



Annual Report on Water Quality
Hertsmere Borough Council 2019

May 2020

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1 Introduction

Affinity Water produces an annual report for each local authority regarding the general quality of water supplied to premises in the authority's area. The information includes results of samples taken from water supply zones in the authority's area of responsibility and any associated exceedences (see section 3 Water Quality) relevant to those supply areas i.e. exceedences from supplying water treatment works and service reservoirs. In 2019, 99.97% of the 190,000 tests taken as part of the Company's regulatory monitoring programme complied with the standards confirming that drinking water quality continues to be of a very high standard.

The report also includes details of the actions taken to comply with any enforcement orders, authorised departures and notices under regulation 19(4). This report is for the Hertsmere Borough Council and covers the year ending 31 December 2019.

2 Water Treatment Works, Service Reservoirs and Water Supply Zones

In 2019, the Company met the demand for drinking water by operating 93 water treatment works. The water supply to the area covered by the Borough was provided by the following water treatment works:

- Clay Lane 27"
- Clay Lane 36"
- Iver
- North Mymms
- Queens
- Waterhall

In addition to the above Company-operated water treatment works there was a bulk import of treated water from Anglian Water's Grafham water treatment works. This was used as a supplementary supply to assist demand management.

Treated water from the above works is either passed directly into supply or via one of the following service reservoirs:

- Arkley 1 & 2
- Arkley 3 & 4
- Arkley WT
- Brookmans Park
- Brookmans Park WT
- Bushey Heath 1
- Bushey Heath 2
- Bushey Heath 3
- Bushey Heath 5 East
- Bushey Heath 5 West
- Epping Green WT
- Hatfield
- Merry Hill East
- Merry Hill West

The Company's area is divided into discrete Water Supply Zones, each with a population of 100,000 or less. In 2019, Affinity Water had 89 such zones.

In 2019, Hertsmere Borough Council's area was served by Zones:

- 023 Hatfield / Potters Bar
- 048 Northwood / Ruislip
- 049 Borehamwood / Bushey
- 050 Barnet
- 051 East Barnet
- 052 Mill Hill / Stanmore
- 072 Shenley
- 088 St Alban's North

Maps and results of analyses for the above water supply zones can be found in Appendix 2.

3 Water Quality

During February, coliform bacteria were detected in a routine sample taken from Bushey Heath Reservoir No 5 East, Bushey. As a precaution the reservoir was taken out of supply and drained down to allow an internal inspection to be undertaken. Our investigation established that the water leaving the reservoir was satisfactory, we did identify some minor ingress during the internal inspection which may have caused the exceedance. After the necessary remedial work, the reservoir was returned to supply. Coliforms do not pose a risk to public health.

In September, coliform bacteria were detected in a sample taken from a customer's property in Zone 049. Our investigation identified that the most likely cause of the failures was the condition of the tap where the samples were taken. The customers were all informed of the situation and actions to take to prevent contamination of taps.

All exceedences of the standards are reported to the Drinking Water Inspectorate (DWI) in monthly exception reports. In the event that the DWI is not satisfied with the Company's explanation of the circumstances and the action taken, enforcement action can be initiated.

4 Cryptosporidium

Listed below is a summary of the results for Cryptosporidium from treatment works that were originally identified as being at significant risk from Cryptosporidium and which supply water to the area covered by the Borough.

Treatment Works	No. of samples taken in 2019	No. of samples containing oocysts	Maximum Concentration (Oocysts/10 litres)
Iver	366	0	<0.10

5 Customer Contacts

Under the Water Industry (Suppliers' Information) Direction 2019, the Company must provide the DWI with annual information on all consumer contacts received related to drinking water quality. For each water supply zone, the consumer contacts are separated into five main categories (with further division into sub-categories). An overall rate of contact per 1000 population is calculated for each zone as well as contact rates for combined categories.

The customer contact data for water supply zones within your Borough's area of responsibility is shown in the table below.

Zone (Population)	Zone Rate (Consumer Enquiries & Drinking Water Quality Concern per 1000 population)	Zone Rate (Appearance, taste and odour & illness per 1000 pop.)	Overall zone rate (Contacts per 1000 pop.)
Company average	0.25	0.81	1.06
Z023 (88,921)	0.36	0.79	1.15
Z048 (61,571)	0.21	0.83	1.04
Z049 (85,191)	0.26	0.63	0.89
Z050 (56,908)	0.32	0.39	0.70
Z051 (74,530)	0.32	0.38	0.70
Z052 (72,385)	0.39	0.79	1.17
Z072 (3,074)	0.33	0.33	0.65
Z088 (53,642)	0.41	0.78	1.19

6 Section 19 Undertakings, Authorised Departures & Regulation 28 Notices

Within the Borough's area of supply Zones 23, 48, 50 and 51 are affected by the Company's Section 19 Undertaking relating to Metaldehyde & Total Pesticides from North Mymms, Iver Water Treatment Works (WTW) and from Anglian Water Services' (AWS) Grafham WTW. The Company has agreed to: implement a monitoring strategy; engage in catchment management activities, including support for voluntary initiatives to influence Metaldehyde use, in order to reduce concentrations in untreated waters; to engage with & provide data to relevant stakeholders; review possible alternative supply arrangements; optimise removal through current treatment processes; investigate new, sustainable treatment processes; and to continually review & appraise the risk from these hazards as part of the regulatory process.

In addition, the DWI issued the Company with a Notice under Regulation 27(4) with regard to Cryptosporidium oocysts in the supply from Iver WTW requiring us to review all risks, ensuring they are fully addressed and considered. We have carried this assessment and several actions

have been agreed. These include plans to enhance the treatments at the WTW during the next two investment period.

The Company did not have any Authorised Departures in place in the Borough's area during 2019.

In order to meet the standard relating to lead, the Company has continued operating orthophosphate dosing plants at 38 sites across the Company's area. All the zones within the Borough's area receive water dosed with orthophosphate.

7 Notifiable events

Under the Water Industry (Suppliers Information) Direction 2019, the DWI must be notified of any situation where water quality is likely to be, or has been, adversely affected. Since 2009 the DWI has been using an event classification system to assess and quantify the significance of a notifiable event, giving each one a number (1 to 5) with an equivalent rating ("not significant" through to "major"). The Company regards any event classified as a 3 Significant or above as being equivalent to the previously designated 'incident'. During 2019 there were no such notifiable events within your Borough's area of responsibility.

8 Further information and advice

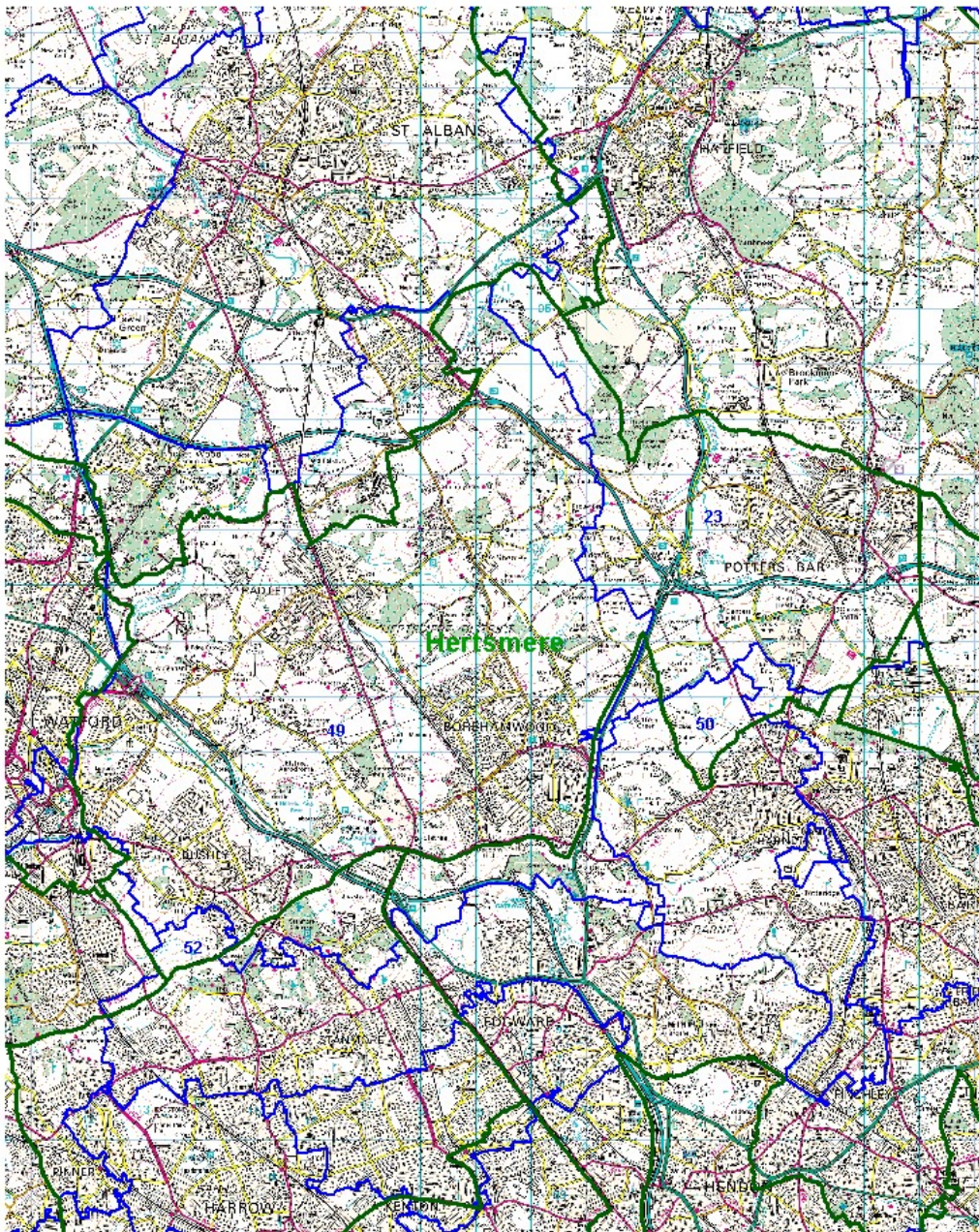
For further information and advice on all water quality matters please contact:



Eddie Lintott
Water Quality Manager
Affinity Water
Tamblin Way
Hatfield
Hertfordshire
AL10 9EZ
Telephone: 0345 357 2407

