



HARTLEPOOL WATER

DRINKING WATER QUALITY REPORT 2007

1. Overview

Hartlepool Water supplies water to around 90,000 people in the Borough of Hartlepool including the surrounding villages of Greatham, Dalton Piercy, Elwick, Hart and Wynyard. Around 33 million litres are supplied to both household and business customers each day. Hartlepool Water is a trading name of Anglian Water Services Ltd who operate Hartlepool Water and who hold the Licence to supply water in the Hartlepool area.

All drinking water comes from underground, pumped from 18 boreholes sunk deep into the limestone rock. The water is blended at the three treatment works prior to supply. After disinfection, the water is sent to customers via 6 service reservoirs through around 595 km of water mains.

The Water Supply (Water Quality) Regulations 2000 ("the Regulations") turn the EC Drinking Water Directive into UK law and impose standards for around 60 substances or compounds covering all aspects of water quality. Some parameters are health related whilst others are of operational significance only. The Regulations not only lay down the standards for drinking water but the sampling needed to show that the standards are met. This includes taking samples at the treatment works, service reservoirs, supply points and at randomly chosen customer taps.

The Government's Drinking Water Inspectorate (DWI) receives regular reports of the compliance of drinking water with the standards and carries out detailed technical audits of the Company's work in respect of water quality.

Our local authorities, Hartlepool Borough Council and Stockton Borough Council also have responsibilities with respect to public water supplies. They carry out their own independent water quality tests and report their findings.

This report is that which we were required to produce and publish under Regulation 36, paragraph 1 of the Regulations.

2. Treatment Works, Service Reservoirs, Supply Points and Water Supply Zones

Hartlepool Water operates within a compact supply area of around 90 square kilometres. During the year, a number of treatment works, service reservoirs and water supply zones were in operation. These are listed below including their regulatory reference codes:

a) Water Treatment Works

The following treatment works operated throughout the year:

- Dalton Piercy Water Treatment Works (T001): supplying up to 27,000 cubic metres of water per day
- Throston Water Treatment Works (T002): supplying up to 6,100 cubic metres of water per day.
- Amerston Hall Water Treatment Works (T003): supplying up to 200 cubic metres per day

b) Service Reservoirs

Service reservoirs are the enclosed, secure storage tanks used to store drinking water prior to supply to customers in the water supply zones. The following service reservoirs operated throughout the year:

- Dalton Piercy 2 million gallon (2MG) tank (R001)
- Throston 2 million gallon (2MG) tank (R003)
- Dalton Piercy ½ million gallon (1/2MG) tank, North (R005)
- Dalton Piercy ½ million gallon (1/2MG) tank, South (R006)
- Naisberry ¼ million gallon (1/4MG) tank, North (R007)
- Naisberry ¼ million gallon (1/4MG) tank, South (R008)

c) Supply Points

Supply points are sample points where samples are taken for certain parameters (in Hartlepool Water's case bromate) where data is unlikely to differ from samples taken in a supply zone, service reservoir or treatment works. The following supply points operated throughout the year.

- Dalton supply point (S001)
- Throston supply point (S002)
- Amerston supply point (S003)

d) Water Supply Zones

Water supply zones are discrete areas within the water distribution system within which customers receive their piped water supplies. Boundaries are defined by a number of closed valves and are set out with reference to the available water pressure and contours of the local land. The following water supply zones were identified and operated without change to their boundaries throughout the year:

- Dalton Supply Zone: (Z005) including areas in the South and central parts of Hartlepool town and the Headland and Greatham Village supplying an estimated 67,100 population.
- Throston Supply Zone: (Z006) including areas to the West and Northern parts of Hartlepool town and the rural area including Dalton Piercy, Elwick and Hart Villages supplying an estimated 23,000 population.
- Wynyard Supply Zone: (Z007) including an area of the Wynyard Business Park and residential estate supplying an estimated 1000 population.

