Portsmouth Water Ltd

Public Record - Water Quality Summary

01/01/2013 to 31/12/2013

Chichester Supply Zone

Parameter (Units)	Ann. Sampling Frequency		Comment	PCV	Samples Contravening PCV		Concentration or Value (all samples)		
	Required	Taken			No.	%	Min	Mean	Max
Colony Count 72h at 22C(No/ml)	52	57		N/A	0	0.00	0	0.5	16
Colony Count 48h at 37C(No/ml)	52	57		N/A	0	0.00	0	1.1	22
Coliform Bacteria (Indicator)(No/100ml)	170	170		0	1	0.59	0	0	3
E-Coli (Faecal Coliforms - Confirmed)(No/100ml)	170	170		0	0	0.00	0	0	0
Clostridium Perfringens (Confirmed)(No/100ml)	26	27	R	0	0	0.00	0	0	0
Enterococci (Confirmed)(No/100ml)	8	9		0	0	0.00	0	0	0
Residual Disinfectant - Total(mg/l)	170	173		N/A	0	0.00	0.1	0.25	0.41
Residual Disinfectant - Free(mg/l)	170	173		N/A	0	0.00	0.06	0.22	0.36
Nitrate(mg/l NO3)	8	9		50	0	0.00	28.8	32.5	35.9
Ammonium (Total)(mg/l NH4)	26	26	R	0.5	0	0.00	<0.03	0.03	0.038
Bromate(ug/l BrO3)	8	9		10	0	0.00	<0.2	<0.3	<0.3
Chloride(mg/l Cl)	8	9		250	0	0.00	21.8	23.7	30.3
Colour(mg/l Pt/Co)	52	59		20	0	0.00	<1.2	1.22	2.33
Cyanide - Total(ug/l CN)	8	9		50	0	0.00	<2	<2	<2
Hardness, Total(mg/l Ca)	8	8		N/A	0	0.00	108.1	114.8	128.8
Alkalinity (CaCO3)(mg/l)	8	8		N/A	0	0.00	255.2	267.7	285.4
Conductivity(uS/cm @20C)	26	26	R	2500	0	0.00	443	493	574
Fluoride (Total)(mg/l F)	8	9		1.5	0	0.00	0.057	0.075	0.117
Hydrogen Ion (pH) - Indicator(pH Value)	26	26	R	6.5 - 9.5	0	0.00	7.18	7.33	7.48
Nitrite (Consumers Taps)(mg/l NO2)	8	9		0.5	0	0.00	<0.005	0.006	0.016
Nitrate/Nitrite Formula	8	9		1	0	0.00	0.581	0.651	0.72
Sulphate(mg/l SO4)	8	9		250	0	0.00	12.4	14.2	18
Odour (Quantitative)(Dil Num)	26	26	R	0	0	0.00	0	0	0
Taste (Quantitative)(Dil Num)	26	26	R	0	0	0.00	0	0	0
Turbidity(NTU)	26	26	R	4	0	0.00	0.06	0.09	0.15
Total Organic Carbon(mg/l C)	8	9		N/A	0	0.00	0.6	0.9	1.1
Gross Alpha(Bq/l)	8	9		0.1	0	0.00	<0.015	0.015	0.018
Gross Beta(Bq/l)	8	9		1	0	0.00	<0.033	0.034	0.039

PCV = Minimum or Maximum Permitted Value. Comments: R = Reduced Frequency, U = Undertaking for Improvement

