

## **2013** WATER QUALITY REPORT The Jersey New Waterworks Company Limited



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JERSEY WATER UNDERTAKES AN EXTENSIVE MONITORING PROGRAMME TO TEST THE QUALITY OF **193** MILLON LITRES OF DRINKING WATER IT SUPPLIES TO ITS CUSTOMERS EVERY DAY

### INTRODUCTION

During 2013 Jersey Water supplied 7,047 million litres of drinking water to its customers and I am pleased to report that 99.84% of the regulatory analyses of water carried out during the year complied with the maximum allowable concentrations set out in the Water (Jersey) Law 1972. This compliance level compares well with the average figures for the England & Wales water industry.

### DURING 2013 JERSEY WATER SUPPLIED 7,047 MILLION LITRES OF DRINKING WATER TO ITS CUSTOMERS

The following tables show the results of the treated water quality monitoring programme. The tables show the minimum, mean and maximum concentrations of physical, bacteriological and chemical quality parameters, together with the respective Maximum Allowable Concentration (MAC) and percentage compliance with the MAC.

With the agreement of the Planning and Environment Department, Jersey Water adopted a risk assessment-based monitoring programme for 2013. This approach is in line with the developing Water Safety Plan, where potential risks are evaluated and, where necessary, contingency plans put in place to alleviate such risks.

The sampling for nitrates showed that twenty two analyses were above the 50 mg/l limit and the highest recorded figure was 58.2 mg/l. Jersey Water has no controls over the source of nitrates in water resources, consequently a dispensation has been granted, which for 2013 allowed 33% of regulatory analyses to be above 50 mg/l, but not greater than 70 mg/l.

It is disappointing that we have had the need again, to apply for renewal of the dispensation for nitrates. This is the fourth dispensation we have to apply for, despite continuous requests for the States to take action by use of powers they have to reduce nitrate levels in the Island's water resources. The Environment Minister has authorised a further dispensation for nitrates for a three year period until the end of 2016.

Jersey Water and our consultants carried out 13,987 analyses of the treated water supplied for compliance purposes and in addition to this, a comprehensive monitoring programme is in place for sampling and analysing the quality of water resources and water stored in our reservoir storage system. This programme, together with on-line monitoring systems, allows our operating staff to select the most suitable water to be taken for treatment and distribution to our customers.

From the information contained in this report I am pleased to report that the quality of water we supply continues to be of a very high standard. The results are comparable to water supplied by water companies in England & Wales, which are recognised to have some of the highest quality standards in the world.

#### Howard N Snowden

Managing Director & Engineer



ANALYSES OF THE TREATED WATER SUPPLIED FOR COMPLIANCE PURPOSES

### INTRODUCTION

To enable monitoring and analysis of the water we supply Jersey Water has a modern and comprehensive water quality monitoring laboratory at Millbrook Depot, St Lawrence.

Our Laboratory Manager, David Mayman is a Chartered Chemist and a Member of the Royal Society of Chemistry and Royal Society for Public Health. David has over 29 years experience in water supply quality and is ably supported by assistant manager Sarah Le Sueur and laboratory technician Nora Treanor. The Department has three samplers, Keith Quemard, Bob Langford and Matthew Parkin, who have taken 10,470 samples of water in 2013, attended to customer queries and carried out sampling preparatory work in the laboratory.

The water quality laboratory is a purpose designed facility, consisting of a preparatory room with auto-claves for sterilisation of sample bottles and equipment, a bacteriological laboratory and chemical laboratory.

WATER QUALITY RESULTS ARE VERIFIED AGAINST DUPLICATE SAMPLES TAKEN BY THE STATES OF JERSEY ANALYST DEPARTMENT AND JERSEY WATER'S INDEPENDENT CONSULTING ANALYST'S LABORATORY, BASED IN THE SOUTH OF ENGLAND

> SAMPLES OF WATER WERE TAKEN BY THE LAB TEAM DURING 2013

## **RAW WATER QUALITY**

### INTRODUCTION

Jersey Water derives the majority of its water from the collection of surface water streams. These streams either flow directly into the main reservoirs or are pumped from a number of stream abstraction stations which are remote from the reservoirs.

During 2013, 1138 water samples were taken from stream and reservoir resources and analysed for physical, bacteriological and chemical parameters.

### 1,138 WATER SAMPLES WERE TAKEN FROM STREAM AND RESERVOIR RESOURCES DURING 2013





#### **PERCENTAGE COMPLIANCE**

### SUPPLY POINTS AND SUPPLY ZONE REGULATORY RESULTS

Samples from the two treatment works and three service reservoirs (supply points) and the supply zone have been examined for compliance purposes at regular intervals so as to detect any seasonal variations in the quality of the water.

