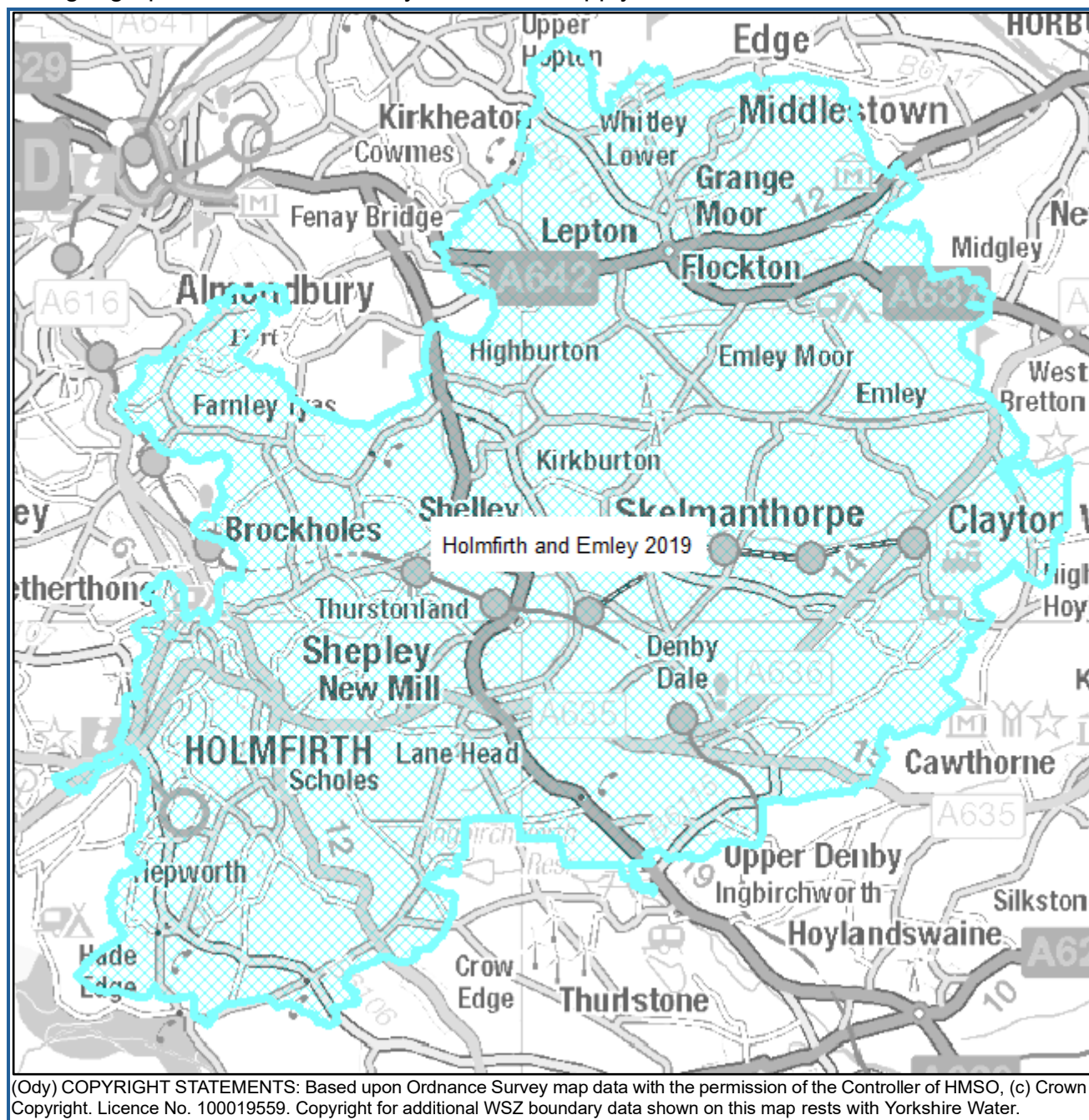


**COMMENTARY ON WATER QUALITY**

The water supplied to the zone is classified as being soft to moderately soft water, which is river/reservoir derived. As we have a grid system in place whereby we can move water around the Yorkshire region as required, occasionally the hardness of your water may vary.

