

2012 Annual Report

Drinking-Water System Number:	220007999
Drinking-Water System Name:	Kings Park Well System (Richmond)
Drinking-Water System Owner:	City of Ottawa
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1st – December 31st 2012

Complete if your Category is Large Municipal Residential or Small Municipal Residential

Does your Drinking-Water System serve more than 10,000 people? **No**

Is your annual report available to the public at no charge on a web site on the Internet? **Yes**

Location where Summary Report required under O. Reg. 170/03 Schedule 22 will be available for inspection.

**Britannia Water Purification Plant
2731 Cassels St., Ottawa Ontario
K2B 1A8
Telephone: 613-828-2727**

Complete for all other Categories.

Number of Designated Facilities served:

N/A

Did you provide a copy of your annual report to all Designated Facilities you serve?

N/A

Number of Interested Authorities you report to:

N/A

Did you provide a copy of your annual report to all Interested Authorities you report to for each Designated Facility?

N/A

List all Drinking-Water Systems (if any), which receive all of their drinking water from your system:

N/A

Did you provide a copy of your annual report to all Drinking-Water System owners that are connected to you and to whom you provide all of its drinking water?

N/A

Indicate how you notified system users that your annual report is available, and is free of charge.

Public access/notice via the web

Public access/notice via Government Office

Public access/notice via a newspaper

Public access/notice via Public Request

Public access/notice via a Public Library

Public access/notice via other method _____

Describe your Drinking-Water System

The Kings Park water supply (serving a subdivision of Richmond) draws ground water from either one of two wells. The two wells are located at opposite ends of the Kings Park subdivision. The source water has consistently been found to be clear of bacteria and chemical contaminants, has a high hardness level and a noticeable concentration of naturally occurring iron and hydrogen sulfide.

The treatment process in Kings Park consists of the following steps:

- disinfection (**free** chlorine using sodium hypochlorite) which also oxidizes hydrogen sulfide
- chlorine contact time

This treatment process results in water that is clear and safe to drink. There is a slight noticeable taste of elemental sulphur in the finished water.

Treated water is pumped through the distribution network to reach water customers in the Kings Park Subdivision (Richmond). Both the treatment and pumping systems are controlled by a dedicated SCADA computer system and monitored by certified water treatment operators 24 hours per day. On-line analyzers are used to measure chlorine residual and turbidity continuously at each pump station. Since the two stations are at far ends of the distribution system, the chlorine analyzer provides continuous measurement of distribution chlorine residual. Additionally, a certified operator visits each well station twice per week to collect water samples and conduct on-site water quality tests.

List all water treatment chemicals used over this reporting period

Sodium Hypochlorite (liquid – 6%)

Were any significant expenses incurred to?

- [√] Install required equipment
- [√] Repair required equipment
- [√] Replace required equipment

Please provide a brief description and a breakdown of monetary expenses incurred

1. Pump Station Upgrade – A station upgrade was completed to improve process controls and backup power reliability for the two pump stations that are used to supply the Kings Park subdivision. These upgrades cost approximately \$2 million and were completed in 2012.

Provide details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre
Table 1 Adverse Water Quality events for the Kings Park Well System

Incident Date	Test Parameter and Location	Result	Unit of Measure	Corrective Action	Date of Resolution
9-Jul-12 AWQI# 106969	Sodium > 20 mg/L Kings Park well system Treated & Distribution	Treated= 107.4 Distribution= 105.0	mg/L	5 yr reporting	9-Jul-12

Table 2 Microbiological testing done under Schedule 10, 11 or 12 of Regulation 170/03, during this reporting period.

	Number of Samples	Range of E.Coli Results (min - max)	Range of Total Coliform Results (min - max)	Number of HPC Samples	Range of HPC Results (min - max)
Raw	142	0	0	141	<10 - 650
Treated	110	0	0	109	<10 - 40
Distribution	204	0	0	203	<10 - 190

Table 3 Operational testing for treated water done under Schedule 7, 8 or 9 of Regulation 170/03 during this reporting period.