3. Summary of Drinking Water Quality

All of our drinking water supplies are safe to drink and are of excellent quality. In a small number of cases, contravention of the strict standards can occur which are not significant to health. During 2007, we carried out around 9600 tests to monitor the water as it passed from source through the treatment works, service reservoirs, supply points and at random customer taps. Of these around 4700 tests were carried out to judge how the quality of water complied with the Regulations; 100% of these tests complied with the relevant water quality standards.

The appended tables give details of the water quality performance of our treatment works, service reservoirs, supply points and water supply zones against the requirements of the Regulations. There is also a table explaining each parameter.

4. Microbiological Quality

Microbiological monitoring of drinking water is carried out to ensure that supplies are safe to drink. Traditionally, water is monitored for bacteria called coliforms. Coliforms are bacteria commonly found both in water and soil but also in the gut of

animals, birds and humans. They give a sensitive measure of the effectiveness of disinfection and integrity of the water storage and distribution systems.

Under the Regulations, examinations are carried out for both coliforms and Escherichia Coli (E Coli). If coliforms or, more particularly, E Coli are found, this could indicate that more harmful bacteria may be present which could cause illness. Their presence prompts an urgent and thorough investigation to eliminate any risks. The attached tables give details of the level of compliance with the standards.

At the treatment works, 218 samples were checked for coliforms and E Coli. All samples were free from these indicator bacteria and 100% compliance with the standards was achieved.

At the service reservoirs 312 samples were checked. All samples were free from coliforms and E Coli. The Regulations stipulate that all service reservoir compartments must have 95% of samples which are free from coliforms during the year. All service reservoir compartments complied with this standard. All compartments complied with the 100% compliance rule for E Coli.

At customers' tap, 240 samples were checked. All samples were free from E Coli, complying with the European standards. 1 customer tap sample exceeded the coliform additional monitoring specification, however, this was proven to be a result of the tap sampled and not representative of the water.

5. Physical & Chemical Quality

The chemical quality of the water is judged predominantly by the analysis of samples taken from randomly chosen customer taps. Results are included in tables attached. There were no contraventions of any water quality standards.

6. Departures from Water Quality Standards and Enforcement Orders

Under certain circumstances, a standard laid down in the Regulations may be relaxed where there is no adverse effect upon health. Such a relaxation has to be authorised by DWI on behalf of the Secretary of State and is known as an Authorised Departure.

Hartlepool Water did not apply for any Authorised Departures of standards during the year.

Hartlepool Water did not receive any Enforcement Orders under Section 18 of the Water Industry Act 1991 (as amended) nor any Enforcement Notices under Section 19 (4) of the Regulations in respect of failure to meet the requirements of the Regulations.

7. Public Record of Water Quality Information

All results of the tests carried out to assess compliance with the Regulations are available in accordance with Regulation 34 for public inspection on weekdays (excluding Bank Holidays) at 3 Lancaster Road, Hartlepool TS24 8LW between 0830 – 1700 hours. You may prefer to receive a copy of the record relevant to the supply zone in which you live. If so, please contact us at the above address. Any queries on this report should also be made in writing to the above address or by e-mail to enquiries@hartlepoolwater.co.uk.

HARTLEPOOL WATER

Table HRT 1: Quality of water leaving service treatment works - European Standards

Parameter	Parameter Code	Prescribed Concentration or Value	Total number of tests	Tests failed	Minimum concentration or value or 1%ile where ≤ 100 samples	Maximum concentration or value or 99%ile where ≤ 100 samples	No. of works with failures
Nitrite	A013B	0.1 mg NO/l	168	0	<0.0024	<0.0024	0
TOTAL	-	-	168	0	-	-	-

Table HRT 2: Quality of water leaving service treatment works - National Standards