Appendices

9 Appendix One – Map

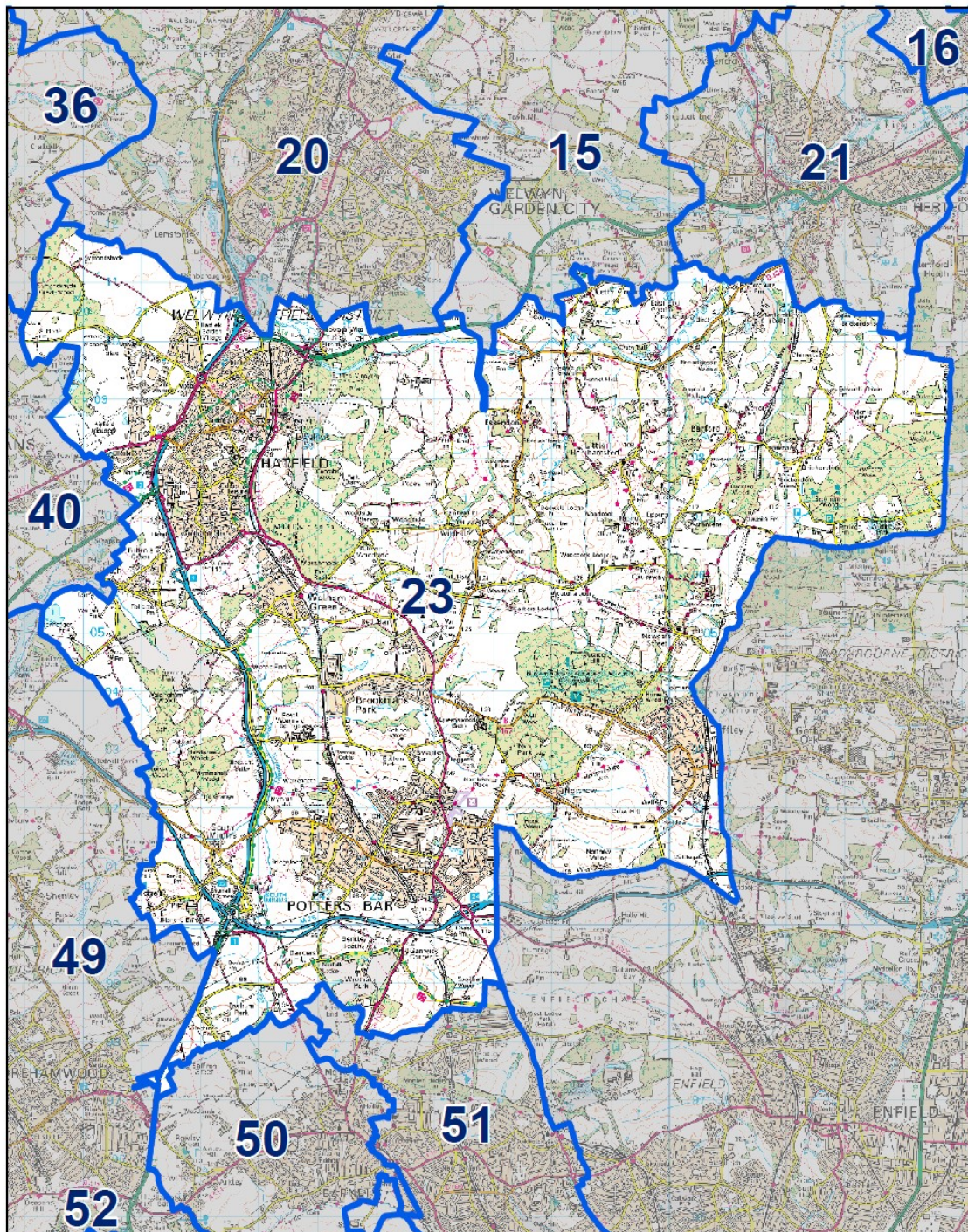
Hertsmere Borough Council



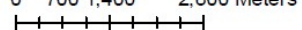
-  Local Authority Boundary
-  Water Supply Zone Boundary

10 Appendix Two – Water Quality Results

WQZ 23 - Hatfield / Potters Bar





0 700 1,400 2,800 Meters



January 2010

Legend

-  This Water Quality Zone
-  Other WQZ

Water Supply Zone: Hatfield/Potters Bar (AF023)
Period: 01-Jan-2019 to 31-Dec-2019



Population: 88921

Parameter	Units	No. of Samples	PCV	No. of Samples >PCV	% of Samples >PCV	Min.	Mean	Max.
Microbiological Parameters								
Coliform bacteria	No./100ml	216	0	1	<1	0	0	2
E coli	No./100ml	216	0	0	0	0	0	0
Clostridium perfringens	No./100ml	76	0	0	0	0	0	0
Enterococci	No./100ml	8	0	0	0	0	0	0
3 day plate count 22 °C	No./1ml at 22 °C	76	No abnormal change	0	0	0	8	260
Customer Parameters								
Alkalinity	mgHCO ₃ /l	1	No PCV	0	0	292	292	292
Calcium	mgCa/l	1	No PCV	0	0	134	134	134
Chlorine (Residual)	mgCl ₂ /l	216	No PCV	0	0	0.05	0.24	0.81
Colour	mg/l Pt/Co	76	20	0	0	<1.0	<1.0	2
Fluoride	mgF/l	8	1.5	0	0	0.092	0.174	0.259
Hardness (Total)	mgCaCO ₃ /l	1	No PCV	0	0	335	335	335
Hydrogen Ion (pH)	pH value	76	6.5-9.5	0	0	6.9	7.2	7.6
Quantitative Odour	Dilution No.	76	Abnormal & unacceptable to consumers	0	0	0	0	0
Quantitative Taste	Dilution No.	76	consumers	0	0	0	0	0
Temperature	°C	215	No PCV	0	0	5.4	13.7	23.1
Turbidity	NTU	76	4	0	0	<0.10	0.14	0.36
Chemicals								
Metals								
Arsenic	µgAs/l	8	10	0	0	<1.0	<1.0	<1.0
Aluminium	µgAl/l	76	200	0	0	<5.0	<5.0	20.3
Antimony	µgSb/l	8	5	0	0	<0.20	<0.20	0.36
Cadmium	µgCd/l	8	5	0	0	<0.20	<0.20	<0.20
Chromium	µgCr/l	8	50	0	0	<0.5	<0.5	<0.5
Copper	mgCu/l	8	2	0	0	<0.010	0.086	0.57
Iron	µgFe/l	76	200	0	0	<15.0	<15.0	58.4
Lead	µgPb/l	8	10	0	0	<1.00	<1.00	2.65
Manganese	µgMn/l	76	50	0	0	<1.0	<1.0	1.1
Mercury	µgHg/l	8	1	0	0	<0.10	<0.10	<0.10
Nickel	µgNi/l	8	20	0	0	<2.0	2.4	3.3
Sodium	mgNa/l	8	200	0	0	17	35.2	54.5
Pesticides								
Atrazine	µg/l	8	0.1	0	0	<0.005	0.007	0.013
Carbetamide	µg/l	8	0.1	0	0	<0.009	<0.009	<0.009
Clopyralid	µg/l	8	0.1	0	0	<0.012	<0.012	0.024
Glyphosate	µg/l	8	0.1	0	0	<0.002	<0.010	<0.010
Mecoprop	µg/l	8	0.1	0	0	<0.005	<0.005	<0.005
Metaldehyde	µg/l	8	0.1	0	0	0.012	0.031	0.058
Metazachlor	µg/l	8	0.1	0	0	<0.005	<0.005	<0.005
Propyzamide	µg/l	8	0.1	0	0	<0.008	<0.008	0.012
Simazine	µg/l	8	0.1	0	0	<0.007	<0.007	0.008
Total Pesticide	µg/l	7	0.5	0	0	0.035	0.061	0.084
2,4-D	µg/l	8	0.1	0	0	<0.007	<0.007	<0.007
Additional Parameters								
Ammonium	mgNH ₄ /l	76	0.5	0	0	<0.04	<0.04	0.15
Benzene	µg/l	8	1	0	0	<0.02	<0.02	<0.02
Benzo (a) Pyrene	µg/l	8	0.01	0	0	<0.001	<0.001	0.003
Boron	mgB/l	6	1	0	0	<0.100	<0.100	<0.100
Bromate	µgBrO ₃ /l	8	10	0	0	0.7	2	3.6
Chloride	mgCl/l	8	250	0	0	37	60	84
Electrical Conductivity at 20 °C	µS/cm at 20 °C	76	2500	0	0	572	708	802
Nitrate	mgNO ₃ /l	8	50	0	0	19.2	27.4	35.8
Nitrite	mgNO ₂ /l	8	0.5	0	0	<0.008	0.018	0.093
Nitrite Nitrate Formula		8	1	0	0	<0.46	<0.62	0.73
Selenium	µgSe/l	8	10	0	0	<1.0	<1.0	<1.0
Sulphate	mgSO ₄ /l	8	250	0	0	34	79	127
Sum of Tri & Tetrachloroethene	µg/l	8	10	0	0	0	0.3	0.6
Tetrachloromethane	µg/l	8	3	0	0	<0.1	<0.1	0.1
Total Cyanide	µgCN/l	8	50	0	0	<1.0	<1.0	1.1
Total Organic Carbon	mgC/l	8	No abnormal change	0	0	0.7	2.1	3.6
Total PAHs	µg/l	8	0.1	0	0	0	0.001	0.009
Total Trihalomethanes	µg/l	8	100	0	0	9.16	18.31	40.21
1, 2 dichloroethane	µg/l	8	3	0	0	<0.04	<0.04	<0.04