No fluoride is added to the water. Any fluoride that is there is naturally occurring.

The geographical area covered by this Water Supply Zone is show below:



| ParameterName:                      | Std       | Und Std | Units            | No of Samples | No of Fails | % Fails | Population  |         | Min       | Mean     | Max     |
|-------------------------------------|-----------|---------|------------------|---------------|-------------|---------|-------------|---------|-----------|----------|---------|
|                                     |           |         |                  |               |             |         | No of Fails | % Fails |           |          |         |
|                                     |           |         |                  | taken         |             |         | (Und)       | (Und)   |           |          |         |
| Colony Counts After 3 Days At 22øc  | -         |         | no'/ml           | 52            | 0           | 0.00%   | 0           | 0.00%   | 0         | 0.1      | 5       |
| E. coli                             | 0         |         | no'/100 ml       | 132           | 0           | 0.00%   | 0           | 0.00%   | 0         | 0        | 0       |
| Enterococci                         | 0         |         | no'/100 ml       | 8             | 0           | 0.00%   | 0           | 0.00%   | 0         | 0        | 0       |
| Residual Disinfectant - Free        | -         |         | mg/l             | 132           | 0           | 0.00%   | 0           | 0.00%   | 0.04      | 0.37     | 0.76    |
| Residual Disinfectant - Total       | -         |         | mg/l             | 132           | 0           | 0.00%   | 0           | 0.00%   | 0.07      | 0.48     | 0.93    |
| Total coliforms(Indicator)          | 0         |         | no'/100 ml       | 132           | 0           | 0.00%   | 0           | 0.00%   | 0         | 0        | 0       |
| 1,2 Dichloroethane                  | 3         |         | µg/l             | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.16 <    | 0.2 <    | 0.16    |
| Aluminium                           | 200       |         | µg Al/l          | 52            | 0           | 0.00%   | 0           | 0.00% < | 5 <       | 10.368   | 14.5    |
| Ammonium(ammonia and ammonium ions) | 0.5       |         | mg NH4/l         | 52            | 0           | 0.00%   | 0           | 0.00% < | 0.008 <   | 0.0098   | 0.035   |
| Antimony                            | 5         |         | µg Sb/l          | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.07 <    | 0.07     | 0.07    |
| Arsenic                             | 10        |         | µg As/l          | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.11 <    | 0.165    | 0.21    |
| Benzene                             | 1         |         | µg/l             | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.06 <    | 0.06 <   | 0.06    |
| Benzo 3,4 pyrene                    | 0.01      |         | ug/l             | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.00042 < | 0.0004 < | 0.00042 |
| Boron                               | 1         |         | mg B/l           | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.032 <   | 0.032 <  | 0.032   |
| Bromate                             | 10        |         | µg BrO3/l        | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.2 <     | 0.3875   | 0.7     |
| Cadmium                             | 5         |         | µg Cd/l          | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.01 <    | 0.0275 < | 0.03    |
| Chloride                            | 250       |         | mg Cl/l          | 8             | 0           | 0.00%   | 0           | 0.00%   | 9.4       | 11.3625  | 13.8    |
| Chromium                            | 50        |         | µg Cr/l          | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.05 <    | 0.1637   | 0.18    |
| Colour                              | 20        |         | mg/l Pt/Co scale | 52            | 0           | 0.00%   | 0           | 0.00% < | 3 <       | 3 <      | 3       |
| Conductivity                        | 2500      |         | µS/cm            | 52            | 0           | 0.00%   | 0           | 0.00%   | 117       | 184.15   | 220     |
| Copper                              | 2         |         | mg Cu/l          | 8             | 0           | 0.00%   | 0           | 0.00%   | 0.0008    | 0.0144   | 0.0558  |
| Cyanide                             | 50        |         | µg CN/l          | 8             | 0           | 0.00%   | 0           | 0.00% < | 1.2 <     | 1.2 <    | 1.2     |
| Fluoride                            | 1.5       |         | mg F/l           | 8             | 0           | 0.00%   | 0           | 0.00%   | 0.06      | 0.074    | 0.08    |
| Hydrogen Ion (pH)                   | 6.5 - 9.5 |         | pH value         | 52            | 0           | 0.00%   | 0           | 0.00%   | 7.2       | 7.56     | 8.64    |
| Iron                                | 200       |         | µg Fe/l          | 52            | 0           | 0.00%   | 0           | 0.00% < | 3.72 <    | 10.14    | 75.7    |
| Lead                                | 10        |         | µg/l             | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.04 <    | 0.875    | 5.24    |
| Manganese                           | 50        |         | µg Mn/l          | 52            | 0           | 0.00%   | 0           | 0.00% < | 0.3 <     | 0.63     | 3.45    |
| Mercury                             | 1         |         | µg Hg/l          | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.04 <    | 0.047 <  | 0.06    |
| Nickel                              | 20        |         | µg Ni/l          | 8             | 0           | 0.00%   | 0           | 0.00%   | 0.91      | 1.184    | 1.51    |
| Nitrate                             | 50        |         | mg NO3/l         | 8             | 0           | 0.00%   | 0           | 0.00% < | 2.13 <    | 4.965    | 8.95    |
| Nitrite - Consumer's Taps           | 0.5       |         | mg/l NO2         | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.002 <   | 0.0026 < | 0.003   |