With the agreement of the Planning and Environment Department, Jersey Water adopted a risk assessment-based monitoring programme for 2013. This approach is in line with the developing Water Safety Plan, where potential risks are evaluated and, where necessary, contingency plans put in place to alleviate such risks. Jersey Water sought the opinion of Professor John Fawell MBE to advise on the changes made to the monitoring programme.

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. Twenty two non-compliant analyses were found in samples taken from the supply points and the supply zone during 2013, out of 13,987 analyses taken for compliance purposes. This gives a percentage compliance of 99.84%, slightly down on last years figure of 99.99%.

The only breaches of the regulatory limits in 2013 were for nitrates, 22 samples in total were found to be over the limit giving 71% compliance for this parameter.

All of the results were well within the current dispensation limit agreed by the Planning and Environment Department (P&E), allowing 33% of the samples taken for nitrate to be above the MAC (50 mg/l) but not greater than 70 mg/l, therefore Jersey Water has complied with its dispensation. The highest recorded result was 58.2 mg/l.



### SUPPLY ZONE NITRATE RESULTS

### TREATMENT WORKS & SERVICE RESERVOIR PERFORMANCE

Jersey Water operates two treatment works located at Handois, St Lawrence and Augres, 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.

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 audit monitoring results 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	311	100
Coliform bacteria	0 per 100ml	0	0	0	311	100
Colony counts	No abnormal change	No a	bnormal ch	ange	311	100
Nitrite	0.1 mg NO <sub>2</sub> /I	< 0.003	0.004	0.009	105	100
Residual disinfectant	No value mg Cl <sub>2</sub> /I	0.38	0.55	0.64	311	
Turbidity	4 NTU	0.05	0.09	0.16	246	100
Conductivity	2500 µS/cm at 20ºC	458	527	573	53	100

#### **CHECK MONITORING : AUGRES 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	311	100
Coliform bacteria	0 per 100ml	0	0	0	311	100
Colony counts	No abnormal change	No al	bnormal ch	ange	311	100
Nitrite	0.1 mg NO <sub>2</sub> /I	< 0.003	0.003	0.007	105	100
Residual disinfectant	No value mg Cl <sub>2</sub> /I	0.34	0.43	0.54	311	
Turbidity	4 NTU	0.05	0.08	0.25	246	100
Conductivity	2500 µS/cm at 20ºC	452	504	560	53	100

## TREATMENT WORKS & SERVICE RESERVOIR PERFORMANCE

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	308	100
Coliform bacteria	0 per 100ml (95% of samples)	0	0	0	308	100
Colony counts	No abnormal change	No abnormal change			308	100
Conductivity	2500 µS/cm at 20°C	475	536	570	53	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	308	100
Coliform bacteria	0 per 100ml (95% of samples)	0	0	0	308	100
Colony counts	No abnormal change	No abnormal change			308	100
Conductivity	2500 µS/cm at 20°C	472	535	568	53	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	309	100
Coliform bacteria	0 per 100ml (95% of samples)	0	0	0	309	100
Colony counts	No abnormal change	No al	bnormal ch	ange	309	100
Conductivity	2500 µS/cm at 20ºC	466	522	573	53	100

# WATER QUALITY IN THE DISTRIBUTION SYSTEM

During 2013, 540 water samples were taken from all parts of the distribution system and analysed for physical, bacteriological and chemical standards. The following tables show the results of the check and audit monitoring programmes and the percentage compliance of samples taken from the distribution system.

### **CHECK MONITORING : SUPPLY ZONE**

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	540	100
Coliform bacteria	0 per 100ml	0	0	0	540	100
Residual disinfectant	No value (mg Cl <sub>2</sub> /l)	< 0.02	0.13	0.62	540	
Aluminium	200 µg Al/l	<20	<20	69	76	100
Ammonium	0.50 mg NH₄/I	<0.01	0.04	0.14	76	100
Colony counts	No abnormal change	No al	bnormal ch	ange	540	100
Colour	20 mg/l Pt/Co	5	5	5	540	100
Conductivity	2500 µS/cm at 20ºC	463	533	576	76	100
Hydrogen ion	10.0 pH value 6.5 (min)	7.03	7.49	7.87	76	100
Iron	200 µg Fe/l	<4	7	69	78	100
Manganese	50 µg Mn/l	<20	<20	31.4	76	100
Nitrate	50 mg NO <sub>3</sub> /I	22.4	41.3	58.2	76	71
Nitrite	0.5 mg NO <sub>2</sub> /I	< 0.003	0.024	0.090	76	100
Odour	3 at 25°C Dilution number	1	1	1	76	100
Taste	3 at 25°C Dilution number	1	1	1	76	100
Turbidity	4 NTU	0.07	0.14	0.44	76	100
Cyanide	50 µg CN/I	<1.0	<1.0	3.0	76	100