Parameter	Parameter Code	Prescribed Concentration or Value	Total number of tests	Tests failed	Minimum concentration or value or 1%ile where ≤ 100 samples	Maximum concentration or value or 99%ile where ≤ 100 samples	No. of works with failures
Coliform Bacteria	C001	0 number/100 ml	168	0	0	0	0
<i>E. coli</i>	C002	0 number/100 ml	168	0	0	0	0
TOTAL	-	-	336	0	-	-	-

Table HRT 3: Quality of water leaving service treatment works - Additional Monitoring Requirements

Indicator Parameter	Parameter Code	Prescribed Concentration or Value	Total number of tests	Tests Exceeding Specification	Minimum concentration or value or 1%ile where ≤ 100 samples	Maximum concentration or value or 99%ile where ≤ 100 samples
Colony Counts After 3 Days At 22°C	C007	No abnormal change	168	0	0	6
Colony Counts After 48 Hours At 37°C	C013	No abnormal change	168	0	0	2
Residual Disinfectant - Free	C009	No abnormal change	168	0	0.2876	0.5548
Turbidity	A002A	1 NTU	168	0	<0.08	0.3665
TOTAL	-	-	672	0	-	-

Table HRT 4: Quality of water leaving service reservoirs - National Standards

Parameter	Parameter Code	Prescribed Concentration or Value	Total number of tests	Tests failed	Minimum concentration or value or 1%ile where ≤ 100 samples	Maximum concentration or value or 99%ile where ≤ 100 samples	No. of reservoirs failing standard
Coliform Bacteria	C001	0 number/100 ml	312	0	0	0	0
<i>E. coli</i>	C002	0 number/100 ml	312	0	0	0	0
TOTAL	-	-	624	0	-	-	-

Table HRT 5: Quality of water leaving service reservoirs - Additional Monitoring Requirements

Indicator Parameter	Parameter Code	Prescribed Concentration or Value	Total number of tests	Tests Exceeding Specification	Minimum concentration or value or 1%ile where ≤ 100 samples	Maximum concentration or value or 99%ile where ≤ 100 samples
Colony Counts After 3 Days At 22°C	C007	No abnormal change	312	0	0	2
Colony Counts After 48 Hours At 37°C	C013	No abnormal change	312	0	0	3
Residual Disinfectant - Free	C009	No abnormal change	312	0	0.3513	0.5187
TOTAL	-	-	936	0	-	-

Table HRT 6: Quality of water leaving bulk supply points - European Standards

Parameter	Parameter Code	Prescribed Concentration or Value	Total number of tests	Tests failed	Minimum concentration or value or 1%ile where ≤ 100 samples	Maximum concentration or value or 99%ile where ≤ 100 samples	Failures by supply point
Bromate	F003	10 $\mu\text{g BrO}/\text{l}$	20	0	<0.97	<1.1	0
TOTAL	-	-	20	0	-	-	-