	Number of Grab Samples	Results (min - max)
Turbidity	102 + continuous	0.27 – 0.51 NTU
Chlorine	104 + continuous	0.50 – 1.61 mg/L
Fluoride (If the DWS provides fluoridation)	10	0.40 – 0.54 mg/L (naturally occurring in well water)

Table 4 Summary of additional testing and sampling carried out in accordance with requirement of approval, order or other legal instruments.

Date of legal instrument issued	Parameter	Date Sampled	Result	Unit of Measure

Table 5 Summary of Inorganic parameters tested in treated water during this reporting period or the most recent sample results.

Parameter	Sample Date*	Result Value	Unit of Measure	Exceedance**
Antimony	Jan – Dec 2012	ND	mg/L	No
Arsenic	Jan – Dec 2012	0.0004	mg/L	No
Barium	Jan – Dec 2012	0.126	mg/L	No
Boron	Jan – Dec 2012	0.248	mg/L	No
Cadmium	Jan – Dec 2012	ND	mg/L	No
Chromium	Jan – Dec 2012	0.0003	mg/L	No
Lead	Jan – Dec 2012	ND	mg/L	No
Mercury	Jan – Dec 2012	ND	mg/L	No
Selenium	Jan – Dec 2012	ND	mg/L	No
Sodium	Jan – Dec 2012	101.9	mg/L	Yes - Advisory***
Uranium	Jan – Dec 2012	0.0007	mg/L	No
Fluoride	Jan – Dec 2012	0.45	mg/L	No
Nitrate	Jan – Dec 2012	ND	mg/L	No
Nitrite	Jan – Dec 2012	ND	mg/L	No

ND denotes non-detectable results

NOTE*: Inorganic parameters are tested monthly. The values in the table represent annual average values.

NOTE**: The determination of exceedances are based on all results in the data set.

NOTE***: Sodium concentration is above the advisory limit of 20.0 mg/L for treated water. Notification of the sodium exceedance was made to the MOE and Public Health Department on July 09, 2012 for this water system (notification is required every 60 months).

Table 6 of lead testing under Schedule 15.1 during this reporting period.

Location Type	Number of Samples	Range of Lead Results (min#) – (max #)	Number of Exceedances
Distribution	4	0.2 - 4.0 ppb	0

Table 7 Summary of Organic parameters in treated water tested during this reporting period or the most recent sample results.

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance*
Alachlor	Feb 22, Mar 01/12	ND	mg/L	No
Aldicarb	Feb 22, Mar 01/12	ND	mg/L	No
Aldrin + Dieldrin	Feb 22, Mar 01/12	ND	mg/L	No
Atrazine + N-dealkylated metabolites	Feb 22, Mar 01/12	ND	mg/L	No
Azinphos-methyl	Feb 22, Mar 01/12	ND	mg/L	No
Bendiocarb	Feb 22, Mar 01/12	ND	mg/L	No
Benzene	Feb 22, Mar 01/12	ND	mg/L	No
Benzo(a)pyrene	Feb 22, Mar 01/12	ND	mg/L	No
Bromoxynil	Feb 22, Mar 01/12	ND	mg/L	No
Carbaryl	Feb 22, Mar 01/12	ND	mg/L	No
Carbofuran	Feb 22, Mar 01/12	ND	mg/L	No
Carbon Tetrachloride	Feb 22, Mar 01/12	ND	mg/L	No
Chlordane (Total)	Feb 22, Mar 01/12	ND	mg/L	No
Chlorpyrifos	Feb 22, Mar 01/12	ND	mg/L	No
Cyanazine	Feb 22, Mar 01/12	ND	mg/L	No
Diazinon	Feb 22, Mar 01/12	ND	mg/L	No
Dicamba	Feb 22, Mar 01/12	ND	mg/L	No
1,2-Dichlorobenzene	Feb 22, Mar 01/12	ND	mg/L	No
1,4-Dichlorobenzene	Feb 22, Mar 01/12	ND	mg/L	No
Dichlorodiphenyltrichloroethane (DDT) + metabolites	Feb 22, Mar 01/12	ND	mg/L	No
1,2-Dichloroethane	Feb 22, Mar 01/12	ND	mg/L	No
1,1-Dichloroethylene	Feb 22, Mar 01/12	ND	mg/L	No
Dichloromethane	Feb 22, Mar 01/12	ND	mg/L	No