Portsmouth Water Ltd

Public Record - Water Quality Summary

01/01/2013 to 31/12/2013

Chichester Supply Zone

Parameter (Units)	Ann. Sampling Frequency		Comment	PCV	Samples Contravening PCV		Concentration or Value (all samples)		
	Required	Taken			No.	%	Min	Mean	Max
Tritium(Bq/l)	8	9		100	0	0.00	<5	<5	<5
Aluminium (Total)(ug/l Al)	26	26	R	200	0	0.00	<4	5.8	10.9
Antimony(ug/l Sb)	8	9		5	0	0.00	<0.1	<0.1	<0.1
Arsenic (Total)(ug/l As)	8	9		10	0	0.00	<0.3	<0.3	<0.3
Boron (Total)(ug/l B)	8	9		1	0	0.00	<0.06	<0.06	<0.06
Cadmium (Total)(ug/l Cd)	8	9		5	0	0.00	<0.2	<0.2	<0.2
Chromium (Total)(ug/l Cr)	8	9		50	0	0.00	<0.4	0.5	1
Copper (Total)(mg/l Cu)	8	9		2	0	0.00	<0.01	0.03	0.07
Iron (Total)(ug/l Fe)	52	56		200	0	0.00	<4	4.4	22.5
Lead (Total -25)(ug/l Pb)	8	9		25	0	0.00	<0.2	0.3	0.6
Manganese (Total)(ug/l Mn)	26	26	R	50	0	0.00	<0.2	0.2	0.7
Mercury(ug/l Hg)	8	9		1	0	0.00	<0.04	<0.04	<0.04
Nickel(ug/l Ni)	8	9		20	0	0.00	<0.4	0.4	0.8
Selenium(ug/l Se)	8	9		10	0	0.00	<0.3	0.39	0.52
Sodium (Total)(mg/l Na)	8	9		200	0	0.00	9.7	10.8	15.2
Benzo[a]Pyrene(ug/l)	8	9		0.01	0	0.00	<0.001	<0.001	<0.001
Polycyclic Aromatic Hydrocarbons (4)(ug/l)	8	9		0.1	0	0.00	0	0.001	0.005
1,2 Dichloroethane(ug/l)	8	9		3	0	0.00	<0.03	<0.07	<0.1
Tetrachloromethane(ug/l)	8	9		3	0	0.00	<0.04	<0.05	<0.06
Tetra+Trich(ug/l)	8	9		10	0	0.00	0	0	0
Trihalomethanes(ug/l)	8	9		100	0	0.00	0	7.01	9.82
2,4 - D(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Atrazine(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Azoxystrobin(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Bentazone(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Benzene(ug/l)	8	9		1	0	0.00	<0.02	<0.03	<0.03
Boscalid(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Bromoxynil(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01

PCV = Minimum or Maximum Permitted Value. Comments: R = Reduced Frequency, U = Undertaking for Improvement

Portsmouth Water Ltd

Public Record - Water Quality Summary

01/01/2013 to 31/12/2013

Chichester Supply Zone

Parameter (Units)	Ann. Sampling Frequency		Comment	PCV	Samples Contravening PCV		Concentration or Value (all samples)		
	Required	Taken			No.	%	Min	Mean	Max
Carbetamide(ug/l)	8	8		0.1	0	0.00	<0.01	<0.011	<0.012
Chlorothalonil(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Chlortoluron(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Cyproconazole(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Dicamba(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Dichlorprop(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Diuron(ug/l)	8	8		0.1	0	0.00	<0.01	<0.011	<0.011
Epoxyconazole(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Fenpropimorph(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Fluroxypyr(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Flusialzole(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Ioxynil(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Isoproturon(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
MCPA(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
MCPB(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Mecoprop (MCPP)(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Mesosulfuron-methyl(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Prometryne(ug/l)	8	8		0.1	0	0.00	<0.01	<0.011	<0.011
Propazine(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Propazyamide(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Simazine(ug/l)	8	8		0.1	0	0.00	<0.01	<0.013	<0.014
Tebuconazole(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Triclopyr(ug/l)	8	8		0.1	0	0.00	<0.01	<0.01	<0.01
Total Pesticides(ug/l)	8	9		0.5	0	0.00	0	0	0

80 **Total No.Tests** **1686** **Failures = 1 = 0.059 %** **Pass Rate = 99.94 %**

Chichester Zone Population 2013 = 66956

PCV = Minimum or Maximum Permitted Value. Comments: R = Reduced Frequency, U = Undertaking for Improvement

