

4 Treatment Works and Service Reservoir Performance

Jersey Water operates two treatment works located at Handois, St Lawrence and Augrés, Trinity. Both treatment works have identical treatment processes, which use a chemically-assisted primary treatment system, using aluminium sulphate, followed by dual media rapid gravity filtration using sand and anthracite.

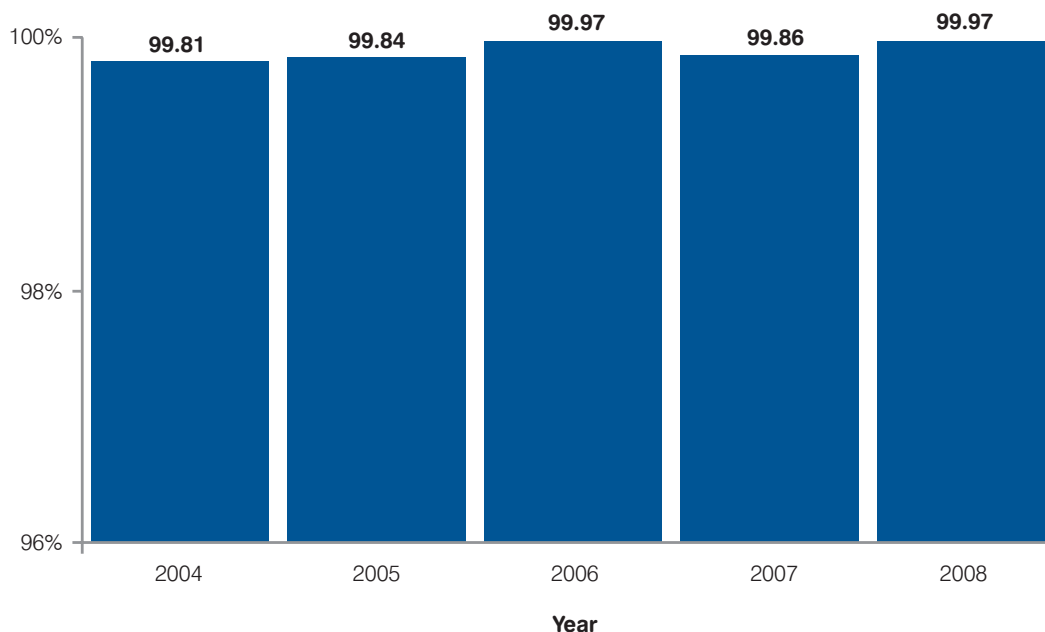
Disinfection is the key to a safe water supply. The use of chlorine in the water industry has been mandatory in England and Wales since the 1945 Water Act and has resulted in the eradication of diseases which were caused by waterborne pathogens. Disinfection of the water in Jersey is carried out by the use of chlorine and ammonia, which provides a compound called chloramine. This process ensures a residual concentration of chlorine exists in the water throughout the relatively long and radial type distribution system to ensure bacteriological standards are maintained.

Five non-compliant analyses were found in samples taken from the supply points and the supply zone during 2008, out of 18,476 analyses taken for compliance purposes. This gives a percentage compliance of 99.97%, slightly up on last years figure of 99.86%.



Les Platons Service Reservoir

**Overall compliance with the water quality
Maximum Admissible Concentrations**



4 Treatment Works and Service Reservoir Performance (continued)

The water quality regulations stipulate that two kinds of monitoring are required - check and audit monitoring. The check monitoring is done on a more frequent basis to ensure that the treatment works and the water in distribution is suitable for supply whereas the audit monitoring is used to investigate the quality of the water more thoroughly.

The results of the check monitoring of treated water leaving the treatment works, their respective Maximum Allowable concentrations and compliance levels are shown in the following tables (the results of the audit monitoring programme can be found in the appendix section).

Check Monitoring: Handois WTW

Substances and parameters	Specific concentration or value (maximum) or state	Min	Mean	Max	No. of samples	% compliance
E.coli	0 per 100ml	0	0	0	312	100
Coliform bacteria	0 per 100ml	0	0	0	312	100
Colony counts	No abnormal change	No abnormal change			312	100
Nitrite	0.1 mg NO ₂ /l	<0.003	0.005	0.014	104	100
Residual disinfectant	No value mg Cl ₂ /l	0.22	0.56	0.72	312	
Turbidity	4 NTU	0.14	0.24	0.52	252	100
Clostridium perfringens	0 per 100ml	0	0	1	52	98
Conductivity	2500 µS/cm at 20°C	385	440	495	52	100

Check Monitoring: Augrès WTW

Substances and parameters	Specific concentration or value (maximum) or state	Min	Mean	Max	No. of samples	% compliance
E.coli	0 per 100ml	0	0	0	313	100
Coliform bacteria	0 per 100ml	0	0	1	313	99.7
Colony counts	No abnormal change	No abnormal change			313	100
Nitrite	0.1 mg NO ₂ /l	<0.003	0.003	0.009	104	100
Residual disinfectant	No value mg Cl ₂ /l	0.09	0.43	0.54	313	
Turbidity	4 NTU	0.09	0.21	0.58	251	100
Clostridium perfringens	0 per 100ml	0	0	0	52	100
Conductivity	2500 µS/cm at 20°C	379	446	515	52	100

4 Treatment Works and Service Reservoir Performance (continued)

Treated water reservoirs are located at Les Platons, Trinity and Westmount Road, above St Helier. These reservoirs are provided to ensure adequate treated water is in-hand to supply our customers at periods of peak daily demand, which are normally 0700 to 0900 and 1700 to 1900 hours.

Check Monitoring: Les Platons Service Reservoir, East Compartment

Substances and parameters	Specific concentration or value (maximum) or state	Min	Mean	Max	No. of samples	% compliance
E.coli	0 per 100ml	0	0	0	313	100
Coliform bacteria	0 per 100ml (95% of samples)	0	0	1	313	99.7
Colony counts	No abnormal change	No abnormal change			313	100
Clostridium perfringens	0 per 100ml	0	0	0	52	100
Conductivity	2500 μ S/cm at 20°C	385	446	514	52	100

Check Monitoring: Les Platons Service Reservoir, West Compartment

Substances and parameters	Specific concentration or value (maximum) or state	Min	Mean	Max	No. of samples	% compliance
E.coli	0 per 100ml	0	0	0	313	100
Coliform bacteria	0 per 100ml (95% of samples)	0	0	0	313	100
Colony counts	No abnormal change	No abnormal change			313	100
Clostridium perfringens	0 per 100ml	0	0	0	52	100
Conductivity	2500 μ S/cm at 20°C	385	449	571	52	100

Check Monitoring: Westmount Service Reservoir

Substances and parameters	Specific concentration or value (maximum) or state	Min	Mean	Max	No. of samples	% compliance
E.coli	0 per 100ml	0	0	0	301	100
Coliform bacteria	0 per 100ml (95% of samples)	0	0	0	301	100
Colony counts	No abnormal change	No abnormal change			301	100
Clostridium perfringens	0 per 100ml	0	0	0	51	100
Conductivity	2500 μ S/cm at 20°C	360	446	545	52	100