Notes

PCV = Prescribed Concentration or Value or Specification Concentration or Value

Commentary on Water Quality

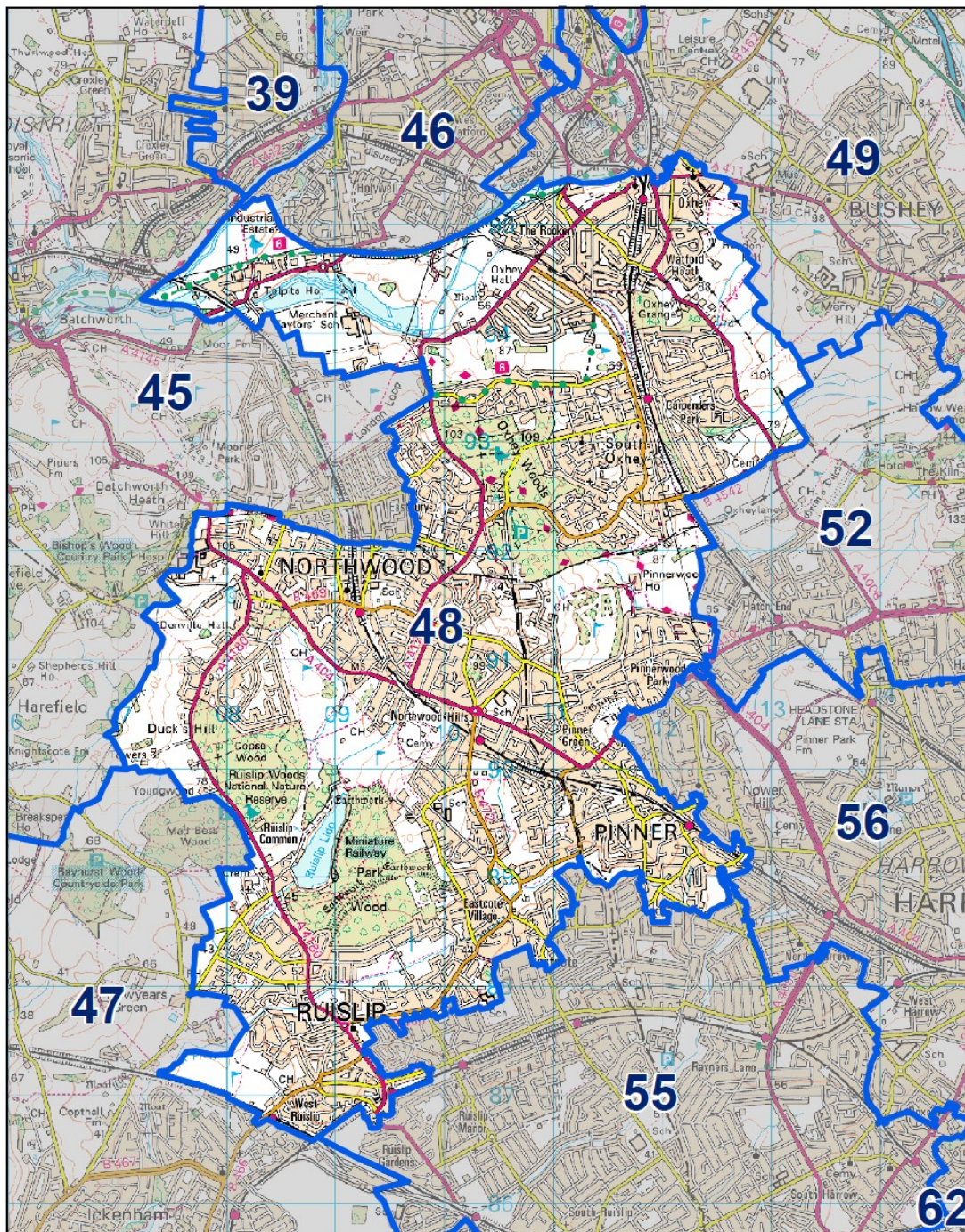
Coliform bacteria were detected in a sample taken from a customer's property in Broad Acres, Hatfield in October. Our investigation identified that the water supply to the area was satisfactory but was unable to identify a cause for the failure. Coliforms do not pose a risk to public health.

Undertakings & Authorised Departures

No Authorised Departures applied to this water supply zone during 2019.



An Undertaking is in place for this zone relating to Metaldehyde & Total Pesticides from North Mymms Water Treatment Works (WTW) & from Anglian Water Services' (AWS) Grafham WTW. The Company has agreed to: implement a monitoring strategy; engage in catchment management activities, including support for voluntary initiatives to influence Metaldehyde use, in order to reduce concentrations in untreated waters; to engage with & provide data to relevant stakeholders; review possible alternative supply arrangements; optimise removal through current treatment processes; investigate new, sustainable treatment processes; and to continually review & appraise the risk from these hazards as part of the Regulatory process. AWS has agreed to: implement a monitoring strategy; to engage with relevant stakeholders & provide regular updates on data; investigate new, sustainable treatment processes, supporting national research programmes where appropriate; and to continually review & appraise the risk from these hazards as part of the Regulatory process.

WQZ 48 - Northwood / Ruislip



0 345 690 1,380 Meters
 January 2010

Legend

-  This Water Quality Zone
-  Other WQZ

Water Supply Zone: Northwood (AF048)
 Period: 01-Jan-2019 to 31-Dec-2019
 Population: 61571



Parameter	Units	No. of Samples	PCV	No. of Samples >PCV	% of Samples >PCV	Min.	Mean	Max.
Microbiological Parameters								
Coliform bacteria	No./100ml	156	0	0	0	0	0	0
E coli	No./100ml	156	0	0	0	0	0	0
Clostridium perfringens	No./100ml	52	0	0	0	0	0	0
Enterococci	No./100ml	8	0	0	0	0	0	0
3 day plate count 22 °C	No./1ml at 22 °C	52	No abnormal change	0	0	0	3	120
Customer Parameters								
Alkalinity	mgHCO ₃ /l	2	No PCV	0	0	277	279	280
Calcium	mgCa/l	2	No PCV	0	0	109	117	124
Chlorine (Residual)	mgCl ₂ /l	155	No PCV	0	0	0.09	0.37	0.95
Colour	mg/l Pt/Co	52	20	0	0	<1.0	<1.0	1.9
Fluoride	mgF/l	8	1.5	0	0	0.109	0.12	0.132
Hardness (Total)	mgCaCO ₃ /l	2	No PCV	0	0	273	293	310
Hydrogen Ion (pH)	pH value	52	6.5-9.5	0	0	7.1	7.2	7.5
Quantitative Odour	Dilution No.	52	Abnormal & unacceptable to consumers	0	0	0	0	0
Quantitative Taste	Dilution No.	51		0	0	0	0	0
Temperature	°C	156	No PCV	0	0	7.4	14	21.6
Turbidity	NTU	52	4	0	0	<0.10	0.16	0.35
Chemicals								
Metals								
Arsenic	µgAs/l	8	10	0	0	<1.0	<1.0	<1.0
Aluminium	µgAl/l	52	200	0	0	<5.0	13.9	38.5
Antimony	µgSb/l	8	5	0	0	<0.20	0.22	0.44
Cadmium	µgCd/l	8	5	0	0	<0.20	<0.20	<0.20
Chromium	µgCr/l	8	50	0	0	<0.5	<0.5	<0.5
Copper	mgCu/l	8	2	0	0	<0.010	<0.019	0.062
Iron	µgFe/l	51	200	0	0	<15.0	<15.0	37.2
Lead	µgPb/l	8	10	0	0	<1.00	<1.00	7.83
Manganese	µgMn/l	52	50	0	0	<1.0	<1.0	1.9
Mercury	µgHg/l	8	1	0	0	<0.10	<0.10	<0.10
Nickel	µgNi/l	8	20	0	0	<2.0	<2.0	3.6
Sodium	mgNa/l	8	200	0	0	28.6	33.4	38.8
Pesticides								
Atrazine	µg/l	8	0.1	0	0	<0.005	0.008	0.023
Carbetamide	µg/l	8	0.1	0	0	<0.009	<0.009	<0.009
Clopyralid	µg/l	8	0.1	0	0	<0.012	<0.012	<0.012
Glyphosate	µg/l	7	0.1	0	0	<0.002	<0.003	<0.003
Mecoprop	µg/l	8	0.1	0	0	<0.005	<0.005	<0.005
Metaldehyde	µg/l	8	0.1	0	0	<0.009	<0.009	0.024
Metazachlor	µg/l	8	0.1	0	0	<0.005	<0.005	<0.005
Propyzamide	µg/l	8	0.1	0	0	<0.008	<0.008	<0.008
Simazine	µg/l	8	0.1	0	0	<0.007	<0.007	0.01
Total Pesticide	µg/l	8	0.5	0	0	0.007	0.038	0.094
2,4-D	µg/l	8	0.1	0	0	<0.007	<0.007	<0.007
Additional Parameters								
Ammonium	mgNH ₄ /l	52	0.5	0	0	<0.04	<0.04	<0.04
Benzene	µg/l	7	1	0	0	<0.02	<0.02	<0.02
Benzo (a) Pyrene	µg/l	8	0.01	0	0	<0.001	<0.002	<0.002
Boron	mgB/l	7	1	0	0	<0.100	<0.100	<0.100
Bromate	µgBrO ₃ /l	8	10	0	0	<0.5	0.9	1.8
Chloride	mgCl/l	8	250	0	0	52	59	67
Electrical Conductivity at 20 °C	µS/cm at 20 °C	52	2500	0	0	568	652	765
Nitrate	mgNO ₃ /l	8	50	0	0	29	31.9	40.3
Nitrite	mgNO ₂ /l	8	0.5	0	0	<0.008	<0.008	<0.008
Nitrite Nitrate Formula		8	1	0	0	<0.58	<0.81	<0.81
Selenium	µgSe/l	8	10	0	0	<1.0	<1.0	1.4
Sulphate	mgSO ₄ /l	8	250	0	0	42	55	68
Sum of Tri & Tetrachloroethene	µg/l	7	10	0	0	0.2	1.3	3.3
Tetrachloromethane	µg/l	7	3	0	0	<0.1	<0.1	<0.1
Total Cyanide	µgCN/l	8	50	0	0	<1.0	<1.0	1.7
Total Organic Carbon	mgC/l	8	No abnormal change	0	0	1.3	2	3.2
Total PAHs	µg/l	8	0.1	0	0	0	0	0
Total Trihalomethanes	µg/l	7	100	0	0	20.07	31.77	48.27
1, 2 dichloroethane	µg/l	7	3	0	0	<0.04	<0.04	<0.04