PORTSMOUTH WATER LTD

General Information	ZONE – CHICHESTER	2013

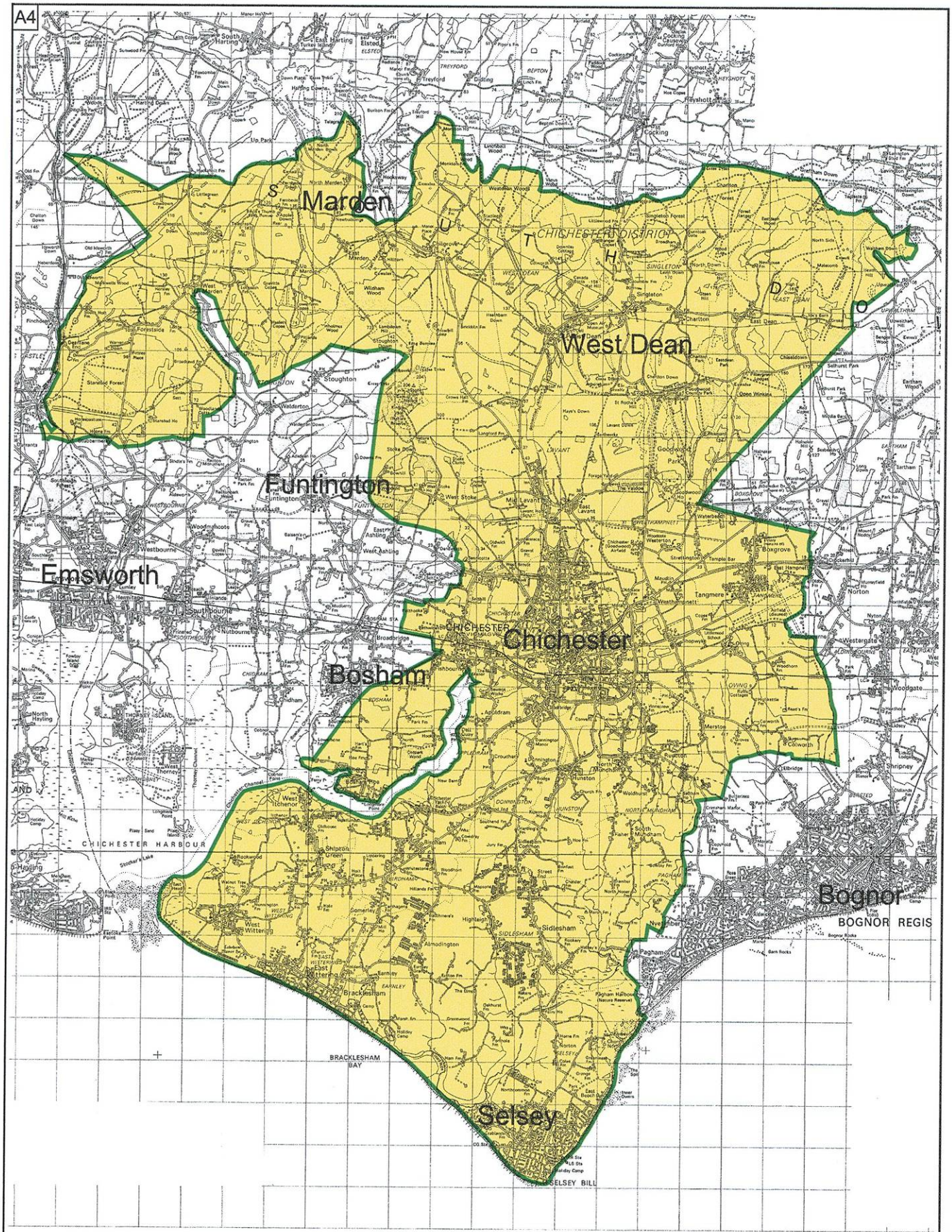
Comments on Water Quality:

A sample taken in April from a property in Chichester failed the PCV for Coliforms with 3 coliform organisms per 100ml. Every investigative sample after the failure was clear of coliforms – apart from the original tap which continued to fail. The failure was most likely the result of poor tap hygiene leading to contamination of the samples, and it is concluded that the failure is unlikely to reoccur.

