre	Tritium is found naturally in water at very low concentrations. Elevated levels may indicate the presence of other artificial radionuclides.
Radioactivity – Total indicative dose (TID)	0.10 millisieverts	TID is a measure of radiation exposure through drinking water. Radioactivity is naturally present in all water sources. Levels of radioactivity are normally monitored by measuring gross alpha or beta activities.
Selenium	10 micrograms per litre	Selenium is very rarely found in drinking water
Sodium	200 milligrams per litre	Sodium is naturally present in many water sources. Concentrations in Thames Water's supplies are well below the standard. Domestic water softeners can increase the sodium concentration.
Sulphate	250 milligrams per litre	Sulphate is naturally present in many water sources. Concentrations in Thames Water's supplies are well below the standard.
Swab from tap for coliforms and <i>E. coli</i> bacteria	No limits – either POSITIVE (meaning bacteria is present) or NEGATIVE (meaning bacteria is not present)	A type of cotton bud is wiped around the inside of the tap to collect coliform and E. coli bacteria. A positive swab requires bacteria to be removed by disinfecting the inside of the tap with a chlorine-based disinfectant and then flushing thoroughly before use.



	Chemical paramete	rs / Microorganisms / Non regulatory parameters / Pesticides
Parameter	Water Quality Standard	Explanation
Taste and odour	-	Taste and odour is a measure of the aesthetic quality of drinking water.
Temperature (before flush and after flush)	No limits - Results are displayed as degrees centigrade.	Internal warming of the cold water supply, for example: if the hot pipes are in close proximity to the cold, warming of the cold supply can affect the water quality by creating earthy and musty tastes. Fitting adequate insulation to the hot water pipes prevents this.
Tetrachloroethane & trichloroethane	10 micrograms per litre	These are solvents which are very occasionally found in water sources. The standard is a measure of the combined concentrations.
Tetrachloromethane	3 micrograms per litre	Tetrachloromethane is a solvent which is very occasionally found in water sources.
Total organic carbon (TOC)	No abnormal change. Results are displayed as milligrams per litre	TOC is a measure of the amount of organic material in the water, most of which comes from natural sources.
Trihalomethanes total (THMs)	100 micrograms per litre	THMs are formed by the reaction of chlorine with natural organic substances in water. The standard is a measure of chloroform, bromoform, dibromochloromethane and bromodichloromethane.
Turbidity	4 FTU	Turbidity is caused by fine particles suspended in the water causing cloudiness. Turbid appearances are usually short lived and there are no health implications.
Vinyl chloride	0.50 micrograms per litre	Vinyl chloride can be found in water pipes containing polyvinyl chloride (PVC). Concentrations are strictly controlled by product specification.
Results from Analytical scan for Organic Chemicals	No limits - Results are displayed as micrograms per litre.	Organic Chemicals may come from a number of sources. Results are examined by Water Research Centre UK toxicologist to ascertain possible sources and health implications.
Zinc	No limits - Results are displayed as micrograms per litre.	Zinc is not found in water at source but may be dissolved from customer's internal plumbing. Occasionally produces sandy deposits and excess can cause a metallic taste.



Understanding your water quality report:

Report identification The heading of the report tells you:

- The Water Supply Zone or area covered by the report
- The estimated population of the zone
- The period of time in which data was collected

Parameter This column lists all the parameters we test for. A parameter can be:

- · An organism (such as Coliforms or Colony Count)
- A substance (such as Lead or Nitrate)
- A physical property (such as pH or Colour)

Units The unit of measurement each parameter is recorded in. Most are measured as mg/l

(milligrammes per litre) or µg/I (microgrammes per litre). One mg/I is one part in every million parts of

water; one $\mu g/I$ is one part in every billion parts of water.

Regulatory Limit This column shows the maximum amount of each parameter permitted in drinking water under UK

regulations (N/A indicates there is No Regulatory Limit).

Concentration or value For each parameter results are shown in three ways:

· Min(imum), the lowest result during the period

- Mean, the average of the results
- Max(imum), the highest result during the period.

A '<' symbol means a result was less than the value at which a parameter can be detected.

A '>' symbol means a result was greater than the range within which a parameter is normally detected.

Number of samples Total taken – is the number of samples tested for each parameter

Contravening – shows the number of samples that exceeded the Regulatory Limit.

 $\% \ of \ samples \ contravening \ The \ number \ of \ samples \ that \ contravened \ the \ Regulatory \ Limit \ compared \ to \ the \ total \ number \ of \ samples$

taken, expressed as a percentage.

Annual review On the first page of the report is an annual review, this covers any actions taken to investigate breaches of

drinking water standards, and/or schemes of work we are carrying out to ensure compliance with

standards in the future.



Glossary

Please note the glossary provided, covers a wide range of parameters that are not all statutorily sampled against the zone. Please refer to "Parameter" situated on pages 3 to 5 for full range of parameters routinely sampled in the zone and reported to the DWI.

Parameter highlighted in:

- Orange are Chemical
- Green are Micro organisms
- Blue are Non Regulatory
- Navy are Pesticides

Further information can be sourced from the Thames Water or Drinking Water Inspectorate (DWI) websites: Thameswater.co.uk dwi.defra.gov.uk