

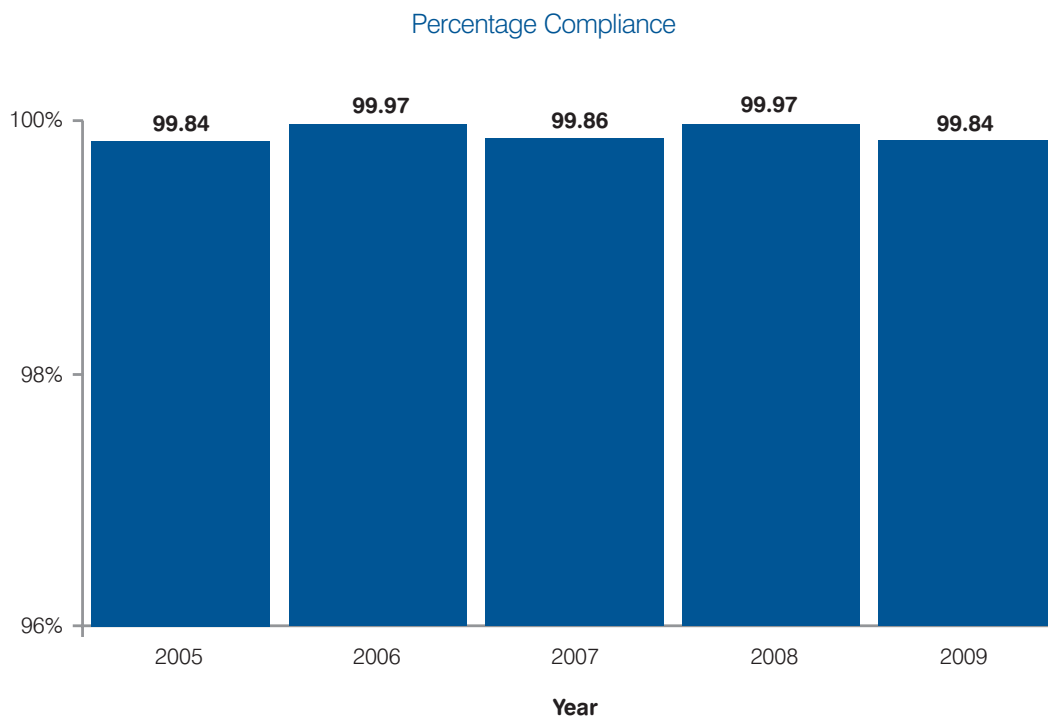
4 Treatment Works and Service Reservoir Performance

Treatment of the raw water is undertaken at two treatment works, located at Handois, St Lawrence and Augrès, Trinity. Both these works have identical treatment processes, which include chemically assisted clarification, followed by filtration using a combination of sand and anthracite.

Disinfection of the treated water ensures that any remaining bacteria present in the water are killed before it passes into the distribution network and to customers premises. A combination of chlorine and ammonia is used to effect the disinfection process and a relatively long retention time in holding tanks is allowed to optimise the process, which is also time dependant. The amount of chlorine and ammonia added to the treated water is very small and is continuously monitored to ensure levels are within acceptable aesthetic levels. The disinfection process also ensures that the highest bacteriological standards are maintained up to the customers tap.



There were 30 non-compliant analyses detected in 2009, out of the 18,477 analyses taken for compliance purposes, giving a percentage compliance of 99.84%. The following table shows the percentage compliance in treated water for 2009 and the previous four years.



4 Treatment Works and Service Reservoir Performance - continued

The water quality regulations require two types of monitoring to be undertaken, these are designated as “check” and “audit” monitoring. Check monitoring is carried out on a frequent basis to ensure the treatment processes are operating as expected and the water in the distribution system is of an acceptable standard, whereas the audit monitoring is used to investigate the quality of water more thoroughly.

The 2009 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 from the audit monitoring programme can be found in the appendix.

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	313	100
Coliform bacteria	0 per 100ml	0	0	0	313	100
Colony counts	No abnormal change	No abnormal change			313	100
Nitrite	0.1 mg NO ₂ /l	<0.003	0.004	0.007	104	100
Residual disinfectant	No value mg Cl ₂ /l	0.40	0.56	0.72	313	
Turbidity	4 NTU	0.16	0.27	0.50	251	100
Clostridium perfringens	0 per 100ml	0	0	0	52	100
Conductivity	2500 µS/cm at 20°C	414	561	670	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	0	313	100
Colony counts	No abnormal change	No abnormal change			313	100
Nitrite	0.1 mg NO ₂ /l	<0.003	0.003	0.006	104	100
Residual disinfectant	No value mg Cl ₂ /l	0.36	0.43	0.54	313	
Turbidity	4 NTU	0.14	0.24	0.53	251	100
Clostridium perfringens	0 per 100ml	0	0	0	52	100
Conductivity	2500 µS/cm at 20°C	376	558	667	52	100

4 Treatment Works and Service Reservoir Performance - continued

In order to ensure adequate treated water is available to meet peak demand periods and exceptional summer time demand, treated water storage reservoirs are provided within the distribution system. The total storage capacity of the reservoirs is 18 ML, which is just below the average daily demand of 20 ML. Jersey Water has two service reservoirs, strategically located on high ground at Westmount Road, St Helier and Les Platons, Trinity.

The 2009 results of the check monitoring of treated water leaving the water storage reservoirs, their respective Maximum Allowable Concentrations and compliance levels are shown in the following tables. The results from the audit monitoring programme can be found in the appendix.

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	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	414	561	667	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	413	558	666	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	313	100
Coliform bacteria	0 per 100ml (95% of samples)	0	0	3	313	99
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	390	558	662	52	100