In all other respects this water meets the chemical and microbiological requirements of the Water Supply (Water Quality) Regulations 2000 (Amendment) Regulations 2007.

Action taken to comply with Section 19 undertakings

Phosphate is dosed in the water to reduce pick-up of lead from lead pipework.



Portsmouth water
150 years of quality service

CHICHESTER SAMPLING ZONE

Drawing No.
80/302

Determinands Analysed

METALS		
SUBSTANCE TESTED	**WHAT IT MEANS**	**REGULATORY STANDARD**
Antimony	These metals can occur naturally in source water at low levels. Some may also come from plumbing systems and industrial processes. The standards provide wide safety margins on known levels of toxicity.	5.0 µg /l
Cadmium		5.0 µg/l
Chromium		50 µg /l
Nickel		20 µg/l
Mercury		1.0 µg /l
Selenium		10 µg /l
Aluminium	Aluminium occurs naturally and is also used during treatment to remove impurities. Concerns have been expressed about a link between aluminium and Alzheimer's disease, but there is no proven connection, although research on this is ongoing.	200 µg/l
Arsenic	This occurs naturally in water at low levels.	10 µg /l
Boron	Low levels of boron can be found in some waters due to its use in detergents.	1.0 mg/l
Copper	Traces of copper can sometimes be found in water, usually as a result of old, corroding plumbing or new plastic pipes. This can cause a metallic taste.	2.0 mg/l
Lead	Lead is rarely present in water sources but many properties built before the mid-1960's have a lead supply pipe or some lead plumbing. Portsmouth Water adds phosphate to most of the water supplied to reduce the amount of lead dissolved from pipes.	25 µg /l (In Dec 2013 the standard dropped to 10 µg /l)
Iron	Iron can naturally occur in some water sources and is removed during treatment. Iron in the water supplies may also be derived from old iron mains or domestic pipe work. This is not a health hazard, but can cause the water to become discoloured.	200 µg/l
Manganese	This can naturally occur in some water sources and is removed during treatment. Disruption to water mains can stir up sediment, containing manganese.	50 µg/l
Sodium	Sodium is a naturally occurring substance that can increase as an effect of softening the water. If you use a water softener you should retain an un-softened supply for drinking.	200 mg/l

NON-METALS		
SUBSTANCE TESTED	**WHAT IT MEANS**	**REGULATORY STANDARD**
Ammonium	Ammonia occurs naturally in many water sources. It is not harmful and is normally removed by treatment.	0.5 mg/l
Bromate	Bromate can potentially form when hypochlorite or ozone are used in water treatment. We control the treatment process tightly to minimize this.	10 µg/l
Chloride	Chloride occurs naturally in water but may give a salty taste to the water and contribute to corrosion.	250 mg/l
Cyanide	Cyanide is rarely found in water. When it is detected it is normally in areas of heavy industry.	50 µg/l
Fluoride	Fluoride occurs naturally at low levels in some of Portsmouth Water's supplies. None of our supplies are artificially fluoridated.	1.5 mg/l
Nitrate	Nitrate arises from the use of fertilizer on agricultural land.	50 mg/l
Nitrite	Nitrite occurs at much lower levels than nitrate and conversion from one form to another occurs readily. The regulations also require that the Nitrate:Nitrite ratio [nitrate]/50 + [nitrite]/3 is ≤ 1.0.	0.5 mg/l at Customers tap 0.1 mg/l at Water Treatment Works
Sulphate	Sulphate occurs naturally in water and comes from mineral deposits.	250 mg/l

BACTERIA		
SUBSTANCE TESTED	**WHAT IT MEANS**	**REGULATORY STANDARD**
Faecal Coliforms (E.coli)	These bacteria are specific inhabitants of the digestive systems of warm blooded animals. They are an indication of possible contamination (with other harmful bacteria possibly being present). Any detection is investigated as a matter of urgency.	0 per 100ml
Total Coliforms	These are bacteria that provide a general and very sensitive measure of microbiological quality. They are removed by water treatment processes, but where they are detected it is often because they can grow within taps in the home. Any detection is investigated as a matter of urgency.	0 per 100ml
Enterococci	As with coliforms, the presence of these organisms can indicate possible contamination in the water supply so they are investigated as a matter of urgency.	0 per 100ml
Colony Count at 37°C	Small numbers of bacteria can be present in treated water. The information obtained from these tests is used to maintain the efficiency of the water treatment processes and the cleanliness of water mains. Any unusually high levels are investigated.	No abnormal change from a long term average. Number per 1ml
Colony Count at 22°C		
Clostridium Perfringens	As with coliforms, the presence of these organisms can indicate contamination in the water supply so they are investigated as a matter of urgency.	0 per 100ml

