

Scott Point Waterworks District

Calendar Year 2020

Water Quality Report

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. Water quality sampling is conducted by North Salt Spring Waterworks District (“NSSWD”) under contract. The Trustees provide oversight of the testing program and provide reporting.

SYSTEM DESCRIPTION

Scott Point drinking water is obtained from three groundwater wells. Primary treatment at Well 1 is oxidation followed by greensand filtration and reverse osmosis; at Well 3 it is provided by oxidation followed by sand filtration and Pyrolox absorption; and at Well 4 water is treated through sand filtration, ion exchange tannin reduction, oxidation, and greensand filtration. Disinfection consists of chlorine, in the form of sodium hypochlorite, injected prior to water being introduced into a common distribution system and the residual chlorine is monitored weekly at the ends of the system. A single reservoir tank located at Well 1 maintains system pressure. The water main consists of 2000 m of NPS 4, AC pipe with a dead end at 2 locations.

OVERSIGHT

The District files an annual Water Quality Testing Plan with Vancouver Island Health Authority (“VIHA”). This Testing Plan specifies the weekly, monthly, quarterly and annual sampling required. In 2020, all samples specified in the plan were completed and the results from a certified laboratory were forwarded to VIHA. Additional information on the Water Quality Testing Plan and testing results are available on the District’s website at www.scottpointwaterworks.com/water-quality-2. This Annual Water Quality Report is made available to all residents via email and at the District’s AGM.

The District has an Emergency Response Plan. The trustees review this plan annually and copies are provided to VIHA and NSSWD. Copies are also posted in each treatment plant and at <http://www.scottpointwaterworks.com/governance/emergency-response/>. At the request of VIHA, a pandemic response was added to the plan in March 2020.

The District’s system is classified as a Small Water System under the Environmental Operators Certification Program (“EOCP”). Routine operation and maintenance

tasks on the District's system are provided by NSSWD under contract. The NSSWD operators are all qualified at EOCP Levels I to IV, all of which exceed the requirements of a Small Water System. One trustee is qualified as EOCP Small Water System operator.

The District has completed a source to tap assessment using Ministry of Health guidelines. This formed part of the analysis that 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 under the Governance tab.

The District also subscribes to the Multi Barrier Approach for Ensuring Safe Water promoted by Health Canada. The elements of the District's Approach are available at <http://www.scottpointwaterworks.com/water-quality-2/>

GLOSSARY

CDWQG = Canadian Drinking Water Quality Guidelines set by Health Canada

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 chlorine residual level at several locations is tested bi-weekly to ensure levels remain above 0.2 mg/L at the ends of the system, and above 0.8 mg/L in the Reservoir. NSSWD files a monthly report with SPWD confirming chlorine residuals.

Water is sampled monthly at alternating dead-ends of the system and tested for the presence of coliform and non-coliform bacteria and for e-coli. Each quarter including after the first fall heavy rainfall event, each source well is tested for presence of bacteria before and after treatment. A summary of all testing results is available at <http://www.scottpointwaterworks.com/water-quality-2/testing-reports/>

CHEMICAL TESTING

Product water at each of the three water treatment plants was tested in August 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/water-

[quality-2/testing-reports/](#) and show water treatment continues to be effective in removing a number of elements.

Results from raw water from wells can exceed the MAC contained in the CDWQG set for Iron, Magnesium, Manganese and Sodium. All results for treated water were below the MAC.

The testing for the presence of Disinfectant By-products in the water as a result of chemical reactions between naturally occurring elements and the chlorine used for disinfection, continued in 2020.

- Quarterly testing at the ends of the system indicated that levels of tri-halomethanes did not exceed the CDWQ Guidelines MAC of 100 µg/l. Readings were recorded as: January 49.2 µg/l, April 52 µg/l, July 68.2 µg/l, October 76 µg/L.
- Quarterly sampling for bromate levels in Well 1 treated water were recorded as: January 0.45 µg/l, July 7.99 µg/l, October 3.13 µg/l; all below the MAC of 10 µg/L.
- October testing results for halo-acetic acids were reported as 16.8 µg/l; below the MAC of 80 µg/L.

ORDERS

The District received no orders from regulatory authorities in 2020.

OPERATIONAL PROBLEMS

There were no malfunctions of disinfection equipment in 2020.

There were pre-treatment challenges with the RO plant at Well 1, requiring the system to more heavily draw on Well 4 during periods of high water use. While there were no instances of insufficient water supplies experienced in 2020, there was additional stress on aquifers.

The long-standing issue of seawater intrusion into Well 1 continues to be a concern and is being managed through monitoring and adjustments of water sourcing during periods of high demand.

MAJOR UPGRADES AND REPAIRS

There were no major upgrades in 2020.

There was one minor leak from the water main in October caused by a malfunctioning air valve; the valve was replaced. There are 2 remaining old-style

air valves in the system that are now scheduled for replacement. One service line crossing the road and the associated connections to the main was replaced in 2020.

PROGRAMS

Each spring the District has NSSWD conduct the annual water main flushing from the reservoir to each end of the system to remove sediment build up.

The reservoir tank was cleaned in 2020 and a small layer of sediment removed. It is recommended that the interval between tank cleaning be 5 years.

Cross connections are locations where it is possible for water to enter the system from water users' systems and pose a risk of contamination. The District has installed back-flow prevention devices at each service location. In addition, the District conducted a cross connection survey of residents in 2019 that confirmed that all reporting locations either have no cross-connection or have appropriate back-flow prevention devices or air gaps in place. Two premises added complex water systems in 2020, and cross-connection risks for both were reviewed with owners.

The District commenced a multi-year plan to replace meter sets and services lines to meet current standards in 2020. Two connections, two service lines and 4 meters serving 4 premises were replaced. Two non-standard connections were removed and repair saddles installed.

ADVISORIES

During reservoir cleaning, system pressure was maintained with using the Well 1 Transfer Pump. Before the reservoir was returned to service, a power failure occurred on December 21. With approval of VIHA, pressure was restored by prematurely returning the reservoir to service and a Boil Water Advisory was issued. After 2 consecutive bacteria sample showed no indications, and with agreement of NSSWD and VIHA, the Advisory was lifted on December 24.

Some residents are noticing a "lime-scale" built up in their glassware, kettles and showerheads. The District monitors hardness and pH levels to determine the long-term level and is looking at adding scale prevention treatment during upgrades planned for 2021.

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 – 119 mg/L, Well #3 – 19 mg/L and Well #4 – 104 mg/L.

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

Disinfectant By-Products: In past years levels of DBPs, particularly Tri-halomethane compounds have exceeded the MAC. In 2020, no samples for DBPs exceeded the MAC. The District is considering lifting the permanent advisory in 2021.

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.