# WATER QUALITY IN THE DISTRIBUTION SYSTEM

### **AUDIT MONITORING : SUPPLY ZONE**

SUBSTANCES AND Parameters	SPECIFIC CONCENTRATION OR Value (Maximum) or state	MIN	MEAN	MAX	NO. OF Samples	% COMPLIANCE
Antimony	5.0 µg Sb/l		<0.009		1	100
Arsenic	10 µg As/l		<0.5		1	100
Benzene	1.0 µg/l		<0.07		1	100
Boron	1.0 mg B/l		0.076		1	100
Cadmium	5.0 µg Cd/l		< 0.02		1	100
Chromium	50 µg Cr/l		<0.15		1	100
Copper	2.0 mg Cu/l	< 0.003	0.006	0.039	8	100
1,2 dichloroethane	3.0 µg/l		<0.12		1	100
Enterococci	0 per 100ml	0	0	0	8	100
Lead	25 µg Pb/l	< 0.03	0.17	0.93	8	100
Nickel	20 µg Ni/l		1.50		1	100
Linuron 1	0.1 µg/l	<0.008	<0.008	0.015	8	100
Bentazone 1	0.1 µg/l	<0.008	<0.008	0.013	8	100
Cyanazine 1	0.1 µg/l	<0.008	<0.008	0.014	8	100
Pesticides total	0.5 µg/l	<0.010	<0.010	0.027	8	100
Selenium	10 µg Se/l		0.31		1	100
Sodium	200 mg Na/l		49		1	100
Trichloroethene and Tetrachloroethene	10 µg/l		<0.1		1	100
Tetrachloromethane	3 µg/l		<0.1		1	100
Trihalomethanes	100 µg/l	8.7	16.3	21.3	8	100
Chloride	250 mg Cl/l	48	61	69	76	100
Sulphate	250 mg SO₄/I	70	81.3	101	76	100
Total Organic Carbon	No abnormal change	1.90	2.08	2.60	8	100
Gross alpha	0.1 Bq/l	< 0.020	<0.020	<0.020	4	100
Gross beta	1.0 Bq/l	0.151	0.174	0.210	4	100

<sup>1</sup> Detected pesticide - 38 other pesticides analysed for and not detected.

## WATER QUALITY COMPLAINTS

Jersey Water received 40 complaints from customers relating to water quality. The following table shows a break-down of these queries, from which it can be seen that the majority of these complaints were due to discolouration of the water resulting from old corroded steel and unlined cast iron pipes, some of which were privately owned pipe work which is not the responsibility of Jersey Water.

TYPE OF COMPLAINT	NO	BACTERIOLOGICAL Compliance %
Discoloured water	36	100
Taste/odour	2	100
Illness	2	100
TOTAL	40	100

Bacteriological and chemical samples were taken at the premises where the consumer had suspected the water supply to be causing illness. Examinations showed the supply to be satisfactory.

The Planning & Environment department are responsible for the administration of the Water (Jersey) Law 1972 and their officers make quarterly visits to our laboratory to examine analytical results of samples derived from water quality complaints from our customers.

Since the year 2000 Jersey Water has had an extensive programme to replace old unlined cast iron and steel pipe work in areas where water is becoming discoloured. In 2013, 2.5km of old water pipes were replaced with modern lined pipes, which have improved water quality for customers in these areas.

The Company plans further investment in the renewal of old water pipes in future years.