Notes

PCV = Prescribed Concentration or Value or Specification Concentration or Value

Commentary on Water Quality

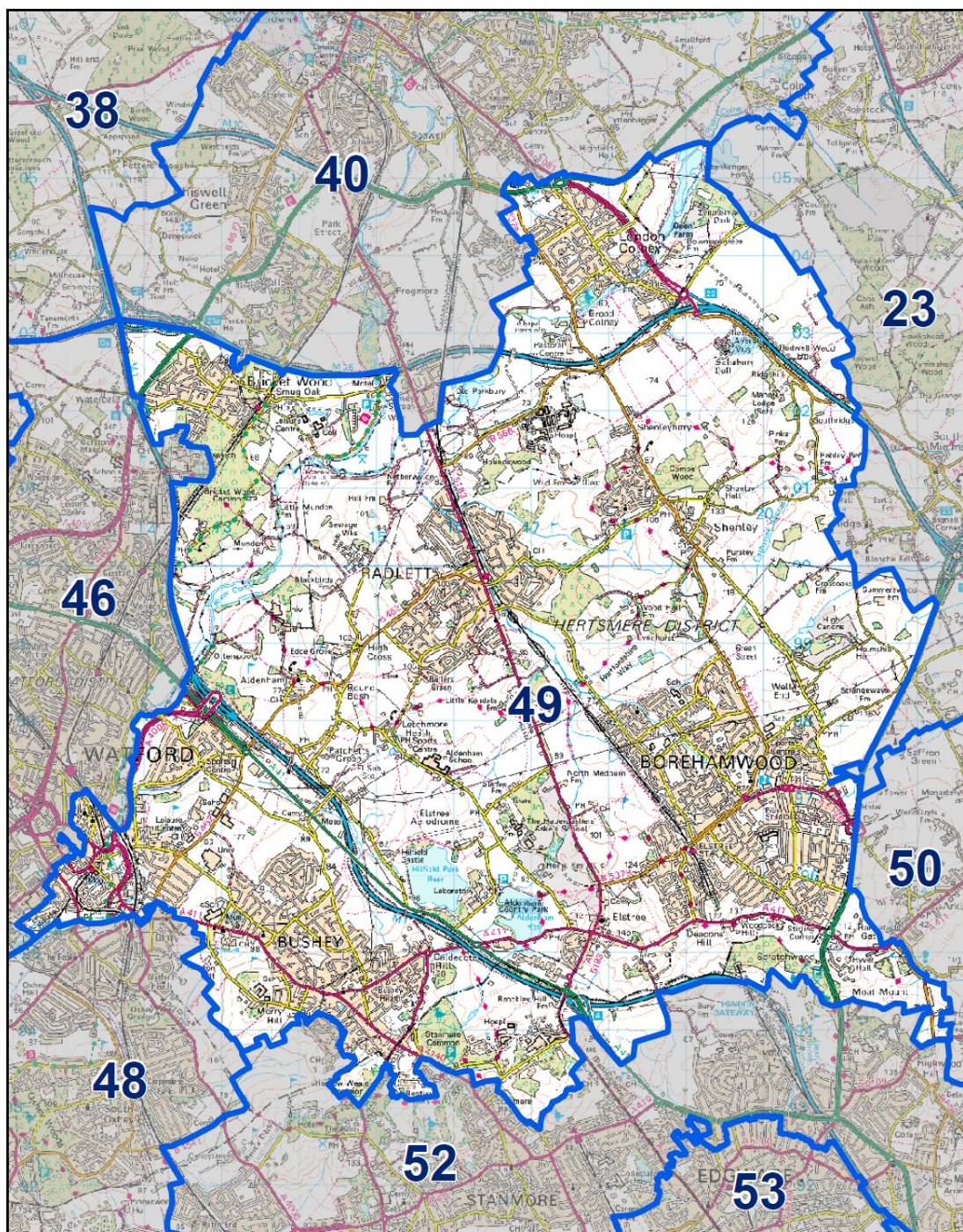
Water quality was satisfactory in this zone in 2019.

Undertakings & Authorised Departures

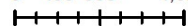
No Authorised Departures applied to this water supply zone during 2019.

An Undertaking is in place for this zone relating to Metaldehyde & Total Pesticides from Iver Water Treatment Works. The Company has agreed to: implement a monitoring strategy; engage in catchment management activities, including support for voluntary initiatives to influence Metaldehyde use, in order to reduce concentrations in untreated waters; to engage with & provide data to relevant stakeholders; review possible alternative supply arrangements; optimise removal through current treatment processes; investigate new, sustainable treatment processes; and to continually review & appraise the risk from these hazards as part of the Regulatory process. In addition the DWI issued the Company with a Notice under Regulation 28(4) with regard to individual pesticides in the supply from Iver WTW requiring us to install additional GAC contactors to improve pesticide removal. This work was completed in December 2018.

WQZ 49 - Borehamwood / Bushey





0 480 960 1,920 Meters



January 2010

Legend

-  This Water Quality Zone
-  Other WQZ

Water Supply Zone: Borehamwood/Bushey (AF049)
 Period: 01-Jan-2019 to 31-Dec-2019
 Population: 85191



Parameter	Units	No. of Samples	PCV	No. of Samples >PCV	% of Samples >PCV	Min.	Mean	Max.
Microbiological Parameters								
Coliform bacteria	No./100ml	216	0	1	<1	0	0	26
E coli	No./100ml	216	0	0	0	0	0	0
Clostridium perfringens	No./100ml	76	0	0	0	0	0	0
Enterococci	No./100ml	8	0	0	0	0	0	0
3 day plate count 22 °C	No./1ml at 22 °C	76	No abnormal change	0	0	0	6	320
Customer Parameters								
Alkalinity	mgHCO ₃ /l	1	No PCV	0	0	348	348	348
Calcium	mgCa/l	1	No PCV	0	0	139	139	139
Chlorine (Residual)	mgCl ₂ /l	216	No PCV	0	0	0.11	0.34	0.67
Colour	mg/l Pt/Co	76	20	0	0	<1.0	<1.0	2.7
Fluoride	mgF/l	8	1.5	0	0	0.108	0.117	0.131
Hardness (Total)	mgCaCO ₃ /l	1	No PCV	0	0	348	348	348
Hydrogen Ion (pH)	pH value	76	6.5-9.5	0	0	6.9	7.1	7.2
Quantitative Odour	Dilution No.	76	Abnormal & unacceptable to consumers	0	0	0	0	0
Quantitative Taste	Dilution No.	76	consumers	0	0	0	0	0
Temperature	°C	215	No PCV	0	0	7.2	13.8	22.9
Turbidity	NTU	76	4	0	0	<0.10	0.11	0.38
Chemicals								
Metals								
Arsenic	µgAs/l	8	10	0	0	<1.0	<1.0	<1.0
Aluminium	µgAl/l	76	200	0	0	<5.0	<5.0	45.2
Antimony	µgSb/l	8	5	0	0	<0.20	<0.20	0.21
Cadmium	µgCd/l	8	5	0	0	<0.20	<0.20	<0.20
Chromium	µgCr/l	8	50	0	0	<0.5	<0.5	0.5
Copper	mgCu/l	8	2	0	0	<0.010	0.013	0.022
Iron	µgFe/l	76	200	0	0	<15.0	<15.0	<15.0
Lead	µgPb/l	8	10	0	0	<1.00	<1.00	3.73
Manganese	µgMn/l	76	50	0	0	<1.0	<1.0	<1.0
Mercury	µgHg/l	8	1	0	0	<0.10	<0.10	<0.10
Nickel	µgNi/l	8	20	0	0	2.6	2.8	3
Sodium	mgNa/l	8	200	0	0	34.2	37.3	40.1
Pesticides								
Atrazine	µg/l	8	0.1	0	0	0.017	0.02	0.023
Total Pesticide	µg/l	8	0.5	0	0	0.06	0.071	0.087
Additional Parameters								
Ammonium	mgNH ₄ /l	76	0.5	0	0	<0.04	<0.04	0.09
Benzene	µg/l	8	1	0	0	<0.02	<0.02	<0.02
Benzo (a) Pyrene	µg/l	8	0.01	0	0	<0.001	<0.001	<0.001
Boron	mgB/l	7	1	0	0	<0.100	<0.100	<0.100
Bromate	µgBrO ₃ /l	8	10	0	0	<0.5	<0.5	<0.5
Chloride	mgCl/l	8	250	0	0	61	65	67
Electrical Conductivity at 20 °C	µS/cm at 20 °C	76	2500	0	0	635	740	798
Nitrate	mgNO ₃ /l	8	50	0	0	31.4	32.6	35.5
Nitrite	mgNO ₂ /l	8	0.5	0	0	<0.008	<0.008	<0.008
Nitrite Nitrate Formula		8	1	0	0	<0.63	<0.71	<0.71
Selenium	µgSe/l	8	10	0	0	<1.0	1	1.3
Sulphate	mgSO ₄ /l	8	250	0	0	49	54	59
Sum of Tri & Tetrachloroethene	µg/l	8	10	0	0	1.4	2.1	2.6
Tetrachloromethane	µg/l	8	3	0	0	<0.1	<0.1	<0.1
Total Cyanide	µgCN/l	7	50	0	0	<1.0	1.2	1.9
Total Organic Carbon	mgC/l	8	No abnormal change	0	0	1.1	1.2	1.4
Total PAHs	µg/l	8	0.1	0	0	0	0	0
Total Trihalomethanes	µg/l	8	100	0	0	6.62	13.42	20.48
1, 2 dichloroethane	µg/l	8	3	0	0	<0.04	<0.04	<0.04