Table HRT 7: Quality of water at consumer's tap (zones) - European Standards

Parameter	Parameter Code	Prescribed Concentration or Value	Total number of tests	Tests failed	Minimum concentration or value or 1%ile where ≤ 100 samples	Maximum concentration or value or 99%ile where ≤ 100 samples	No. of zones with failures
1,2 Dichloroethane	F001	3 $\mu\text{g/l}$	20	0	<0.049	<0.085	0
Antimony	B008A	5 $\mu\text{g Sb/l}$	20	0	<0.28	<0.28	0
Arsenic	B001A	10 $\mu\text{g As/l}$	20	0	0.24	0.88	0
Benzene	F002	1 $\mu\text{g/l}$	20	0	<0.03	<0.042	0
Benzo (a) Pyrene	D007	0.01 $\mu\text{g/l}$	20	0	<0.0006	<0.0062	0
Boron	D005A	1 mg B/l	20	0	<0.026	0.1	0
Cadmium	B002	5 $\mu\text{g Cd/l}$	20	0	<0.0081	0.02	0
Chromium	B004	50 $\mu\text{g Cr/l}$	20	0	<0.2	0.32	0
Copper	A024A	2 mg Cu/l	20	0	0.0032	0.094	0
Cyanide	B003	50 $\mu\text{g CN/l}$	20	0	<0.66	2	0
<i>E. coli</i>	C002	0 number/100 ml	240	0	0	0	0
Enterococci	C003	0 number/100 ml	20	0	0	0	0
Fluoride	A027	1.5 mg F/l	20	0	0.9	1.3	0
Lead	B007A	25 $\mu\text{g Pb/l}$	20	0	0.03	0.44	0
Mercury	B005	1 $\mu\text{g Hg/l}$	20	0	<0.037	0.064	0
Nickel	B006A	20 $\mu\text{g Ni/l}$	20	0	<0.034	2.9	0
Nitrate	A012	50 mg NO/l	20	0	4.6	10	0
Nitrite	A013A	0.5 mg NO/l	20	0	<0.0024	<0.0024	0
Nitrate/Nitrite Formula	A013C	1 mg NO/l	20	0	<0.093	<0.2	0
Polycyclic aromatic hydrocarbons (PAHs)	B011F	0.1 $\mu\text{g/l}$	20	0	0	0.0031	0
Selenium	B009	10 $\mu\text{g Se/l}$	20	0	0.31	1.8	0
Tetrachloroethene/Trichloroethene	D009B	10 $\mu\text{g/l}$	20	0	0	0.031	0
Trihalomethanes (THMs)	D011	100 $\mu\text{g/l}$	20	0	0	13.5	0
Pesticides (Diflufenican)	P157	$\mu\text{g/l}$	20	0	<0.0089	<0.0094	0
Pesticides (Heptachlor)	P043	$\mu\text{g/l}$	20	0	<0.0019	<0.0019	0
Pesticides (Heptachlor epoxide)	P044	$\mu\text{g/l}$	20	0	0	0	0
Pesticides (Metazachlor)	P203	$\mu\text{g/l}$	20	0	<0.0084	<0.0096	0
Pesticides (Pendimethalin)	P118	$\mu\text{g/l}$	20	0	<0.001	0.0039	0
Pesticides - Total Substances	B010	0.5 $\mu\text{g/l}$	20	0	0	0.0039	0
TOTAL	-	-	800	0	-	-	-

Table HRT 8: Quality of water at consumer's tap (zones) - National Standards

Parameter	Parameter Code	Prescribed Concentration or Value	Total number of tests	Tests failed	Minimum concentration or value or 1%ile where ≤ 100 samples	Maximum concentration or value or 99%ile where ≤ 100 samples	No. of zones with failures
Aluminium	A021	200 $\mu\text{g Al/l}$	20	0	<2.2	44	0
Colour	A001	20 mg/l Pt/Co scale	40	0	<0.88	1.7	0
Hydrogen ion (pH)	A006	6.5 -10 pH value	40	0	7.1	7.6	0
Iron	A022	200 $\mu\text{g Fe/l}$	20	0	<2.3	15	0
Manganese	A023	50 $\mu\text{g Mn/l}$	20	0	0.34	9.8	0
Organoleptic Odour	A003	Dilution no. 3 at 25°C	40	0	0	0	0
Organoleptic Taste	A004	Dilution no. 3 at 25°C	40	0	0	0	0
Sodium	A009	200 mg Na/l	20	0	31	54	0
Tetrachloromethane	D008	3 $\mu\text{g/l}$	20	0	<0.074	<0.11	0
Turbidity	A002	4 NTUs	40	0	<0.08	0.55	0
TOTAL	-	-	300	0	-	-	-

Table HRT 9: Quality of water at consumer's tap (zones) - Additional Monitoring Requirements