| Holmfirth and Emley 2019                |      |         |                 |               |             |         | Population  |         | 51900   |          |       |
|-----------------------------------------|------|---------|-----------------|---------------|-------------|---------|-------------|---------|---------|----------|-------|
| ParameterName:                          | Std  | Und Std | Units           | No of Samples | No of Fails | % Fails | No of Fails | % Fails | Min     | Mean     | Max   |
|                                         |      |         |                 | taken         |             |         | (Und)       | (Und)   |         |          |       |
| Nitrite/ Nitrate formula                | 1    |         | mg/l            | 8             | 0           | 0.00%   | 0           | 0.00%   | 0       | 0.095    | 0.18  |
| Odour                                   | 0    |         | dilution number | 52            | 0           | 0.00%   | 0           | 0.00%   | 0       | 0        | 0     |
| Polycyclic Aromatic Hydrocarbons (PAHs) | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00%   | 0       | 0        | 0     |
| Selenium                                | 10   |         | µg Se/l         | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.08 <  | 0.29 <   | 0.32  |
| Sodium                                  | 200  |         | mg Na/l         | 8             | 0           | 0.00%   | 0           | 0.00%   | 8.32    | 9.17     | 10.2  |
| Sulphate                                | 250  |         | mg SO4/l        | 8             | 0           | 0.00%   | 0           | 0.00%   | 29.8    | 46.125   | 53.8  |
| Taste                                   | 0    |         | dilution number | 52            | 0           | 0.00%   | 0           | 0.00%   | 0       | 0        | 0     |
| Tetrachloroethene/Trichlorethene - Sum  | 10   |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00%   | 0       | 0        | 0     |
| Tetrachloromethane                      | 3    |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.16 <  | 0.16 <   | 0.16  |
| Total organic carbon                    | -    |         | mg C/l          | 8             | 0           | 0.00%   | 0           | 0.00%   | 0.97    | 1.15     | 1.39  |
| Total Trihalomethanes (THM's)           | 100  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00%   | 18.76   | 23.565   | 31.06 |
| Turbidity                               | 4    |         | NTU             | 52            | 0           | 0.00%   | 0           | 0.00% < | 0.07 <  | 0.163    | 0.48  |
|                                         |      |         |                 |               |             |         |             |         |         |          |       |
| Calcium                                 | -    |         | mg Ca/l         | 8             | 0           | 0.00%   | 0           | 0.00%   | 15      | 24.65    | 30    |
| Magnesium                               | -    |         | mg Mg/l         | 8             | 0           | 0.00%   | 0           | 0.00%   | 1.59    | 2.5013   | 3.09  |
| Total Hardness                          | -    |         | mg Ca/l         | 8             | 0           | 0.00%   | 0           | 0.00%   | 17.6    | 28.7875  | 35.1  |
|                                         |      |         |                 |               |             |         |             |         |         |          |       |
| 2,4,5-T                                 | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.013 < | 0.0135 < | 0.015 |
| 2,4-D                                   | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.01 <  | 0.0105   | 0.012 |
| 2,4-DB                                  | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.01 <  | 0.0115 < | 0.012 |
| Aldrin                                  | 0.03 |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.008 < | 0.008 <  | 0.008 |
| Atrazine                                | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.006 < | 0.006 <  | 0.006 |
| Azoxystrobin                            | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.006 < | 0.006 <  | 0.006 |
| Bentazone                               | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.004 < | 0.0042 < | 0.005 |
| Bixafen                                 | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.012 < | 0.012 <  | 0.012 |
| Boscalid                                | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.008 < | 0.008 <  | 0.008 |
| Bromacil                                | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.011 < | 0.011 <  | 0.011 |
| Bromoxynil                              | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.007 < | 0.0078 < | 0.01  |
| Carbetamide                             | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.009 < | 0.009 <  | 0.009 |
| Chlormequat                             | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.002 < | 0.0103   | 0.032 |
| Chlorpropham                            | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.005 < | 0.008 <  | 0.009 |
| Chlorpyrifos                            | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.008 < | 0.008 <  | 0.008 |
| Chlortoluron                            | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.005 < | 0.005 <  | 0.005 |
| Clomazone                               | 0.1  |         | µg/l            | 8             | 0           | 0.00%   | 0           | 0.00% < | 0.007 < | 0.007 <  | 0.007 |