Notes

PCV = Prescribed Concentration or Value or Specification Concentration or Value

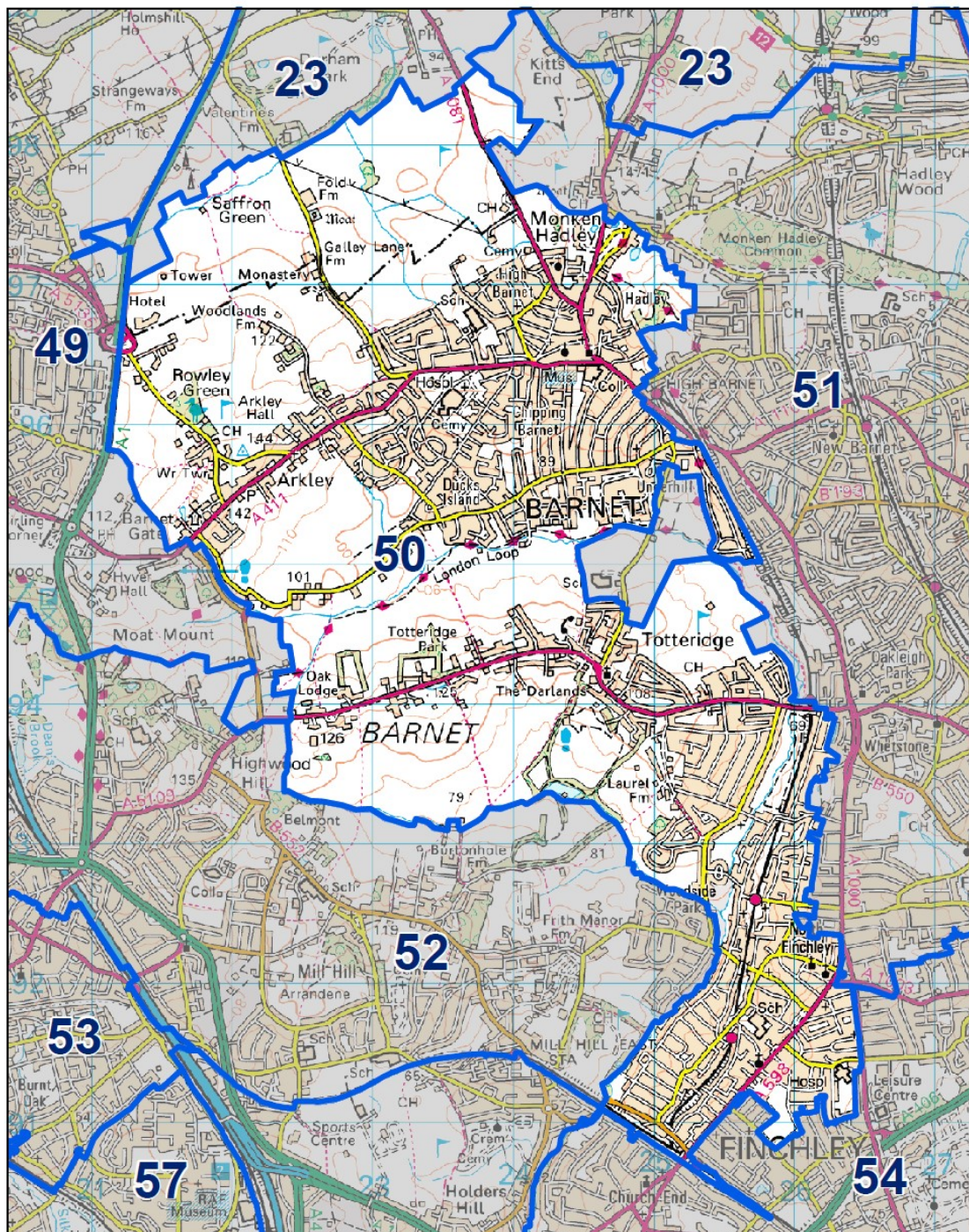
Commentary on Water Quality

In September, coliform bacteria were detected in a sample taken from a customer's property in Herkomer Road, Bushey. Our investigation identified that the most likely cause of the failure was the condition of the tap where the sample was taken. The customer was informed of the situation and actions to take to prevent contamination of taps. Coliforms do not pose a risk to public health.

Undertakings & Authorised Departures

No Undertakings or Authorised Departures applied to this water supply zone during Year:2019.

WQZ 50 - Barnet



0 262.5525 1,050 Meters

January 2010

Legend

- This Water Quality Zone
- Other WQZ

Water Supply Zone: Barnet (AF050)
 Period: 01-Jan-2019 to 31-Dec-2019
 Population: 56908



Parameter	Units	No. of Samples	PCV	No. of Samples >PCV	% of Samples >PCV	Min.	Mean	Max.
Microbiological Parameters								
Coliform bacteria	No./100ml	144	0	0	0	0	0	0
E coli	No./100ml	144	0	0	0	0	0	0
Clostridium perfringens	No./100ml	52	0	0	0	0	0	0
Enterococci	No./100ml	8	0	0	0	0	0	0
3 day plate count 22 °C	No./1ml at 22 °C	52	No abnormal change	0	0	0	6	243
Customer Parameters								
Alkalinity	mgHCO ₃ /l	1	No PCV	0	0	254	254	254
Calcium	mgCa/l	1	No PCV	0	0	107	107	107
Chlorine (Residual)	mgCl ₂ /l	144	No PCV	0	0	0.01	0.3	0.84
Colour	mg/l Pt/Co	52	20	0	0	<1.0	<2.5	2.6
Fluoride	mgF/l	8	1.5	0	0	0.105	0.121	0.135
Hardness (Total)	mgCaCO ₃ /l	1	No PCV	0	0	268	268	268
Hydrogen Ion (pH)	pH value	52	6.5-9.5	0	0	7	7.3	7.7
Quantitative Odour	Dilution No.	52	Abnormal & unacceptable to consumers	0	0	0	0	0
Quantitative Taste	Dilution No.	52	consumers	0	0	0	0	0
Temperature	°C	144	No PCV	0	0	6.6	14.1	23
Turbidity	NTU	52	4	0	0	<0.10	0.16	0.43
Chemicals								
Metals								
Arsenic	µgAs/l	8	10	0	0	<1.0	<1.0	<1.0
Aluminium	µgAl/l	52	200	0	0	<5.0	19.5	32.7
Antimony	µgSb/l	8	5	0	0	<0.20	<0.20	0.31
Cadmium	µgCd/l	8	5	0	0	<0.20	<0.20	<0.20
Chromium	µgCr/l	8	50	0	0	<0.5	<0.5	<0.5
Copper	mgCu/l	8	2	0	0	<0.010	<0.010	0.018
Iron	µgFe/l	52	200	0	0	<15.0	<15.0	22.5
Lead	µgPb/l	8	10	0	0	<1.00	<1.00	<1.00
Manganese	µgMn/l	52	50	0	0	<1.0	<1.0	2.2
Mercury	µgHg/l	8	1	0	0	<0.10	<0.10	<0.10
Nickel	µgNi/l	8	20	0	0	<2.0	<2.0	2.8
Sodium	mgNa/l	8	200	0	0	23	29	34.7
Pesticides								
Atrazine	µg/l	8	0.1	0	0	<0.005	<0.005	<0.005
Carbetamide	µg/l	8	0.1	0	0	<0.009	<0.009	<0.009
Clopyralid	µg/l	8	0.1	0	0	<0.012	<0.012	<0.012
Glyphosate	µg/l	9	0.1	1	11	<0.002	<0.005	0.005
Mecoprop	µg/l	8	0.1	0	0	<0.005	<0.005	<0.005
Metaldehyde	µg/l	8	0.1	0	0	<0.009	0.014	0.035
Metazachlor	µg/l	8	0.1	0	0	<0.005	<0.005	<0.005
Propyzamide	µg/l	8	0.1	0	0	<0.008	<0.008	<0.008
Simazine	µg/l	8	0.1	0	0	<0.007	<0.007	<0.007
Total Pesticide	µg/l	8	0.5	0	0	0	0.022	0.042
2,4-D	µg/l	8	0.1	0	0	<0.007	<0.007	<0.007
Additional Parameters								
Ammonium	mgNH ₄ /l	52	0.5	0	0	<0.04	<0.05	0.17
Benzene	µg/l	8	1	0	0	<0.02	<0.02	<0.02
Benzo (a) Pyrene	µg/l	7	0.01	0	0	<0.001	<0.001	<0.001
Boron	mgB/l	6	1	0	0	<0.100	<0.100	<0.100
Bromate	µgBrO ₃ /l	8	10	0	0	1	1.9	3.3
Chloride	mgCl/l	8	250	0	0	43	51	58
Electrical Conductivity at 20 °C	µS/cm at 20 °C	52	2500	0	0	556	620	704
Nitrate	mgNO ₃ /l	8	50	0	0	26.2	30.9	35.1
Nitrite	mgNO ₂ /l	8	0.5	0	0	<0.008	<0.008	<0.008
Nitrite Nitrate Formula		8	1	0	0	<0.52	<0.70	<0.70
Selenium	µgSe/l	8	10	0	0	<1.0	<1.0	1
Sulphate	mgSO ₄ /l	8	250	0	0	49	56	72
Sum of Tri & Tetrachloroethene	µg/l	8	10	0	0	0.1	0.2	0.3
Tetrachloromethane	µg/l	8	3	0	0	<0.1	<0.1	<0.1
Total Cyanide	µgCN/l	8	50	0	0	<1.0	<1.0	<1.0
Total Organic Carbon	mgC/l	8	No abnormal change	0	0	1.5	2.2	3.2
Total PAHs	µg/l	7	0.1	0	0	0	0	0
Total Trihalomethanes	µg/l	8	100	0	0	19.43	28.73	49.07
1, 2 dichloroethane	µg/l	8	3	0	0	<0.04	<0.04	<0.04

Notes

PCV = Prescribed Concentration or Value or Specification Concentration or Value

Commentary on Water Quality

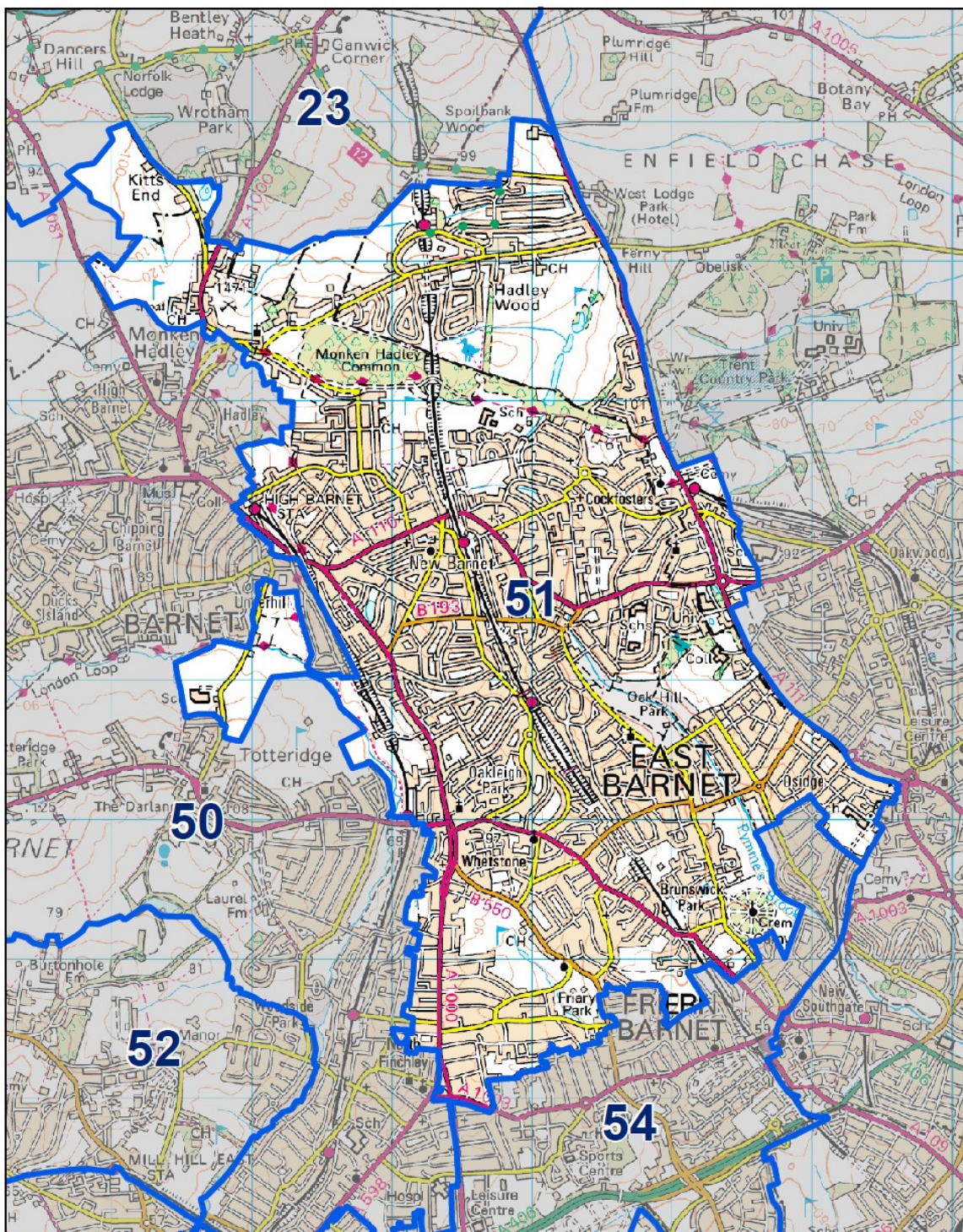
Water quality was satisfactory in this zone during 2019.