Indicator Parameter	Parameter Code	Prescribed Concentration or Value	Total number of tests	Tests Exceeding Specification	Minimum concentration or value or 1%ile where ≤ 100 samples	Maximum concentration or value or 99%ile where ≤ 100 samples
Ammonium	A014	0.5 mg NH/l	40	0	<0.026	<0.026
Chloride	D002A	250 mg Cl/l	20	0	31	80
<i>Clostridium perfringens</i>	C004A	0 number/100 ml	20	0	0	0
Coliform Bacteria	C001A	0 number/100 ml	240	1	0	0
Colony Counts After 3 Days At 22°C	C007	No abnormal change	80	0	0	9
Colony Counts After 48 Hours At 37°C	C013	No abnormal change	80	0	0	10
Conductivity	D001	2500 μ S/cm	40	0	760	990
Hydrogen ion (pH)	A006A	9.5 pH Value	40	0	7.1	7.6
Radioactivity - Gross Alpha	F004	0.1 Bq/l	20	0	0.019	0.054
Radioactivity - Gross Beta	F005	1 Bq/l	20	0	0.062	0.33
Residual Disinfectant - Free	C009	No abnormal change	240	0	0.19	0.51
Sulphate	A007	250 mg SO/l	20	0	89	210
Total Organic Carbon (TOC)	A017	No abnormal change	20	0	0	1.6
TOTAL	-	-	880	1	-	-

DRINKING WATER QUALITY STANDARDS

The descriptions of parameters listed are common to all water companies in England and Wales and have been in force from 1st January 2004. Due to the nature of Hartlepool Water, borehole sourced from the limestone aquifer in the southeast Durham area, it is unnecessary to carry out any special treatments to remove or add elements or compounds to comply with the standards. We operate a simple chlorine disinfection treatment process enhanced only by the addition of a small dose of phosphorous as part of a legal undertaking given by the company to the Drinking Water Inspectorate.

Parameter	Mandatory European Standards	Prescribed concentration or value (PCV)
Antimony	Antimony is not normally found in water sources. Trace concentrations in drinking water can be derived from brass tap fittings and from solders.	5 µg/l
Arsenic	Arsenic is naturally present at levels above the standard in a few groundwater sources.	10 µg/l
Benzene	Benzene is an organic chemical present in petrol. It is not normally found in water sources or supplies, though it can migrate through plastic underground supply pipes, if petrol is spilt in the vicinity.	1.0 µg/l
Benzo(a)pyrene (a PAH)	One of a group of compounds known as polycyclic aromatic hydrocarbons (PAH) see below. Derived from coal tar linings in old iron mains. A stringent standard has been set for this individual substance based on its toxicity.	0.01 µg/l
Boron	Boron in water sources comes from the residues of detergent formulations that are present in treated sewage effluents. The concentrations present in drinking water are not of public health concern.	1 mg/l
Bromate	A disinfection by-product formed by the reaction of naturally occurring bromide with strong oxidants (usually ozone). A stringent standard has been set based on toxicity and best water treatment practice. Hartlepool Water does not use ozone in its water treatment process.	10 µg/l
Cadmium	Cadmium is only found at very low level in drinking water. These traces can arise from environmental contamination or dissolution of impurities in plumbing fittings.	5 µg/l
Chromium	Chromium is not present in water sources and is generally not found in drinking water.	50 µg/l
Copper	Copper in drinking water arises mainly from copper pipes and fittings in household plumbing. May cause blue staining on sanitary fittings. Excess can cause a metallic taste.	2 mg/l
Cyanide	Cyanide is generally not present in water sources and it is not found in drinking water.	0 µg/l
1,2-Dichloroethane	1,2-Dichloroethane is a chemical intermediate and solvent. It can contaminate groundwater beneath industrial sites.	3 µg/l

