



**Drinking Water Quality Report for the
Billinghay Public Water Supply Zone (KN78)
which includes LN4 4JJ**

Report period: January 2023 to December 2023

Your drinking water supply

Anglian Water's region is divided into around 160 water supply areas called Public Water Supply Zones, each providing our customers with an excellent drinking water supply. We carry out around 140,000 tests each year on drinking water samples taken from customer taps. The number of drinking water samples we take, and the tests we carry out, are specified in the current Water Supply (Water Quality) Regulations and our regulator, the Drinking Water Inspectorate, carry out regular audits to make sure we comply with these regulations.

During the period of this report, all samples taken in this Public Water Supply Zone fully met the legal limits specified in the current Water Supply (Water Quality) Regulations, except for four samples; two did not meet the legal limit for odour, the third contained Coliform bacteria and E.coli bacteria and the fourth sample did not meet the legal limit for taste. Investigations into the odour exceedances found no definitive cause with all resamples from both the failing property and neighbouring property being satisfactory. Investigations into the Coliform and E.coli bacteria exceedance found that poor hygiene of the kitchen tap at the failing property was the likely cause of the exceedance and not the water supply itself. Investigations into the taste exceedance found no definitive causes but resampling has confirmed it was not the water supply itself.

Source:

Your drinking water supply comes from both surface (either river or reservoir) and groundwater (borehole) sources.

Hardness:

Your drinking water supply is classified as hard. The hardness has been shown in different units below to help you set your domestic appliances:

Total hardness as Calcium (mg/l)	Total hardness as Calcium carbonate (mg/l)	Total hardness as Degrees Clark (°Clark or °e)	Total hardness as Degrees French (°f)	Total hardness as Degrees German (°dH)	Total hardness as millimoles (mmol/l of Ca)
111.916	279.79	19.473	27.979	15.892	2.798

(mg/l = milligrammes per litre is the same as parts per million)

Fluoride:

There is an agreement with the local Health Authority to add fluoride to this drinking water supply.

Chlorine:

Disinfection is important to ensure there are no harmful organisms in the water. We use chlorine to disinfect drinking water supplies. No ammonia is added in this process which means your water supply is not chloraminated.

Lead:

If you live in a house built before 1970, you may have lead pipework. If you think you may have lead pipework, call our Lead Advice Line on 0345 070 3445 to arrange for a free lead test.

Work in your area:

To make sure the quality of the drinking water we supply remains excellent, we sometimes need to carry out work to ensure we continue to meet the legal limits specified in the Water Supply (Water Quality) Regulations 2016 (as amended). This work is known as a Programme of Work. Our Regulator, the Drinking Water Inspectorate, closely monitors the progress of this work and will formally sign it off when it is completed. The table below shows what we are doing in the Billinghay PWSZ:

(Where the Parameter says 'Water in Buildings', there are up to 20 parameters being monitored)

Parameter	Programme of Work
Water in buildings	Risk Assessments, Inspections, Customer Awareness

Drinking water sample results:

The results of tests carried out on drinking water samples taken from customer taps in this Public Water Supply Zone for the period are shown in the following table:

