

Scott Point Waterworks District

Water Quality Report

Calendar Year 2018

This report is issued in accordance with section 11 of the British Columbia Drinking Water Protection Regulation of the Drinking Water Protection Act, which requires public reporting of quality monitoring within six months of the end of the calendar year. Responsibility for water quality sampling was assumed by NSSWD under contract to Scott Point Water District in September of 2009, but the Trustees continue to provide oversight of the testing program and provide reporting.

SYSTEM DESCRIPTION

Scott Point drinking water is obtained from three wells. Primary disinfection at Well 1 is via Greensand filtration and reverse osmosis; at Well 3 it is provided by filtration and Pyrolox absorption; and at Well 4 water is treated through filtration, ion exchange tannin reduction, and Greensand filtration. Secondary disinfection consists of chlorine, in the form of sodium hypochlorite, injected prior to water being introduced into a common distribution system. A single Reservoir Tank located at Well 1 maintains system pressure.

OVERSIGHT

The District files an annual Water Quality Testing Plan with Island Health. This Testing Plan specifies the weekly, monthly, quarterly and annual sampling required. In 2018, all samples specified in the plan were completed and the results were forwarded to Island Health.

Additional information on the Water Quality Testing Plan and testing results are available on the District's website at www.scottpointwaterworks.com. This Water Quality Report is made available to all residents via email and at the District's AGM.

The District has an up-to-date Emergency Response Plan. This plan is reviewed annually by the trustees, with copies provided to Island Health and NSSWD. Copies are posted in each treatment plant and on the District's website.

The District has completed a source to tap assessment using Ministry of Health guidelines. This formed part of the analysis which resulted in the District completing a physical risk assessment as part of its Long Term Planning process. A copy of the 10 Year Plan and the physical risk assessment are available on the District's website..

GLOSSARY

MAC = Maximum Allowable Concentration;

mg/L = milligram per litre – equivalent to parts per million;

µg/l = micrograms per litre – equivalent to parts per billion;

DBP = disinfectant by-product – compounds formed through reaction with chlorine

OPERATING PERMIT

The District operates under a Small Water System Operating Permit issued by Island Health. There are no special conditions attached to the Operating Permit.

BACTERIOLOGICAL TESTING

The water at several locations is tested weekly to ensure residual chlorine levels remain above 0.2 mg/L at the ends of the system.

Water is sampled at the end of the system monthly and tested for the presence of coliform and non-coliform bacteria and for e-coli. After the first fall heavy rainfall event, each well is tested for presence of bacteria. In 2018, 14 samples were tested, with 13 samples indicated no bacteria present. One test result (in Jan 2018) indicated the presence of non-coliform bacteria – a subsequent retest indicated no bacteria present.

CHEMICAL TESTING

Product water at each of the three water treatment plants was tested in September for the presence of a number of metals and salts before and after treatment. Results are available on the District's website at www.scottpointwaterworks.com and show water treatment continues to be effective in removing a number of elements. All results for treated water were within the maximum allowable concentrations (MAC) contained in the Canadian Drinking Water Quality Guidelines (CDWQG) set by Health Canada.

Due to ongoing concerns about the presence of disinfectant by-products (DBP) in the water as a result of chemical reactions between naturally occurring elements and the chlorine used for disinfection, quarterly DBP testing continued in 2018.

- Quarterly testing at the ends of the system indicated elevated levels of DBP, in particular Tri-halomethanes which exceed the CDWQ Guidelines MAC of 100 µg/l. Readings were recorded as: January 187 µg/l, April 186 µg/l, July 117 µg/l, October 178 µg/L.
- Treatment Upgrades at Well 1 and Well 4 were completed in February 2019 with improvement in THM results expected in 2019.
- Quarterly sampling for bromate levels at Well 1 indicated one anomalous finding above MAC in April 2018. Other quarterly testing showed bromate levels well below the MAC.

Stemming from the possibility of run-off contamination into the wells identified in the physical risk assessment, in 2017 the District implemented testing of raw well water for the presence of nitrates after the first heavy rainfall event in the fall. Testing in October, 2018 found levels of 4.3 µg/L., and 104 µg/L. in Well 3, 4 respectively (Well 1 was offline). Measured against the MAC of 1000 µg/L, this indicates relatively low levels of run-off from septic systems or agriculture activity.

ORDERS

The District received no orders from regulatory authorities in 2018.

OPERATIONAL PROBLEMS

No major leaks, malfunction of disinfection equipment, or challenges with insufficient water supplies were experienced in 2018. A 7-day power failure occurred from December 20-27, 2018. During this time no water was produced or treated, but pressure was maintained using the Reservoir, and chlorine was manually added to the Reservoir as indicated by routine testing.

The long-standing issue of seawater intrusion into Well 1 continues to be a concern. The District is monitoring the issue by collecting data and consulting with hydrogeologists.

MAJOR UPGRADES AND REPAIRS

In 2018, work continued on the Project Blend changes to the water treatment processes to reduce the levels of Tri-halomethanes in treated water. During 2018 Well 4 treatment modifications were completed and the well was connected to the Well 1 treatment plant. In February 2019, Well 1 treatment modifications were completed and Project Blend was complete, other than minor clean-up items.

Following these treatment changes, which include the removal of the water softening process, it is hoped that the Permanent Advisories will be able to be lifted.

It should be noted that the removal of the water softeners at Well 4 has reduced the sodium and potassium in the water supply and raised the pH of the system to (hopefully) lengthen the lifespan of water heaters. But even with blending of Well 1 and Well 4 together the water is harder (ie; contains more calcium carbonate) than previously. Some residents are noticing this as “limescale” built up in their kettles and showerheads. We are continuing to monitor hardness to determine the long term level and whether it will become an issue.

PERMANENT ADVISORIES

The following Permanent Advisories are highlighted for attention:

Sodium: Sodium chloride occurs naturally. The sodium levels of water are within CDWQ Guideline limit of 200 mg/L but at times exceed the alert level for people on sodium-restricted diets of 20 mg/L (This is a permanent alert which the district has previously mailed to property owners). The September routine testing indicated sodium levels in product water at Well #1 – 83 mg/L, Well #3 – 19 mg/L and Well #4 – 74 mg/L.

It is recommended people on sodium restricted diets use an alternative source for drinking water.

Disinfectant By-Products: As reported above, levels of DBPs, particularly Tri-halomethane compounds have exceeded the MAC.

It is recommended that people concerned about these compounds should consider an alternative source for drinking water, or treat by boiling or with activated carbon.