

## 4 Treatment Works and Service Reservoir Performance

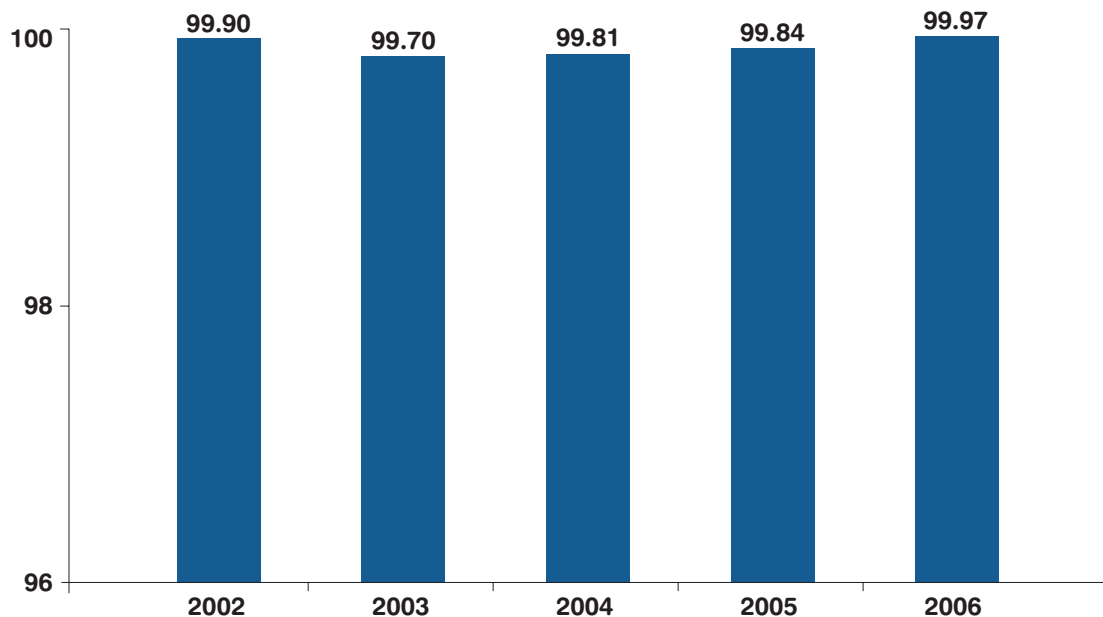
Treatment of the raw water is undertaken at two treatment works, located at Handois, St Lawrence and Augrès, Trinity. Both these works have identical treatment processes, which include chemically assisted clarification, followed by filtration using a combination of sand and anthracite.

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 concentrations are within acceptable aesthetic levels. The disinfection process also ensures that the highest bacteriological standards are maintained up to the customers tap.



There were 6 non-compliant analyses detected in 2006, out of the 18,382 analyses taken for compliance purposes, giving a percentage compliance of 99.97%. The following table shows the percentage compliance in treated water for 2006 and the previous four years.

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



## 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 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	Max	Specific concentration or value (maximum) or state	% compliance
E.coli	0	0 per 100ml	100
Coliform bacteria	0	0 per 100ml	100
Colony counts	No abnormal change	No abnormal change	100
Nitrite	0.014	0.1 mg NO <sub>2</sub> /l	100
Residual disinfectant	0.74	No value mg Cl <sub>2</sub> /l	
Turbidity	0.37	4 NTU	100
Clostridium perfringens	0	0 per 100ml	100
Conductivity	605	2500 µS/cm at 20°C	100

### Check Monitoring : Augrès WTW

Substances and parameters	Max	Specific concentration or value (maximum) or state	% compliance
E.coli	0	0 per 100ml	100
Coliform bacteria	0	0 per 100ml	100
Colony counts	No abnormal change	No abnormal change	100
Nitrite	0.010	0.1 mg NO <sub>2</sub> /l	100
Residual disinfectant	0.62	No value mg Cl <sub>2</sub> /l	
Turbidity	0.40	4 NTU	100
Clostridium perfringens	0	0 per 100ml	100
Conductivity	589	2500 µS/cm at 20°C	100

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 18MI, just below the average daily demand of 20MI. Jersey Water has two service reservoirs, strategically located on high ground at Westmount Road, St Helier and Les Platons, Trinity.

## 4 Treatment Works and Service Reservoir performance (continued)

The 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	Max	Specific concentration or value (maximum) or state	% compliance
E.coli	0	0 per 100ml	100
Coliform bacteria	0	0 per 100ml (95% of samples)	100
Colony counts	No abnormal change	No abnormal change	100
Clostridium perfringens	0	0 per 100ml	100
Conductivity	563	2500 $\mu$ S/cm at 20°C	100

### Check Monitoring : Les Platons Service Reservoir, West Compartment

Substances and parameters	Max	Specific concentration or value (maximum) or state	% compliance
E.coli	0	0 per 100ml	100
Coliform bacteria	0	0 per 100ml (95% of samples)	100
Colony counts	No abnormal change	No abnormal change	100
Clostridium perfringens	0	0 per 100ml	100
Conductivity	563	2500 $\mu$ S/cm at 20°C	100

### Check Monitoring : Westmount Service Reservoir

Substances and parameters	Max	Specific concentration or value (maximum) or state	% compliance
E.coli	0	0 per 100ml	100
Coliform bacteria	1	0 per 100ml (95% of samples)	99.7
Colony counts	No abnormal change	No abnormal change	100
Clostridium perfringens	0	0 per 100ml	100
Conductivity	635	2500 $\mu$ S/cm at 20°C	100