Parameter	Legal Limit	Units	Number of samples taken	Sample Results			Number of samples not meeting legal limit
				Minimum	Average	Maximum	
MICROBIOLOGICAL PARAMETERS							
Clostridium perfringens	0	No. per 100 ml	33	0	0	0	0
Coliform bacteria	0	No. per 100 ml	98	0	>2	>201	1
Colony counts (3 day at 22°C)	No abnormal change	No. per 1 ml	37	0	3	56	0
E. coli	0	No. per 100 ml	98	0	>2	>201	1
Enterococci	0	No. per 100 ml	8	0	0	0	0
CHEMICAL PARAMETERS							
1,2-dichloroethane	3	µg/l	33	<0.433	<0.433	<0.433	0
Alkalinity (as calcium carbonate)	No legal Limit	mg/l	1	192.95	192.95	192.95	0
Aluminium	200	µg/l	37	<12	<12	<12	0
Ammonium	0.5	mg/l	8	<0.14	<0.14	<0.14	0
Antimony	5	µg/l	8	<0.086	<0.167	0.23	0
Arsenic	10	µg/l	8	1.84	1.98	2.18	0
Benzene	1	µg/l	33	<0.183	<0.183	<0.183	0
Benzo(a)pyrene	0.01	µg/l	8	<0.002	<0.002	<0.002	0
Boron	1	mg/l	33	<0.043	<0.061	0.134	0
Bromate	10	µg/l	41	<0.7	<0.7	2.2	0
Cadmium	5	µg/l	8	<0.025	<0.025	<0.025	0
Calcium	No legal Limit	mg/l	4	58.216	63.207	67.129	0
Chloride	250	mg/l	32	46.9	72	85	0
Chlorine (free)	No legal Limit	mg/l	103	0.1	0.27	0.46	0
Chlorine (total)	No legal Limit	mg/l	103	0.21	0.4	0.71	0
Chromium	50	µg/l	8	<0.764	<0.764	<0.764	0
Colour	20	mg/l	37	<1.42	<1.44	2.1	0
Conductivity	2500	µS/cm @ 20 °C	201	504	660	819	0
Copper	2	mg/l	8	<0.038	<0.076	0.312	0
Fluoride	1.5	mg/l	53	0.736	0.957	1.056	0
Hardness (total) as calcium	No legal Limit	mg/l	4	106.908	111.916	116.12	0
Iron	200	µg/l	37	<21	<21	<21	0
Lead	10	µg/l	8	<0.16	<0.217	0.508	0
Magnesium	No legal Limit	mg/l	4	27.699	29.617	31.374	0
Manganese	50	µg/l	37	<3	<3	<3	0
Nickel	20	µg/l	8	<1.513	<1.579	2.04	0
Nitrate	50	mg/l	8	22.297	29.345	35.862	0
Nitrite	0.5	mg/l	8	<0.03	<0.03	<0.03	0
Nitrite/Nitrate	1		8	0.445	0.586	0.717	0
Odour	Acceptable to consumers and no abnormal change	Dilution No.	37	0	0	3	2
PAHs (sum of 4)	0.1	µg/l	4	0	0	0	0
pH (Hydrogen ion)	6.5 - 9.5	pH value	37	7.65	7.82	7.96	0
Phosphorus	No legal Limit	mg/l	47	0.47	0.554	0.632	0
Potassium	No legal Limit	mg/l	1	5.142	5.142	5.142	0
Selenium	10	µg/l	8	<0.722	<0.722	<0.722	0
Sodium	200	mg/l	8	32.056	34.969	38.695	0
Solvents (tetrachloroethane and trichloroethene)	10	µg/l	30	0	0	0	0
Sulphate	250	mg/l	33	61.35	87.67	160.01	0
Taste	Acceptable to consumers and no abnormal change	Dilution No.	37	0	3	99	1
Temperature	No legal Limit	°C	106	7	13.5	21.3	0
Tetrachloromethane	3	µg/l	33	<0.313	<0.313	<0.313	0
Total organic carbon (TOC)	No abnormal change	mg/l	33	<1.03	<1.25	2.61	0
Trihalomethanes (THMs) (total)	100	µg/l	10	0	29	46	0
Turbidity	4	NTU	37	<0.21	<0.21	0.23	0
PESTICIDES							
2,4-D	0.1	µg/l	8	<0.01	<0.01	<0.01	0
Aldrin	0.03	µg/l	8	<0.002	<0.002	<0.002	0
Bentazone	0.1	µg/l	33	<0.008	<0.008	<0.008	0
Carbetamide	0.1	µg/l	33	<0.014	<0.014	<0.014	0
Chloridazon	0.1	µg/l	33	<0.012	<0.012	<0.012	0