ORGANIC CHEMICALS: PESTICIDES		
SUBSTANCE TESTED	**WHAT IT MEANS**	**REGULATORY STANDARD**
Aldrin	Pesticides consist of chemicals used by farmers, local authorities and gardeners. The traces of these found in untreated water are typically far less than the maximum advised to protect public health. The pesticides tested for will vary from area to area, depending on the usage of pesticides in the surrounding area of each water source.	0.03 µg/l
Dieldrin		0.03 µg/l
Heptachlor		0.03 µg/l
Heptachlor epoxide		0.03 µg/l
Other individual Pesticides		0.1 µg/l
Total Pesticides	This is the total amount of each pesticide detected in the water sample tested.	0.5 µg/l

ORGANIC CHEMICALS: OTHERS		
SUBSTANCE TESTED	**WHAT IT MEANS**	**REGULATORY STANDARD**
Benzene	Benzene is rarely found in water but is removed in treatment processes. It arises from petroleum products and industries.	1.0 µg/l
Trichloromethane ⍋	These compounds are known as trihalomethanes (THM's). They are formed when chlorine comes into contact with organic compounds in untreated water.	100 ug/l (⍋For the total amount of these four compounds)
Dichlorobromomethane ⍋		
Dibromochloromethane ⍋		
Tribromomethane ⍋		
Tetrachloromethane	These substances are known as solvents. They arise from industrial processes and are removed from the water during the treatment stage.	3.0 µg/l
1,2 Dichloroethane		3.0 µg/l
Trichloroethene × and Tetrachloroethene ×		10 µg/l (×For the total amount of these two compounds)
Benzo-a-pyrene	These compounds are known as polycyclic aromatic hydrocarbons (PAH's). They are rare substances and are seldom found in water. Where they do occur, the cause is usually coal tar pitch lining from iron mains.	0.01 µg/l
Benzo-b-fluoranthene *		0.1 µg/l (*For the total amount of these four compounds)
Benzo-k-fluoranthene *		
Benzo-ghi-perylene *		
Indeno-123-cd-pyrene *		

OTHER PARAMETERS		
SUBSTANCE TESTED	**WHAT IT MEANS**	**REGULATORY STANDARD**
Colour	Chemical changes in the water source or pressure changes in the distribution main can give the water a tinge of colour.	20 mg/l Pt/Co
Conductivity	This is a measure of the level of natural mineral salts contained in the water. This is measured by passing an electrical current through the water.	2500 µS per cm at 20^{o}C
pH (Hydrogen Ion)	This is a measure of the acidity or alkalinity of the water. A pH of 7 is neutral.	Between 6.5 and 9.5
Taste Dilution Number	This is to check if the water has any unpleasant taste or smell. It is measured using panellists to taste and smell the water in strictly controlled conditions.	Dilution Number 0 at 25^{o}C
Odour Dilution Number		
Temperature	Temperature is checked to monitor changes in the water system.	No legal limit
Total Chlorine	Sufficient chlorine is added to all our supplies to ensure the absence of harmful bacteria. Portsmouth Water also aims to keep the levels at customer's taps low to minimize associated taste and odour issues.	No legal limit
Free Chlorine		
Total Organic Carbon	TOC is a measure of the organic material present in the water. It varies naturally depending on the source of the water and is monitored for any unusual changes (which could be caused by oil spills or other pollutants).	No abnormal change
Turbidity	This is a measure of suspended material in the water.	4.0 NTU at Customers tap 1.0 NTU at Water Treatment Works