| ParameterName:      | Std  | Und Std | Units | No of Samples<br>taken | No of Fails | % Fails | Population           |                  | Min     | Mean     | Max   |
|---------------------|------|---------|-------|------------------------|-------------|---------|----------------------|------------------|---------|----------|-------|
|                     |      |         |       |                        |             |         | No of Fails<br>(Und) | % Fails<br>(Und) |         |          |       |
| Clopyralid          | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.011 < | 0.0117 < | 0.012 |
| Cyanazine           | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.007 < | 0.007 <  | 0.007 |
| Cypermethrin        | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.008 < | 0.008 <  | 0.008 |
| Cyproconazole       | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.006 < | 0.006 <  | 0.006 |
| Diazinon            | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.007 < | 0.007 <  | 0.007 |
| Dicamba             | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.011 < | 0.0112 < | 0.012 |
| Dichlobenil         | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.004 < | 0.004 <  | 0.004 |
| Dichlorprop         | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.006 < | 0.007 <  | 0.01  |
| Dieldrin            | 0.03 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.009 < | 0.009 <  | 0.009 |
| Difenconazole       | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.009 < | 0.009 <  | 0.009 |
| Diffenican          | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.009 < | 0.009 <  | 0.009 |
| Diuron              | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.009 < | 0.009 <  | 0.009 |
| Epoxiconazole       | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.006 < | 0.006 <  | 0.006 |
| EPTC                | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.022 < | 0.022 <  | 0.022 |
| Flufenacet          | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.008 < | 0.008 <  | 0.008 |
| Fluroxypyr          | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.008 < | 0.0102 < | 0.011 |
| Flurtamone          | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.007 < | 0.007 <  | 0.007 |
| Flusilazole         | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.009 < | 0.009 <  | 0.009 |
| Flutriafol          | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.005 < | 0.005 <  | 0.005 |
| Fluxapyroxad        | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.01 <  | 0.01 <   | 0.01  |
| Gamma-HCH (Lindane) | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.005 < | 0.005 <  | 0.005 |
| Heptachlor          | 0.03 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.005 < | 0.005 <  | 0.005 |
| Heptachlor epoxide  | 0.03 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.007 < | 0.007 <  | 0.007 |
| Imazapyr            | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.004 < | 0.0055 < | 0.006 |
| Ioxynil             | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.004 < | 0.0042 < | 0.005 |
| Isoproturon         | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.005 < | 0.005 <  | 0.005 |
| Linuron             | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.009 < | 0.009 <  | 0.009 |
| MCPA                | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.006 < | 0.0075 < | 0.008 |
| Mecoprop-P          | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.009 < | 0.0098 < | 0.01  |
| Mepiquat chloride   | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.003 < | 0.0081   | 0.014 |
| Metaldhyde          | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.006 < | 0.006 <  | 0.006 |
| Metamitron          | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.008 < | 0.008 <  | 0.008 |
| Metazachlor         | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.005 < | 0.005 <  | 0.005 |
| Metobromuron        | 0.1  |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.01 <  | 0.01 <   | 0.01  |