Parameter	Legal Limit	Units	Number of samples taken	Sample Results			Number of samples not meeting legal limit
				Minimum	Average	Maximum	
Clopyralid	0.1	µg/l	40	<0.018	<0.022	0.044	0
Dieldrin	0.03	µg/l	8	<0.002	<0.002	<0.002	0
Diuron	0.1	µg/l	25	<0.013	<0.013	<0.013	0
Ethofumesate	0.1	µg/l	34	<0.006	<0.006	0.011	0
Flufenacet	0.1	µg/l	9	<0.01	<0.01	<0.01	0
Fluroxypyr	0.1	µg/l	33	<0.02	<0.02	<0.02	0
Glyphosate	0.1	µg/l	32	<0.007	<0.009	0.023	0
Heptachlor	0.03	µg/l	8	<0.002	<0.002	<0.002	0
Heptachlor epoxide	0.03	µg/l	8	<0.003	<0.003	<0.003	0
Linuron	0.1	µg/l	33	<0.014	<0.014	<0.014	0
MCPA	0.1	µg/l	8	<0.008	<0.008	<0.008	0
MCPB	0.1	µg/l	8	<0.006	<0.006	<0.006	0
MCPP (Mecoprop)	0.1	µg/l	8	<0.006	<0.006	<0.006	0
Metalddehyde	0.1	µg/l	33	<0.008	<0.008	<0.008	0
Metazachlor	0.1	µg/l	34	<0.03	<0.03	<0.03	0
Monuron	0.1	µg/l	25	<0.012	<0.012	<0.012	0
Pesticides - Total	0.5	µg/l	44	0	0.013	0.075	0
Propyzamide	0.1	µg/l	8	<0.004	<0.004	0.006	0
Quinmerac	0.1	µg/l	34	<0.013	<0.013	<0.013	0
Simazine	0.1	µg/l	25	<0.01	<0.01	<0.01	0
Trietazine	0.1	µg/l	25	<0.016	<0.016	<0.016	0

Units	
<	Below the limit of detection of our analysis
mg/l	Milligrammes per litre or parts per million
µg/l	Microgrammes per litre or parts per billion
Pt/Co	Platinum/Cobalt
µS/cm	Micro Siemens per centimetre
Bq/l	Becquerel per litre
mSv/year	Micro Sieverts per year
NTU	Nephelometric Turbidity Units
No legal limit	There is no legal limit set in the Regulations