QUERIES RECEIVED FROM CUSTOMERS RELATING TO WATER QUALITY

# **APPENDIX A: AUDIT MONITORING: HANDOIS TW**

SUBSTANCES AND Parameters	SPECIFIC CONCENTRATION OR Value (Maximum) or state	MIN	MEAN	MAX	NO. OF Samples	% COMPLIANCE
Benzene	1.0 µg/l		<0.07		1	100
Boron	1.0 mg B/l		0.053		1	100
Bromate	10 µg BrO <sub>3</sub> /I	< 0.2	<0.2	<0.2	8	100
Cyanide	50 µg CN/l	<1.0	<1.0	<1.0	8	100
1,2 dichloroethane	3.0 µg/l		<0.12		1	100
Fluoride	1.5 mg F/l		0.105		1	100
Linuron <sup>1</sup>	0.1 µg/l	<0.008	<0.007	0.032	34	100
Pentachlorophenol <sup>1</sup>	0.1 µg/l	< 0.009	< 0.009	0.011	34	100
2,4,5-T <sup>1</sup>	0.1 µg/l	<0.015	<0.015	0.016	34	100
Simazine <sup>1</sup>	0.1 µg/l	< 0.004	< 0.004	0.004	34	100
Tebuconazole 1	0.1 µg/l	< 0.005	< 0.005	0.005	34	100
Azoxystrobin <sup>1</sup>	0.1 µg/l	< 0.003	0.003	0.013	18	100
Pesticides total	0.5 µg/l	<0.010	<0.010	0.036	34	100
Trichloroethene and Tetrachloroethene	10 µg/l		<0.07		1	100
Tetrachloromethane	3 µg/l		<0.07		1	100
Chloride	250 mg Cl/l	53	63	70	53	100
Sulphate	250 mg SO₄/I	73	82	90	53	100
Total Organic Carbon	No abnormal change	1.90	2.18	2.40	8	100
Gross alpha	0.1 Bq/l	< 0.020	< 0.020	0.025	4	100
Gross beta	1.0 Bq/l	0.150	0.166	0.181	4	100

<sup>1</sup>Detected pesticide - 35 other pesticides analysed for and not detected.

# **APPENDIX B: AUDIT MONITORING: AUGRES TW**

SUBSTANCES AND Parameters	SPECIFIC CONCENTRATION OR Value (Maximum) or state	MIN	MEAN	MAX	NO. OF Samples	% COMPLIANCE
Benzene	1.0 µg/l		<0.06		1	100
Boron	1.0 mg B/l		0.079		1	100
Bromate	10 µg BrO <sub>3</sub> ∕I	<0.2	<0.2	<0.2	8	100
Cyanide	50 µg CN/l	<1.0	<1.0	<1.0	8	100
1,2 dichloroethane	3.0 µg/l		<0.12		1	100
Fluoride	1.5 mg F/l		0.107		1	100
Linuron <sup>1</sup>	0.1 µg/l	<0.008	<0.008	0.011	33	100
2,4-D <sup>1</sup>	0.1 µg/l	<0.011	<0.011	0.014	33	100
Mecoprop <sup>1</sup>	0.1 µg/l	<0.010	<0.010	0.011	33	100
Bentazone <sup>1</sup>	0.1 µg/l	< 0.008	0.021	0.058	33	100
Simazine <sup>1</sup>	0.1 µg/l	< 0.004	< 0.004	0.006	33	100
Cyanazine 1	0.1 µg/l	< 0.008	0.012	0.062	33	100
Glyphosate <sup>1</sup>	0.1 µg/l	< 0.015	<0.015	0.020	8	100
Pirimicarb <sup>1</sup>	0.1 µg/l	< 0.005	< 0.005	0.007	33	100
Azoxystrobin <sup>1</sup>	0.1 µg/l	< 0.003	0.007	0.021	18	100
Pesticides total	0.5 µg/l	< 0.010	0.040	0.123	33	100
Trichloroethene and Tetrachloroethene	10 µg/l		<0.07		1	100
Tetrachloromethane	3 µg/l		<0.07		1	100
Chloride	250 mg Cl/l	48	56	68	53	100
Sulphate	250 mg SO <sub>4</sub> /I	73	84	102	53	100
Total Organic Carbon	No abnormal change	1.60	1.95	2.30	8	100
Gross alpha	0.1 Bq/l	< 0.020	<0.020	0.031	4	100
Gross beta	1.0 Bq/l	0.156	0.195	0.219	4	100

<sup>1</sup> Detected pesticide - 32 other pesticides analysed for and not detected.