Water Supply Zone: Holmfirth and Emley 2019

| ParameterName:                | Std | Und Std | Units | No of Samples<br>taken | No of Fails | % Fails | Population           |                  | 51900   |          |       |
|-------------------------------|-----|---------|-------|------------------------|-------------|---------|----------------------|------------------|---------|----------|-------|
|                               |     |         |       |                        |             |         | No of Fails<br>(Und) | % Fails<br>(Und) | Min     | Mean     | Max   |
| Monuron                       | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.005 < | 0.005 <  | 0.005 |
| op'-DDD (TDE)                 | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.005 < | 0.005 <  | 0.005 |
| op'-DDE                       | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.005 < | 0.005 <  | 0.005 |
| op'-DDT                       | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.004 < | 0.004 <  | 0.004 |
| Oxadixyl                      | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.012 < | 0.012 <  | 0.012 |
| Pendimethalin                 | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.009 < | 0.009 <  | 0.009 |
| Pesticides - Total Substances | 0.5 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00%            | 0       | 0.0072   | 0.046 |
| pp'-DDD (TDE)                 | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.005 < | 0.005 <  | 0.005 |
| pp'-DDE                       | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.005 < | 0.005 <  | 0.005 |
| pp'-DDT                       | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.004 < | 0.004 <  | 0.004 |
| Propachlor                    | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.007 < | 0.007 <  | 0.007 |
| Propamocarb                   | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.004 < | 0.0045 < | 0.006 |
| Propham                       | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.005 < | 0.005 <  | 0.005 |
| Propiconazole                 | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.009 < | 0.009 <  | 0.009 |
| Propyzamide                   | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.009 < | 0.009 <  | 0.009 |
| Prosulfocarb                  | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.006 < | 0.006 <  | 0.006 |
| Prothioconazole-desthio       | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.007 < | 0.007 <  | 0.007 |
| Quinmerac                     | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.006 < | 0.006 <  | 0.006 |
| Simazine                      | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.005 < | 0.005 <  | 0.005 |
| Tebuconazole                  | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.006 < | 0.006 <  | 0.006 |
| Tri-allate                    | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.006 < | 0.006 <  | 0.006 |
| Trichlopyr                    | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.016 < | 0.0183 < | 0.019 |
| Trietazine                    | 0.1 |         | µg/l  | 8                      | 0           | 0.00%   | 0                    | 0.00% <          | 0.005 < | 0.005 <  | 0.005 |

**Notes:**

- 1) Qualified values are taken at face value in all calculations.
- 2) Any infringements of the regulatory standard are thoroughly investigated and are reported to the Drinking Water Inspectorate (DWI), with remedial actions put in place where necessary.
- 3) Details of undertakings and notices (Improvement programmes) applicable can be obtained from the DWI website: [Yorkshire Water Improvement Programmes - Drinking Water Inspectorate](#)