GLOSSARY		
Parameter	What it means	Legal limit
1,2-dichloroethane	Used in industrial processes. Trace amounts may be found in some water sources. Removed by water treatment.	3 µg/l
Acrylamide	A monomer not found naturally in water but found in polyacrylamide which can be used for water treatment. Use of polyacrylamide is tightly controlled.	0.1 µg/l
Alkalinity	Alkalinity is the amount of calcium and magnesium salts dissolved in the water. Known as temporary hardness and removed by boiling.	No legal limit
Aluminium	Naturally present in some water sources. Can be used in water treatment processes but is then removed. Anglian Water periodically use aluminium in the water treatment process at some water treatment works.	200 µg/l
Ammonium (ammonia and ammonium ions)	Naturally present in most water sources. Can be added as part of the disinfection process to maintain chlorine in the distribution system (known as chloramination).	0.5 mg/l
Antimony	Not found naturally in drinking water. Traces found in water are likely to be due to contact with brass fittings or lead solder.	5 µg/l
Arsenic	Low levels can occur naturally in some groundwater sources. Arsenic is removed by water treatment.	10 µg/l
Benzene	Used in the petrochemical and plastics industry. May be present in water sources due to industrial pollution but is removed by treatment.	1 µg/l
Benzo(a)pyrene	One of several compounds known as poly aromatic hydrocarbons (PAHs). Coal tar was historically used to line water mains to prevent corrosion; trace levels can be found in drinking water where coal tar linings are still present.	0.01 µg/l
Boron	Low levels may occur naturally in some water sources. Industrial discharges or detergents in treated sewage effluents can increase levels in surface waters.	1 mg/l
Bromate	May occasionally be detected in groundwater sources caused by industrial pollution. Can also be formed by the reaction of naturally occurring bromide with oxidants (such as ozone) used in the disinfection of drinking water.	10 µg/l
Cadmium	Low levels may occur naturally in some groundwater sources. Cadmium is removed by water treatment.	5 µg/l
Calcium	Occurs naturally in water as it passes through mineral deposits and rock strata.	No legal limit
Chloride	A common component of salt and found naturally in most water sources.	250 mg/l
Chlorine (free) Chlorine (total)	Anglian Water disinfects all water supplies using chlorine. The concentration of chlorine used is carefully controlled to ensure disinfection of the water is maintained whilst minimising any taste or odour issues for customers.	No legal limit
Chromium	Rarely found in drinking water. Traces may be found if water has passed through rock strata containing naturally occurring chromium.	50 µg/l
Clostridium perfringens	Organisms found in the gut of warm blooded animals. Their presence in treated water indicates possible contamination and requires investigation.	0 per 100 ml
Coliform bacteria	Organisms found in the environment (soil, water and vegetation). Their presence in treated water indicates possible contamination and requires investigation.	0 per 100 ml
Colony counts - 2 day at 37°C - 3 day at 22°C	Are a measure of naturally occurring harmless bacteria found in drinking water.	No. per 1ml - No abnormal change
Colour	Slight tingeing of the water can occur naturally in some water sources. It is removed by water treatment.	20 mg/l Pt/Co scale
Conductivity	A measure of the amount of naturally occurring dissolved inorganic substances in water.	2500 µS/cm at 20°C
Copper	Rarely found in water sources. Can occur in drinking water which has been in contact with copper pipes and fittings in households. May cause blue/green staining.	2.0 mg/l
Cryptosporidium	A parasite that can cause severe gastroenteritis. Continuous monitoring is carried out at any water treatment works classified as being at significant risk.	No legal limit
Cyanide	Rarely found in drinking water. Traces may be found if water has passed through rock strata containing naturally occurring cyanide.	50 µg/l
E. coli and Enterococci	Organisms found in the gut of warm blooded animals. Their presence in treated water indicates possible contamination and requires investigation.	0 per 100 ml
Epichlorohydrin	Not found naturally in water but found in polyamine which can be used for water treatment. Use of polyamines is tightly controlled.	0.1 µg/l
Fluoride	Occurs naturally in many water sources at varying concentrations. Fluoride is added to some drinking water supplies at the request of the local Health Authority.	1.5 mg/l
Gross alpha activity Gross beta activity	Both of these are measured as part of the calculation of the Total Indicative Dose (TID) for radiation (see below).	0.1 Bq/l 1 Bq/l
Hardness (total)	Hardness is due to the calcium and magnesium salts dissolved in the water. The geology of the Anglian Water area means all our water is hard.	No legal limit
Iron	Naturally occurring in many water sources. Can be present in drinking water due to the corrosion of iron water mains. Can also be used in water treatment processes but is then removed.	200 µg/l
Lead	Lead is very occasionally found in water sources. It is more usually found in drinking water due to contact with lead pipes in properties built before 1970. Anglian Water dose phosphate to water supplies in areas where lead could leach from pipework, but the only permanent solution for householders is replacement of any lead pipework.	10 µg/l
Magnesium	Occurs naturally in water as it passes through mineral deposits and rock strata.	No legal limit
Manganese	Occurs naturally in many water sources and is removed by water treatment.	50 µg/l
Mercury	Rarely found in drinking water. Traces may be found if water has passed through rock strata containing naturally occurring mercury.	1 µg/l
Nickel	Occurs naturally in some groundwater sources. It can be found in drinking water due to contact with modern nickel coatings on domestic taps and fittings.	20 µg/l