Parameter	Sample Date	Result Value	Unit of Measure	Exceedance*
2-4 Dichlorophenol	Feb 22, Mar 01/12	ND	mg/L	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Feb 22, Mar 01/12	ND	mg/L	No
Diclofop-methyl	Feb 22, Mar 01/12	ND	mg/L	No
Dimethoate	Feb 22, Mar 01/12	ND	mg/L	No
Dinoseb	Feb 22, Mar 01/12	ND	mg/L	No
Diquat	Feb 22, Mar 01/12	ND	mg/L	No
Diuron	Feb 22, Mar 01/12	ND	mg/L	No
Glyphosate	Feb 22, Mar 01/12	ND	mg/L	No
Heptachlor + Heptachlor Epoxide	Feb 22, Mar 01/12	ND	mg/L	No
Lindane (Total)	Feb 22, Mar 01/12	ND	mg/L	No
Malathion	Feb 22, Mar 01/12	ND	mg/L	No
Methoxychlor	Feb 22, Mar 01/12	ND	mg/L	No
Metolachlor	Feb 22, Mar 01/12	ND	mg/L	No
Metribuzin	Feb 22, Mar 01/12	ND	mg/L	No
Monochlorobenzene	Feb 22, Mar 01/12	ND	mg/L	No
Paraquat	Feb 22, Mar 01/12	ND	mg/L	No
Parathion	Feb 22, Mar 01/12	ND	mg/L	No
Pentachlorophenol	Feb 22, Mar 01/12	ND	mg/L	No
Phorate	Feb 22, Mar 01/12	ND	mg/L	No
Picloram	Feb 22, Mar 01/12	ND	mg/L	No
Polychlorinated Biphenyls(PCB)	Feb 22, Mar 01/12	ND	mg/L	No
Prometryne	Feb 22, Mar 01/12	ND	mg/L	No
Simazine	Feb 22, Mar 01/12	ND	mg/L	No
Trihalomethanes**	Jan – Dec, 2012	0.011	mg/L	No
Temephos	Feb 22, Mar 01/12	ND	mg/L	No
Terbufos	Feb 22, Mar 01/12	ND	mg/L	No
Tetrachloroethylene	Feb 22, Mar 01/12	ND	mg/L	No
2,3,4,6-Tetrachlorophenol	Feb 22, Mar 01/12	ND	mg/L	No
Triallate	Feb 22, Mar 01/12	ND	mg/L	No
Trichloroethylene	Feb 22, Mar 01/12	ND	mg/L	No
2,4,6-Trichlorophenol	Feb 22, Mar 01/12	ND	mg/L	No
2,4,5-Trichlorophenoxy acetic acid (2,4,5-T)	Feb 22, Mar 01/12	ND	mg/L	No
Trifluralin	Feb 22, Mar 01/12	ND	mg/L	No
Vinyl Chloride	Feb 22, Mar 01/12	ND	mg/L	No

ND denotes non-detectable results

NOTE*: The determination of exceedances are based on all results in the data set.

NOTE**: The reported THM result is an annual average of the maximum value observed in each quarter.

Table 8 Inorganic or Organic parameters that exceeded half the standard prescribed in Schedule 2 of Ontario Drinking Water Quality Standards.

Parameter	Result Value	Unit of Measure	Date of Sample