Undertakings & Authorised Departures

No Authorised Departures applied to this water supply zone during 2019.

An Undertaking is in place for this zone relating to Metaldehyde & Total Pesticides from North Mymms and Iver Water Treatment Works (WTW). The Company has agreed to: implement a monitoring strategy; engage in catchment management activities, including support for voluntary initiatives to influence Metaldehyde use, in order to reduce concentrations in untreated waters; to engage with & provide data to relevant stakeholders; review possible alternative supply arrangements; optimise removal through current treatment processes; investigate new, sustainable treatment processes; and to continually review & appraise the risk from these hazards as part of the regulatory process. In addition the DWI issued the Company with a Notice under Regulation 28(4) with regard to individual pesticides in the supply from Iver WTW requiring us to install additional GAC contactors to improve pesticide removal. This work was completed in December 2018.

WQZ 51 - East Barnet





0 262.5525 1,050 Meters



January 2010

Legend

-  This Water Quality Zone
-  Other WQZ

Water Supply Zone: East Barnet (AF051)
 Period: 01-Jan-2019 to 31-Dec-2019
 Population: 74530



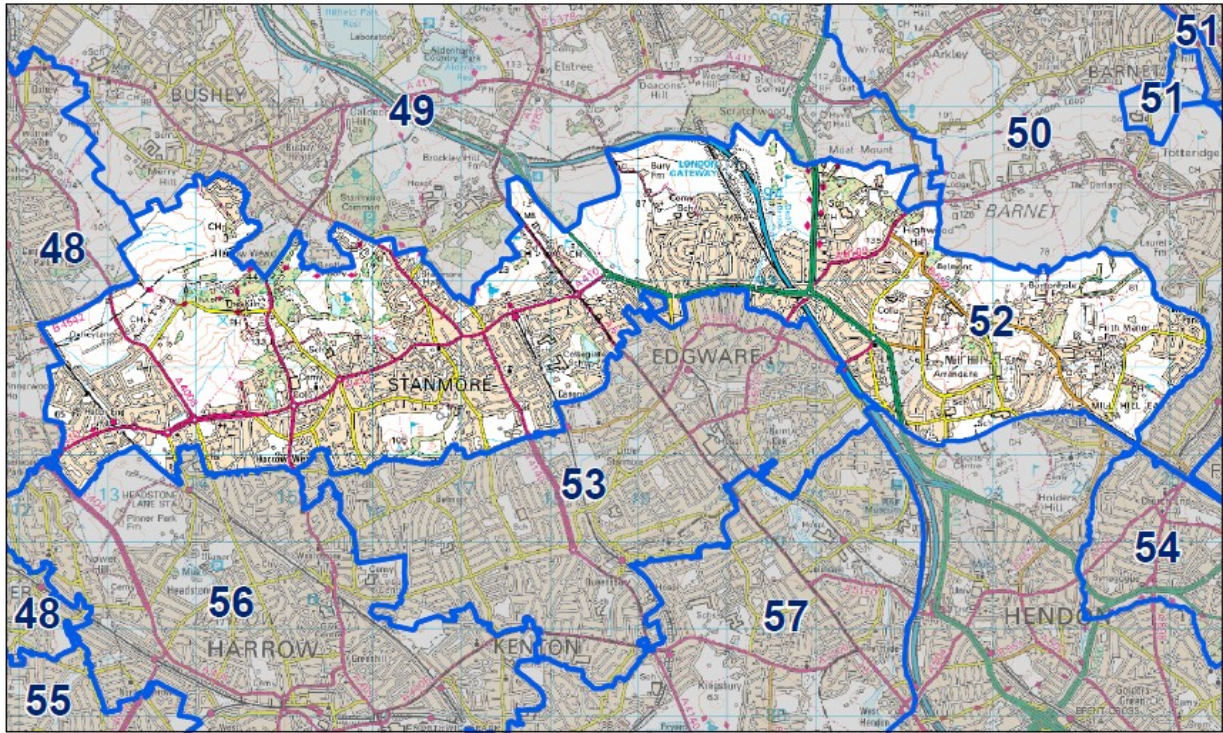
Parameter	Units	No. of Samples	PCV	No. of Samples >PCV	% of Samples >PCV	Min.	Mean	Max.
Microbiological Parameters								
Coliform bacteria	No./100ml	180	0	2	1	0	0	4
E coli	No./100ml	180	0	0	0	0	0	0
Clostridium perfringens	No./100ml	52	0	0	0	0	0	0
Enterococci	No./100ml	8	0	0	0	0	0	0
3 day plate count 22 °C	No./1ml at 22 °C	52	No abnormal change	0	0	0	22	950
Customer Parameters								
Alkalinity	mgHCO ₃ /l	1	No PCV	0	0	275	275	275
Calcium	mgCa/l	1	No PCV	0	0	117	117	117
Chlorine (Residual)	mgCl ₂ /l	180	No PCV	0	0	0.04	0.28	0.65
Colour	mg/l Pt/Co	52	20	0	0	<1.0	<2.5	2.9
Fluoride	mgF/l	8	1.5	0	0	0.107	0.123	0.141
Hardness (Total)	mgCaCO ₃ /l	1	No PCV	0	0	293	293	293
Hydrogen Ion (pH)	pH value	52	6.5-9.5	0	0	7	7.2	7.5
Quantitative Odour	Dilution No.	52	Abnormal & unacceptable to consumers	0	0	0	0	0
Quantitative Taste	Dilution No.	52	consumers	0	0	0	0	0
Temperature	°C	180	No PCV	0	0	7.3	14.2	22
Turbidity	NTU	52	4	0	0	<0.10	0.17	0.41
Chemicals								
Metals								
Arsenic	µgAs/l	8	10	0	0	<1.0	<1.0	<1.0
Aluminium	µgAl/l	52	200	0	0	6.8	18.3	37.7
Antimony	µgSb/l	8	5	0	0	<0.20	<0.20	0.32
Cadmium	µgCd/l	8	5	0	0	<0.20	<0.20	<0.20
Chromium	µgCr/l	8	50	0	0	<0.5	<0.5	<0.5
Copper	mgCu/l	8	2	0	0	<0.010	0.029	0.091
Iron	µgFe/l	52	200	0	0	<15.0	<15.0	20.6
Lead	µgPb/l	8	10	1	13	<1.00	2.41	11.8
Manganese	µgMn/l	52	50	0	0	<1.0	<1.0	1.9
Mercury	µgHg/l	8	1	0	0	<0.10	<0.10	<0.10
Nickel	µgNi/l	8	20	0	0	<2.0	<2.0	2.6
Sodium	mgNa/l	8	200	0	0	23.3	28.7	33.8
Pesticides								
Atrazine	µg/l	8	0.1	0	0	<0.005	<0.005	0.005
Carbetamide	µg/l	8	0.1	0	0	<0.009	<0.009	<0.009
Clopyralid	µg/l	8	0.1	0	0	<0.012	<0.012	<0.012
Glyphosate	µg/l	8	0.1	0	0	<0.002	<0.005	<0.005
Mecoprop	µg/l	8	0.1	0	0	<0.005	<0.005	0.006
Metaldehyde	µg/l	8	0.1	0	0	<0.009	0.019	0.041
Metazachlor	µg/l	8	0.1	0	0	<0.005	<0.005	<0.005
Propyzamide	µg/l	8	0.1	0	0	<0.008	<0.008	<0.008
Simazine	µg/l	8	0.1	0	0	<0.007	<0.007	<0.007
Total Pesticide	µg/l	8	0.5	0	0	0	0.026	0.049
2,4-D	µg/l	8	0.1	0	0	<0.007	<0.007	<0.007
Additional Parameters								
Ammonium	mgNH ₄ /l	52	0.5	0	0	<0.04	<0.04	0.04
Benzene	µg/l	7	1	0	0	<0.02	<0.02	<0.02
Benzo (a) Pyrene	µg/l	8	0.01	0	0	<0.001	<0.001	<0.001
Boron	mgB/l	7	1	0	0	<0.100	<0.100	<0.100
Bromate	µgBrO ₃ /l	8	10	0	0	0.9	1.7	2.6
Chloride	mgCl/l	8	250	0	0	47	51	61
Electrical Conductivity at 20 °C	µS/cm at 20 °C	52	2500	0	0	557	627	705
Nitrate	mgNO ₃ /l	8	50	0	0	26.6	30.6	35.5
Nitrite	mgNO ₂ /l	8	0.5	0	0	<0.008	<0.008	<0.008
Nitrite Nitrate Formula		8	1	0	0	<0.53	<0.71	<0.71
Selenium	µgSe/l	8	10	0	0	<1.0	<1.0	<1.0
Sulphate	mgSO ₄ /l	8	250	0	0	45	59	67
Sum of Tri & Tetrachloroethene	µg/l	7	10	0	0	0	0.2	0.3
Tetrachloromethane	µg/l	7	3	0	0	<0.1	<0.1	<0.1
Total Cyanide	µgCN/l	7	50	0	0	<1.0	<1.0	<1.0
Total Organic Carbon	mgC/l	8	No abnormal change	0	0	1.7	2.1	2.8
Total PAHs	µg/l	8	0.1	0	0	0	0	0
Total Trihalomethanes	µg/l	7	100	0	0	17.26	26.77	41.54
1, 2 dichloroethane	µg/l	7	3	0	0	<0.04	<0.04	<0.04

Notes

PCV = Prescribed Concentration or Value or Specification Concentration or Value

Commentary on Water Quality

In March lead was detected at a concentration above the standard in a sample taken from a customer's property in Monks Avenue, Barnet. The investigation established that the elevated concentration of lead was likely to have been caused by lead pipework leading to and within the customer's property. We replaced the lead pipework on our side of the boundary stop tap and a letter was sent to the customer explaining the situation and how to reduce the lead concentration in their water supply. In June and November, coliform bacteria were detected in samples taken from two customer properties in Derwent Crescent, London and Taylors Lane, Barnet. Our investigations identified that the most likely cause of the failures was the condition of the tap where the sample was taken. The customers were informed of the situation and actions to take to prevent contamination of taps. Coliforms do not pose a risk to public health.