Enterococci	Enterococci are bacteria found in the gut of all warm-blooded animals. They should not be present in drinking water and immediate action is required to identify and remove the source as they are indicators of faecal contamination.	0 per 100 ml
Escherichia coli (E.coli)	Escherichia coli (E.coli) is a bacterium present in the gut of all warm-blooded animals. They should not be present in drinking water and immediate action is required to identify and remove the source as they are indicators of faecal contamination.	0 per 100 ml
Fluoride	Traces of fluoride occur naturally in many water sources, particularly groundwater. It is not removed by conventional water treatment. Hartlepool Water is a naturally fluoridated supply.	1.5 mg/l
Lead	Lead is only rarely present in water sources but may be present as a result of dissolution after contact with lead service pipes and plumbing particularly in areas with older properties. Hartlepool Water has been examined for its potential to dissolve lead and receives marginal phosphate treatment.	25 µg/l (reduced to 10 mg/l by 2013)
Mercury	Mercury is not generally present in water sources or drinking water.	1 µg/l
Nickel	A few groundwater sites contain nickel and where necessary special water treatment can be installed to remove it. Nickel may also be present in coatings on modern taps and other plumbing fittings.	20 µg/l
Nitrate	Present naturally in all source waters, although higher concentrations tend to occur where fertilisers are used on the land.	50 mg/l
Nitrite	Traces of nitrite are produced when chlorine and ammonia are used together in the disinfection process to form chloramines. Hartlepool Water operate a simple chlorine disinfection process.	0.5 mg/l
Pesticides Aldrin, dieldrin Heptachlor And heptachlor epoxide	These persistent organo-chlorine compounds are no longer used in the UK and generally they are not found in water sources but a stringent standard has been set on the basis of their toxicity.	0.03 µg/l
Pesticides – other compounds	This group includes organic chemicals with a wide range of uses such as weed-killers, insecticides and fungicides. Many water sources contain traces of pesticide residues as a result of both agricultural and non-agricultural uses of pesticides on crops and for weed control.	0.1 µg/l
Pesticides - total	This parameter represents the sum of the detected concentrations of the individual pesticides.	0.5 µg/l

Polycyclic aromatic hydrocarbons (PAH)	Polycyclic aromatic hydrocarbons are present in coal tar linings, which were used to protect water mains before 1970. Traces of PAH, at concentrations that are not of significance to health, may be found in drinking water if the original coal tar lining is still present. This parameter represents the sum of the concentration of four individual PAHs.	0.10 µg/l
Selenium	Selenium is an essential element, concentrations in drinking water sources and supplies are usually very much less than the standard.	10 µg/l
Tetrachloroethene and Trichloroethene	These solvents can be present at low concentrations in groundwater under industrial areas. The standard relates to the sum of the detectable concentrations of the two compounds.	10 µg/l
Trihalomethanes (THMs)	THMs are formed during the disinfection process by reaction between chlorine and mainly naturally occurring organic substances. The use of chlorine in water treatment is very important public health safeguard.	100 µg/l

Parameter	Mandatory National Standards	Prescribed concentration or value (PCV)
Aluminium	Occurs naturally in some source waters. Aluminium compounds are not used for water treatment by Hartlepool Water.	200 µg/l
Coliform bacteria	These bacteria are widely distributed in the environment, often as a result of human or animal activity but some grow on plant matter. They provide a sensitive measure of the microbiological quality. Their presence in water supplies indicates a need to investigate the source of contamination. Coliform bacteria indicate whether water treatment, especially disinfection, is satisfactory. The standard applies as an absolute value at treatment works and must be met by 95% of samples taken at service reservoirs. At the consumers' tap they are an indicator parameter (see below).	0 per 100 ml
Colour	Colour occurs naturally in water from surface water sources. Hartlepool Water is all underground water source. The standard is set for aesthetic reasons.	20 mg/l Pt/Co scale
Iron	Present naturally in many waters. It is not used in Hartlepool Water's treatment process. Iron in water can also be derived from the corrosion of iron mains. The standard has been set for aesthetic reasons to minimise discoloured water.	200 µg/l
Manganese	Present naturally in many water sources. Black deposits of manganese dioxide can cause discoloured water and the standard is set for aesthetic reasons.	50 µg/l
Odour and taste	Odour and taste occur naturally, particularly in surface water sources during the summer. The organic substances causing the odour and taste can be removed by water treatment process (activated carbon or ozone). The standard is measured by a trained panel of experts.	Acceptable to consumers and no abnormal change
Sodium	Occurs naturally in water after passing through certain mineral deposits and rock strata. Concentrations in drinking water are normally very low but some water softeners can significantly add to the sodium concentration. Always use water from a tap free from the softening process for drinking, cooking and for preparing babies feeds.	200 mg/l
Tetrachloromethane	This solvent can be present at low concentrations in groundwater under industrial areas.	3 µg/l
Turbidity	All source waters can at times become naturally cloudy due to fine particles suspended in the water. Turbidity is a quantitative measure of cloudiness. It can also arise from disturbance of sediment within the distribution systems. Sometimes minute air bubbles give the supply a milky appearance but on standing for a few minutes these will clear from the bottom upwards. This mandatory standard applies at consumer taps, a lower level triggers investigation at the treatment works (see below).	4 NTU