## APPENDIX C: AUDIT MONITORING: LES PLATONS Service Reservoir, east compartment

SUBSTANCES AND PARAMETERS	SPECIFIC CONCENTRATION OR Value (Maximum) or state	MIN	MEAN	MAX	NO. OF Samples	% COMPLIANCE
Benzene	1.0 µg/l		<0.06		1	100
Boron	1.0 mg B/l		0.068		1	100
Bromate	10 µg BrO₃/l	<1.0	<1.0	<1.0	8	100
Cyanide	50 µg CN/I	<1.0	<1.0	1.0	8	100
1,2 dichloroethane	3.0 µg/l		<0.1		1	100
Fluoride	1.5 mg F/l		0.168		1	100
Linuron <sup>1</sup>	0.1 µg/l	< 0.008	<0.008	0.019	8	100
M.C.P.A. <sup>1</sup>	0.1 µg/l	< 0.009	< 0.009	0.055	8	100
M.C.P.B. <sup>1</sup>	0.1 µg/l	<0.011	<0.011	0.012	8	100
2,4-D <sup>1</sup>	0.1 µg/l	<0.011	<0.011	0.036	8	100
Pesticides total	0.5 µg/l	< 0.010	0.017	0.106	8	100
Trichloroethene and Tetrachloroethene	10 µg/l		<0.07		1	100
Tetrachloromethane	3 µg/l		< 0.07		1	100
Chloride	250 mg Cl/l	56	63	67	8	100
Sulphate	250 mg SO <sub>4</sub> /I	78	82	86	8	100
Total Organic Carbon	No abnormal change	1.80	2.04	2.40	8	100
Gross alpha	0.1 Bq/l	< 0.020	< 0.020	< 0.020	4	100
Gross beta	1.0 Bq/l	< 0.020	0.116	0.177	4	100

<sup>1</sup>Detected pesticide - 37 other pesticides analysed for and not detected.

## APPENDIX D: AUDIT MONITORING: LES PLATONS SERVICE RESERVOIR, WEST COMPARMENT

SUBSTANCES AND PARAMETERS	SPECIFIC CONCENTRATION OR Value (Maximum) or state	MIN	MEAN	MAX	NO. OF Samples	% COMPLIANCE
Benzene	1.0 µg/l		<0.06		1	100
Boron	1.0 mg B/l		0.067		1	100
Bromate	10 µg BrO <sub>3</sub> ∕l	<0.2	<0.2	<0.2	8	100
Cyanide	50 µg CN/I	<1.0	<1.0	<1.0	8	100
1,2 dichloroethane	3.0 µg/l		<0.12		1	100
Fluoride	1.5 mg F/l		0.096		1	100
Mecoprop <sup>1</sup>	0.1 µg/l	<0.010	<0.010	0.019	8	100
Pesticides total	0.5 µg/l	<0.010	<0.010	0.019	8	100
Trichloroethene and Tetrachloroethene	10 µg/l		<0.07		1	100
Tetrachloromethane	3 µg/l		<0.07		1	100
Chloride	250 mg Cl/l	56	62	67	8	100
Sulphate	250 mg SO₄/I	76	80	85	8	100
Total Organic Carbon	No abnormal change	1.90	2.25	3.20	8	100
Gross alpha	0.1 Bq/l	< 0.020	< 0.020	< 0.020	4	100
Gross beta	1.0 Bq/l	< 0.020	0.109	0.180	4	100

<sup>1</sup> Detected pesticide - 40 other pesticides analysed for and not detected.

### APPENDIX E: AUDIT MONITORING: WESTMOUNT SERVICE RESERVOIR

SUBSTANCES AND Parameters	SPECIFIC CONCENTRATION OR Value (Maximum) or state	MIN	MEAN	MAX	NO. OF Samples	% COMPLIANCE
Benzene	1.0 µg/l		<0.06		1	100
Boron	1.0 mg B/l		0.071		1	100
Bromate	10µg BrO <sub>g</sub> ∕l	< 0.2	<0.2	<0.2	8	100
Cyanide	50 µg CN/I	<1.0	<1.0	<1.0	8	100
1,2 dichloroethane	3.0 µg/l		<0.1		1	100
Fluoride	1.5 mg F/l		0.079		1	100
Linuron <sup>1</sup>	0.1 µg/l	<0.008	<0.008	0.020	8	100
Bentazone <sup>1</sup>	0.1 µg/l	<0.008	<0.008	0.021	8	100
Cyanazine <sup>1</sup>	0.1 µg/l	<0.008	<0.008	0.015	8	100
Pesticides total	0.5 µg/l	< 0.010	0.015	0.030	8	100
Trichloroethene and Tetrachloroethene	10 µg/l		<0.07		1	100
Tetrachloromethane	3 µg/l		<0.07		1	100
Chloride	250 mg Cl/l	56	59	63	8	100
Sulphate	250 mg SO₄/I	78	83	91	8	100
Total Organic Carbon	No abnormal change	1.80	2.01	3.00	8	100
Gross alpha	0.1 Bq/l	< 0.020	< 0.020	0.025	4	100
Gross beta	1.0 Bq/I	0.135	0.167	0.201	4	100

<sup>1</sup> Detected pesticide - 38 other pesticides analysed for and not detected.



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