WQZ 52 - Pinner / Stanmore



0 230 460 920 Meters
January 2010

Legend
 This Water Quality Zone
 Other WQZ

Water Supply Zone: Stanmore/Mill Hill (AF052)
 Period: 01-Jan-2019 to 31-Dec-2019
 Population: 72385



Parameter	Units	No. of Samples	PCV	No. of Samples >PCV	% of Samples >PCV	Min.	Mean	Max.
Microbiological Parameters								
Coliform bacteria	No./100ml	180	0	1	<1	0	0	1
E coli	No./100ml	180	0	0	0	0	0	0
Clostridium perfringens	No./100ml	52	0	0	0	0	0	0
Enterococci	No./100ml	8	0	0	0	0	0	0
3 day plate count 22 °C	No./1ml at 22 °C	52	No abnormal change	0	0	0	3	111
Customer Parameters								
Alkalinity	mgHCO ₃ /l	1	No PCV	0	0	339	339	339
Calcium	mgCa/l	1	No PCV	0	0	141	141	141
Chlorine (Residual)	mgCl ₂ /l	180	No PCV	0	0	0.06	0.33	0.72
Colour	mg/l Pt/Co	52	20	0	0	<1.0	<1.0	2.4
Fluoride	mgF/l	8	1.5	0	0	0.105	0.121	0.128
Hardness (Total)	mgCaCO ₃ /l	1	No PCV	0	0	353	353	353
Hydrogen Ion (pH)	pH value	52	6.5-9.5	0	0	6.9	7.1	7.4
Quantitative Odour	Dilution No.	52	Abnormal & unacceptable to consumers	0	0	0	0	0
Quantitative Taste	Dilution No.	52	consumers	0	0	0	0	0
Temperature	°C	179	No PCV	0	0	7.8	13.8	21.6
Turbidity	NTU	52	4	0	0	<0.10	0.1	0.31
Chemicals								
Metals								
Arsenic	µgAs/l	8	10	0	0	<1.0	<1.0	<1.0
Aluminium	µgAl/l	52	200	0	0	<5.0	<5.0	13.7
Antimony	µgSb/l	8	5	0	0	<0.20	<0.20	0.24
Cadmium	µgCd/l	8	5	0	0	<0.20	<0.20	<0.20
Chromium	µgCr/l	8	50	0	0	<0.5	<0.5	<0.5
Copper	mgCu/l	8	2	0	0	<0.010	<0.019	0.028
Iron	µgFe/l	52	200	0	0	<15.0	<15.0	<15.0
Lead	µgPb/l	8	10	0	0	<1.00	1.47	4.65
Manganese	µgMn/l	52	50	0	0	<1.0	<1.0	<1.0
Mercury	µgHg/l	8	1	0	0	<0.10	<0.10	<0.10
Nickel	µgNi/l	8	20	0	0	2.6	3.4	6.6
Sodium	mgNa/l	8	200	0	0	33.6	56.7	193
Pesticides								
Atrazine	µg/l	8	0.1	0	0	0.016	0.019	0.021
Total Pesticide	µg/l	8	0.5	0	0	0.057	0.07	0.088
Additional Parameters								
Ammonium	mgNH ₄ /l	52	0.5	0	0	<0.04	<0.04	<0.04
Benzene	µg/l	7	1	0	0	<0.02	<0.02	<0.02
Benzo (a) Pyrene	µg/l	8	0.01	0	0	<0.001	<0.001	<0.001
Boron	mgB/l	7	1	0	0	<0.100	<0.100	<0.100
Bromate	µgBrO ₃ /l	8	10	0	0	<0.5	<0.5	<0.5
Chloride	mgCl/l	8	250	0	0	62	65	69
Electrical Conductivity at 20 °C	µS/cm at 20 °C	52	2500	0	0	641	726	787
Nitrate	mgNO ₃ /l	8	50	0	0	29.9	32.3	34.5
Nitrite	mgNO ₂ /l	8	0.5	0	0	<0.008	<0.008	<0.008
Nitrite Nitrate Formula		8	1	0	0	<0.60	<0.69	<0.69
Selenium	µgSe/l	8	10	0	0	<1.0	1	1.3
Sulphate	mgSO ₄ /l	8	250	0	0	47	55	59
Sum of Tri & Tetrachloroethene	µg/l	7	10	0	0	1	2	2.4
Tetrachloromethane	µg/l	7	3	0	0	<0.1	<0.1	<0.1
Total Cyanide	µgCN/l	7	50	0	0	<1.0	1.2	1.8
Total Organic Carbon	mgC/l	8	No abnormal change	0	0	1.1	1.3	1.7
Total PAHs	µg/l	8	0.1	0	0	0	0	0
Total Trihalomethanes	µg/l	7	100	0	0	6.81	16.36	25.56
1, 2 dichloroethane	µg/l	7	3	0	0	<0.04	<0.04	<0.04

Notes

PCV = Prescribed Concentration or Value or Specification Concentration or Value

Commentary on Water Quality

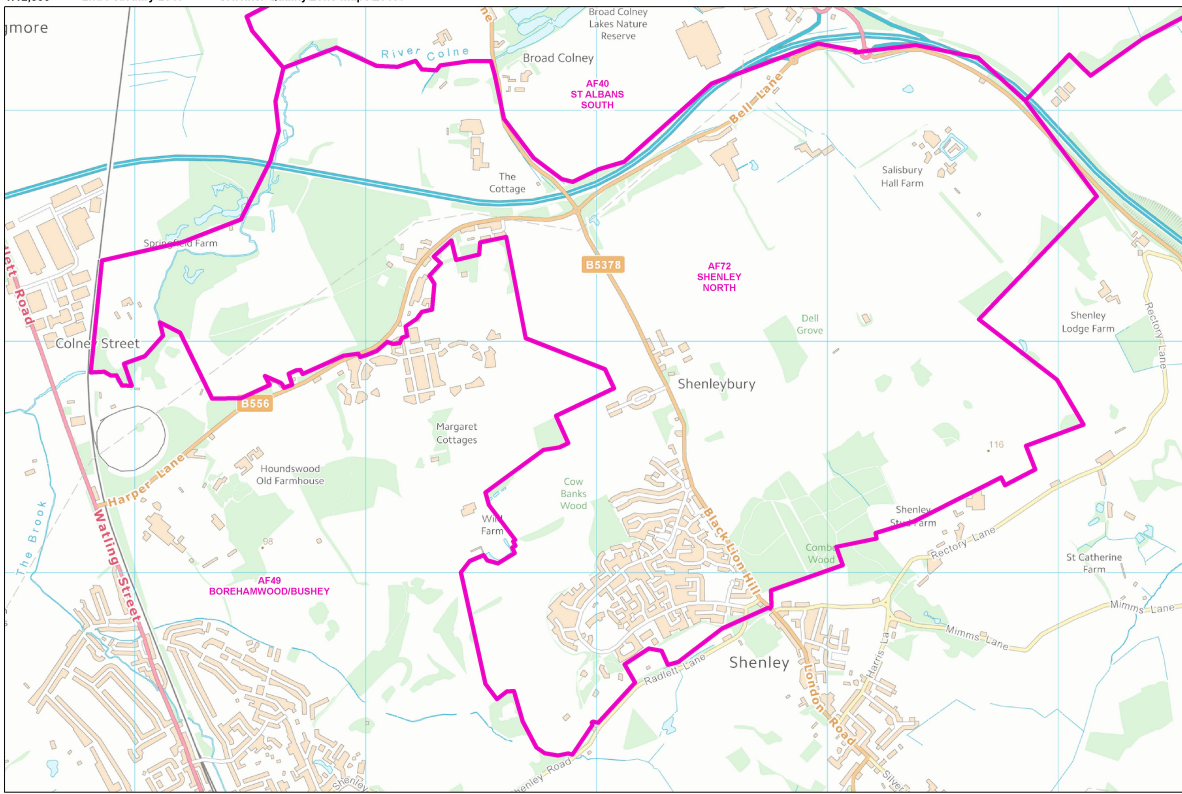
During December, coliform bacteria were detected in a sample taken from a customer's property in Goodhall Close, Stanmore. Our investigation identified that the most likely cause of the failure was the condition of the tap where the sample was taken. The customer was informed of the situation and actions to take to prevent contamination of taps. Coliforms do not pose a risk to public health.

Undertakings & Authorised Departures

No Undertakings or Authorised Departures applied to this water supply zone during Year:2019.

Water Supply Zone AF72 - SHENLEY NORTH

1:12,800 2nd February 2019 S:\Water Quality\zone maps\2019\



Water Supply Zone: Shenley (AF072)
 Period: 01-Jan-2019 to 31-Dec-2019
 Population: 3074