Parameter	Indicator Parameters	Prescribed concentration or value (PCV)
Ammonium	Ammonium salts are naturally present in trace amounts in most water sources. They can indicate possible contamination of sanitary significance and they interfere with disinfection processes.	0.5 mg/l
Chloride	Chloride in drinking water originates from natural sources; it may also be due to local use of de-icing salt and saline intrusion.	250 mg/l
<i>Clostridium perfringens</i> (including spores)	<i>Clostridium perfringens</i> is a pore forming bacterium that is present in the gut of all warm-blooded animals. The spores can survive disinfection. The presence of spores in drinking water indicates a remote or intermittent source of contamination that requires investigation.	0 per 100ml
Coliform bacteria	See above	0 per 100 ml
Colony counts	Colony count measurements detect a wide range of micro-organism, the types and numbers detected depends on the media and temperature used. The test is of little value as a measure of pathogen risk but is a useful operational tool.	No abnormal change
Conductivity	This is a measure of the ability of the water to conduct an electric current and is a measure of the mineral salts dissolve in the source water.	2500 us/cm @ 20°C
Sulphate	This occurs naturally in water from contact with particular mineral deposits and rock strata and is not removed during water treatment.	250 mg/l
Total indicative dose	Total indicative dose is a measure of the effective dose of radiation the body will receive from consumption of water. Its calculation is only required when screening values for gross alpha or gross beta are exceeded.	0.10 mSv/year
Total organic carbon (TOC)	TOC represents the total amount of organic matter present in the water. Used in the operational control of water supplies as the concentrations present in water do not present any risk to health.	No abnormal change
Tritium	Tritium is a radioactive isotope of hydrogen. It is not normally found in water sources. Discharge of radioactivity to the Environment is closely regulated by the Environment Agency.	100 Bq/l
Turbidity	All source waters can at times become naturally cloudy due to fine particles suspended in the water. Turbidity is a quantitative measure of cloudiness. It can also arise from disturbance of sediment within the distribution systems. Sometimes minute air bubbles give the supply a milky appearance but on standing for a few minutes these will clear from the bottom upwards. This level triggers investigation at treatment works, a higher mandatory level applies at consumers' taps (see above).	1 NTU

Hydrogen ion (pH)	pH value of hydrogen ion concentration gives an indication of the degree of acidity or alkalinity of the water. A pH of 7 is neutral and preferably waters should be slightly alkaline i.e. 7.5-8.0 to protect metallic fittings and pipework corrosion.	Minimum 6.5 pH units
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Key: PCV – this means the “prescribed concentration or value”, which is the standard set in The Water Supply (Water Quality) Regulations 2000. Some parameters listed do not have a regulatory standard and no value is shown.

Units:
Mg/l = milligrammes per litre (or parts per million)
µg/l = microgrammes per litre (or parts per billion)
NTU = nephelometric turbidity units
µS/cm = micro siemens per centimetre
mSv/year = milli sieverts per year
Bq/l = becquerels per litre
Pt/Co scale = Platinum Cobalt scale