GLOSSARY		
Parameter	What it means	Legal limit
Nitrate	Occurs naturally in most water sources. Increased levels in water sources can occur as a result of fertiliser use. Dilution with low nitrate water sources and water treatment reduces nitrate levels.	50 mg/l
Nitrite	Occurs naturally at low levels in some water sources but is removed by treatment. It is sometimes produced as a by-product when ammonia and chlorine are used together to disinfect the water.	0.5 mg/l (at customer taps), 0.1 mg/l (at water treatment works)
Nitrite/Nitrate	Measure of the combined concentrations of these two compounds in drinking water. Concentration of nitrate divided by 50 + concentration of nitrite divided by 3 should be less than or equal to 1.	1
Odour	A measure of the aesthetic quality of drinking water. Unusual odours or tastes may indicate a problem which needs investigating.	Acceptable to consumers and no abnormal change
Pesticides – organochlorine compounds (aldrin, dieldrin, heptachlor, heptachlor epoxide)	Persistent in the environment but no longer used in the UK. Treatment processes are used to remove any pesticide residues where present.	0.03 µg/l
Pesticides – other than organo chlorine compounds	Traces of pesticides can occasionally be found in water sources as a result of agricultural and non agricultural use of pesticides in the environment. Treatment processes are used to remove any pesticide residues where present. Monitoring is carried out for the most widely used pesticides in the area of supply.	0.1 µg/l
Pesticides - total	This is the sum of the concentrations of the individual pesticides detected.	0.5 µg/l
pH (hydrogen ion)	A measure of the acidity or alkalinity of water; pH values below 7 are acidic, 7 is neutral and above 7 are alkaline. A low pH can result in pipe corrosion.	6.5 (min) - 9.5
PAHs (sum of 4)	Polycyclic aromatic hydrocarbons (PAHs) may be found in drinking water where coal tar was historically used to line water mains to prevent corrosion. Those measured are benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghi)perylene and indeno(1,2,3-cd)pyrene.	0.1 µg/l (sum of 4)
Phosphorus	Occurs naturally in water but can be added during water treatment in the form of phosphate to minimise the amount of lead which can be dissolved in water.	No legal limit
Potassium	Occurs naturally in water as it passes through mineral deposits and rock strata.	No legal limit
Selenium	Rarely found in drinking water. Traces may be found if water has passed through rock strata containing naturally occurring selenium.	10 µg/l
Sodium	Low levels occur naturally in many water sources. Domestic water softeners can increase the sodium concentration. Softened water should not be used for drinking, cooking and preparing babies' feeds.	200 mg/l
Solvents (tetrachloroethane and trichloroethene)	This standard is the sum of both solvents. Traces may be found in water sources due to industrial pollution. Solvents are removed using specialist treatment.	10 µg/l for the sum of both
Sulphate	Occurs naturally in many water sources after contact with mineral deposits and rock strata.	250 mg/l
Taste	A measure of the aesthetic quality of drinking water. Unusual odours or tastes may indicate a problem which needs investigating.	Acceptable to consumers and no abnormal change
Temperature	This is a measure of the water temperature when samples are taken.	No legal limit
Tetrachloromethane	A solvent sometimes found in water sources due to industrial pollution. Solvents are removed using specialist treatment.	3 µg/l
Total Indicative Dose (TID)	TID is the effective dose of radiation exposure the body may receive through drinking water. It is required to be measured if the gross alpha or gross beta activities (see above) exceed the screening values.	0.1 mSv/year
Total Organic Carbon (TOC)	A measure of the total amount of organic matter in the water.	No abnormal change
Trihalomethanes (THMs) (total)	Can be formed during the disinfection of water supplies if chlorine reacts with naturally occurring organic substances.	100 µg/l
Tritium	Tritium is a radioactive isotope of hydrogen which is found naturally in water at very low levels.	100 Bq/l
Turbidity	This is a measure of the cloudiness of the water.	4 NTU at customer taps 1 NTU at water treatment works
Vinyl chloride	Not found naturally in water. May be found in water pipes containing polyvinyl chloride (PVC). Concentrations are strictly controlled by product specification.	0.5 µg/l
Further information can be found on the Anglian Water and Drinking Water inspectorate websites: www.anglianwater.co.uk www.dwi.gov.uk		