Parameter	Units	No. of Samples	PCV	No. of Samples >PCV	% of Samples >PCV	Min.	Mean	Max.
Microbiological Parameters								
Coliform bacteria	No./100ml	12	0	0	0	0	0	0
E coli	No./100ml	12	0	0	0	0	0	0
Clostridium perfringens	No./100ml	4	0	0	0	0	0	0
Enterococci	No./100ml	4	0	0	0	0	0	0
3 day plate count 22 °C	No./1ml at 22 °C	4	No abnormal change	0	0	0	2	7
Customer Parameters								
Alkalinity	mgHCO ₃ /l	1	No PCV	0	0	284	284	284
Calcium	mgCa/l	1	No PCV	0	0	101	101	101
Chlorine (Residual)	mgCl ₂ /l	12	No PCV	0	0	0.15	0.25	0.37
Colour	mg/l Pt/Co	4	20	0	0	<1.0	<1.0	<1.0
Fluoride	mgF/l	4	1.5	0	0	0.113	0.122	0.128
Hardness (Total)	mgCaCO ₃ /l	1	No PCV	0	0	253	253	253
Hydrogen Ion (pH)	pH value	4	6.5-9.5	0	0	7.1	7.2	7.2
Quantitative Odour	Dilution No.	4	Abnormal & unacceptable to consumers	0	0	0	0	0
Quantitative Taste	Dilution No.	4	consumers	0	0	0	0	0
Temperature	°C	12	No PCV	0	0	10.8	14.1	18.8
Turbidity	NTU	4	4	0	0	<0.10	0.11	0.15
Chemicals								
Metals								
Arsenic	µgAs/l	4	10	0	0	<1.0	<1.0	<1.0
Aluminium	µgAl/l	4	200	0	0	<5.0	<5.0	8.2
Antimony	µgSb/l	4	5	0	0	<0.20	<0.20	<0.20
Cadmium	µgCd/l	4	5	0	0	<0.20	<0.20	<0.20
Chromium	µgCr/l	4	50	0	0	<0.5	<0.5	<0.5
Copper	mgCu/l	4	2	0	0	<0.010	0.049	0.127
Iron	µgFe/l	4	200	0	0	<15.0	<15.0	<15.0
Lead	µgPb/l	4	10	0	0	<1.00	<1.00	<1.00
Manganese	µgMn/l	4	50	0	0	<1.0	<1.0	<1.0
Mercury	µgHg/l	4	1	0	0	<0.10	<0.10	<0.10
Nickel	µgNi/l	4	20	0	0	<2.0	<2.0	3.3
Sodium	mgNa/l	4	200	0	0	11.4	18.8	37.9
Pesticides								
Atrazine	µg/l	4	0.1	0	0	<0.005	0.005	0.021
Total Pesticide	µg/l	4	0.5	0	0	0	0.018	0.073
Additional Parameters								
Ammonium	mgNH ₄ /l	4	0.5	0	0	<0.04	<0.04	<0.04
Benzene	µg/l	4	1	0	0	<0.02	<0.02	<0.02
Benzo (a) Pyrene	µg/l	4	0.01	0	0	<0.001	<0.001	<0.001
Boron	mgB/l	4	1	0	0	<0.100	<0.100	<0.100
Bromate	µgBrO ₃ /l	4	10	0	0	<0.5	<0.5	<0.5
Chloride	mgCl/l	4	250	0	0	23	34	64
Electrical Conductivity at 20 °C	µS/cm at 20 °C	4	2500	0	0	502	568	721
Nitrate	mgNO ₃ /l	4	50	0	0	12.9	18.5	31.2
Nitrite	mgNO ₂ /l	4	0.5	0	0	<0.008	<0.008	<0.008
Nitrite Nitrate Formula		4	1	0	0	<0.26	<0.62	<0.62
Selenium	µgSe/l	4	10	0	0	1.2	2	2.5
Sulphate	mgSO ₄ /l	4	250	0	0	33	40	50
Sum of Tri & Tetrachloroethene	µg/l	4	10	0	0	0	0.5	1.7
Tetrachloromethane	µg/l	4	3	0	0	<0.1	<0.1	<0.1
Total Cyanide	µgCN/l	3	50	0	0	<1.0	<1.0	1.6
Total Organic Carbon	mgC/l	4	No abnormal change	0	0	0.6	0.8	1.1
Total PAHs	µg/l	4	0.1	0	0	0	0	0
Total Trihalomethanes	µg/l	4	100	0	0	2.81	5.85	12.09
1, 2 dichloroethane	µg/l	4	3	0	0	<0.04	<0.04	<0.04

Notes

PCV = Prescribed Concentration or Value or Specification Concentration or Value

Commentary on Water Quality

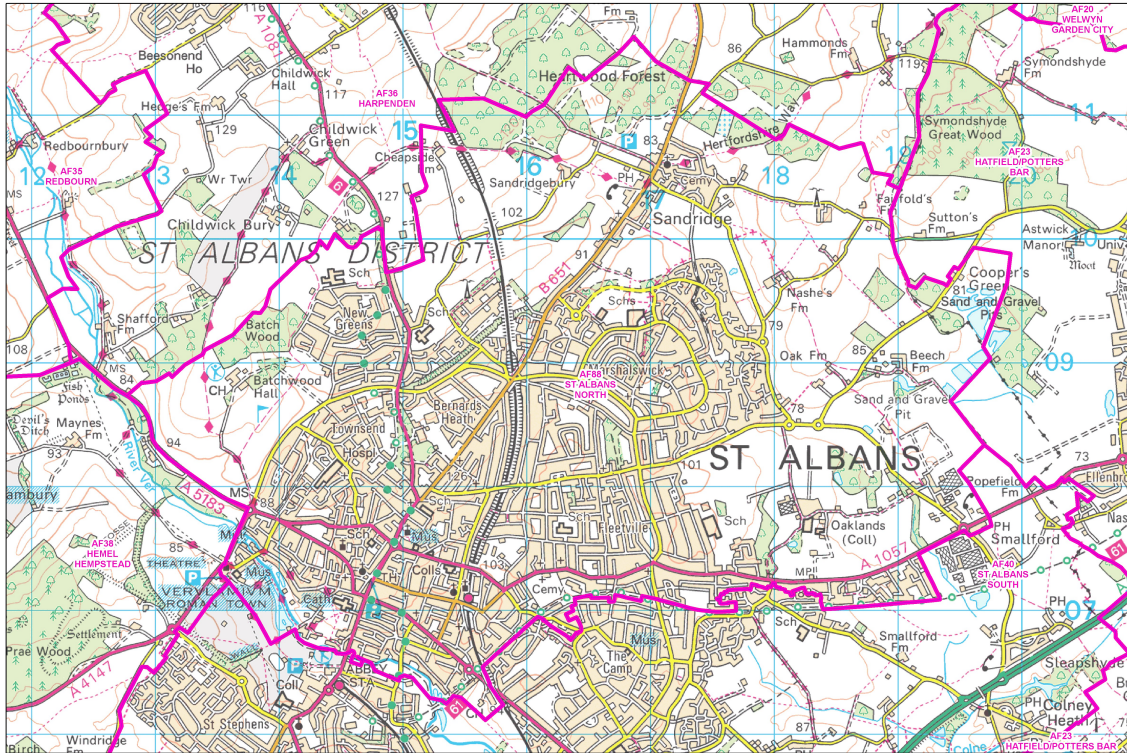
Water quality was satisfactory in this zone in 2019.

Undertakings & Authorised Departures

No Undertakings or Authorised Departures applied to this water supply zone during Year:2019.

Water Supply Zone **AF88 - ST ALBANS NORTH**

1:22,800 2nd February 2019 S:\Water Quality\zone maps\2019\



Water Supply Zone: St Albans North (AF088)
 Period: 01-Jan-2019 to 31-Dec-2019
 Population: 53642



Parameter	Units	No. of Samples	PCV	No. of Samples >PCV	% of Samples >PCV	Min.	Mean	Max.
Microbiological Parameters								
Coliform bacteria	No./100ml	132	0	1	<1	0	0	12
E coli	No./100ml	132	0	0	0	0	0	0
Clostridium perfringens	No./100ml	8	0	0	0	0	0	0
Enterococci	No./100ml	8	0	0	0	0	0	0
3 day plate count 22 °C	No./1ml at 22 °C	52	No abnormal change	0	0	0	5	192
Customer Parameters								
Alkalinity	mgHCO ₃ /l	1	No PCV	0	0	342	342	342
Calcium	mgCa/l	1	No PCV	0	0	127	127	127
Chlorine (Residual)	mgCl ₂ /l	132	No PCV	0	0	0.04	0.3	0.9
Colour	mg/l Pt/Co	52	20	0	0	<1.0	<1.0	1.2
Fluoride	mgF/l	8	1.5	0	0	0.07	0.083	0.093
Hardness (Total)	mgCaCO ₃ /l	1	No PCV	0	0	318	318	318
Hydrogen Ion (pH)	pH value	52	6.5-9.5	0	0	6.9	7	7.2
Quantitative Odour	Dilution No.	51	Abnormal & unacceptable to consumers	0	0	0	0	0
Quantitative Taste	Dilution No.	51	consumers	0	0	0	0	0
Temperature	°C	132	No PCV	0	0	7.5	13.9	23.3
Turbidity	NTU	52	4	0	0	<0.10	0.1	0.46
Chemicals								
Metals								
Arsenic	µgAs/l	8	10	0	0	<1.0	<1.0	<1.0
Aluminium	µgAl/l	8	200	0	0	<5.0	<5.0	8.4
Antimony	µgSb/l	8	5	0	0	<0.20	<0.20	<0.20
Cadmium	µgCd/l	8	5	0	0	<0.20	<0.20	<0.20
Chromium	µgCr/l	8	50	0	0	<0.5	0.7	1.7
Copper	mgCu/l	8	2	0	0	0.011	0.098	0.43
Iron	µgFe/l	8	200	0	0	<15.0	<15.0	<15.0
Lead	µgPb/l	8	10	0	0	<1.00	<1.00	1.31
Manganese	µgMn/l	8	50	0	0	<1.0	<1.0	<1.0
Mercury	µgHg/l	8	1	0	0	<0.10	<0.10	<0.10
Nickel	µgNi/l	8	20	0	0	<2.0	<2.0	<2.0
Sodium	mgNa/l	8	200	0	0	12.6	16.9	20.8
Pesticides								
Atrazine	µg/l	8	0.1	0	0	0.02	0.023	0.026
Total Pesticide	µg/l	8	0.5	0	0	0.048	0.053	0.061
Additional Parameters								
Ammonium	mgNH ₄ /l	52	0.5	0	0	<0.04	<0.04	<0.04
Benzene	µg/l	8	1	0	0	<0.02	<0.02	<0.02
Benzo (a) Pyrene	µg/l	8	0.01	0	0	<0.001	<0.001	<0.001
Boron	mgB/l	7	1	0	0	<0.100	<0.100	<0.100
Bromate	µgBrO ₃ /l	8	10	0	0	<0.5	0.5	0.9
Chloride	mgCl/l	8	250	0	0	30	35	42
Electrical Conductivity at 20 °C	µS/cm at 20 °C	52	2500	0	0	535	603	651
Nitrate	mgNO ₃ /l	8	50	0	0	26.4	28.2	31.5
Nitrite	mgNO ₂ /l	8	0.5	0	0	<0.008	<0.008	<0.008
Nitrite Nitrate Formula		8	1	0	0	<0.53	<0.63	<0.63
Selenium	µgSe/l	8	10	0	0	<1.0	<1.0	<1.0
Sulphate	mgSO ₄ /l	8	250	0	0	17	22	28
Sum of Tri & Tetrachloroethene	µg/l	8	10	0	0	0	0.3	0.7
Tetrachloromethane	µg/l	8	3	0	0	<0.1	<0.1	<0.1
Total Cyanide	µgCN/l	7	50	0	0	<1.0	<1.0	<1.0
Total Organic Carbon	mgC/l	8	No abnormal change	0	0	0.5	0.7	0.9
Total PAHs	µg/l	8	0.1	0	0	0	0	0
Total Trihalomethanes	µg/l	8	100	0	0	2.37	6.4	11.16
1, 2 dichloroethane	µg/l	8	3	0	0	<0.04	<0.04	<0.04

Notes

PCV = Prescribed Concentration or Value or Specification Concentration or Value

Commentary on Water Quality

In August, coliform bacteria were detected in a sample taken from a customer's property in Harness Way, St. Albans. Our investigation identified that the most likely cause of the failure was the condition of the customer's filtered tap unit where the sample was taken. The customer was informed of the situation and actions to take to prevent contamination of taps. Coliforms do not pose a risk to public health.

Undertakings & Authorised Departures

No Undertakings or Authorised Departures applied to this water supply zone during Year:2019.