

REGIONAL DISTRICT OF NANAIMO

Water Service Area Annual Report 2022



San Pareil Water Service Area

June 2023



REGIONAL DISTRICT OF NANAIMO

Water Services Department

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Appendix A - Map of San Pareil Water Service Area

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1. Introduction

The following annual report describes the San Pareil Water Service Area and summarizes the water quality and production data from 2022. This report also includes a summary of inquiries and complaints, completed and proposed maintenance activities, Operator Certification, the Emergency Response & Contingency Plan, and the Cross Connection Control Program. This report is to be submitted to Island Health by the spring of 2023.

2. San Pareil Water System

The San Pareil Water Service Area was established in 1999 when the RDN acquired the existing Bubbling Springs Water Utility. This system is located to the northeast of the Englishman River Bridge on the east side of the City of Parksville. There are 289 water service connections in San Pareil. The water source for the San Pareil Water Service Area comes from a series of groundwater wells located in the well field on Plummer Road. The well water passes through an upgraded ultraviolet disinfection process, is chlorinated, and is then stored in two reservoirs. A back-up generator is present at the pumphouse, should it be required. A map of the San Pareil Water System is provided in Appendix A.

2.1 Groundwater Wells

Two groundwater production wells are present in the well field at 1090 Plummer Road, Parksville, B.C. Well #2 was closed in 2012. Well #3 is utilized as a monitoring well, but also serves as a backup well to Well #4.

Well / Name	Well Depth	Wellhead Protection	Treated/Untreated with Chlorine
#1	4.4 m	Yes	Treated
#2	5.5 m	Closed	Not in use
#3	7.0 m	Yes	Treated
#4	5.7 m	Yes	Treated

2.2 Reservoirs

Two concrete service reservoirs are present at 1090 Plummer Road, and have a capacity of 340 m³ (75,000 imperial gallons) each.

2.3 Distribution System

The water distribution system in San Pareil, as summarized in the table below, is comprised of 6.6 km of asbestos-concrete and PVC watermains. Twenty (20) fire hydrants are present in the service area.

Watermain Material	Length of mains in San Pareil Water Service Area	Prevalence in Water Service Area
AC: 150mm or smaller	3.3 km	50%
AC: 200mm or larger	n/a	n/a
PE: 50mm or smaller	0.7 km	10%
PVC: 150mm or smaller	0.3 km	4%
PVC: 200mm or larger	2.3 km	36%

Note: 'AC' is Asbestos-Concrete, 'PVC' is poly-vinylchloride (plastic), 'PE' is polyethylene

3. Water Sampling and Testing Program

Water sampling and testing is carried out weekly in the distribution system. Notably, the chlorine residual levels are tested weekly to ensure the absence of bacterial regrowth in the water mains. The following table includes a summary of all testing:

Timing	Location	Tests
Weekly	RDN (in-house) Laboratory	Total coliforms, E.Coli, Temp, pH, Conductivity, Chlorine residual, Salinity, Turbidity, TDS
Weekly	BC Centre for Disease Control	Total coliforms, E.Coli
Annual Source Water Testing (every Fall)	Bureau Veritas	Complete potability testing of raw well water, including T. Ammonia, UVT
Annual System Water Testing (every Spring)	Bureau Veritas	Complete potability testing of distribution system, including T. Ammonia

4. Water Quality - Source Water and Distribution System

Up-to-date water quality reports and lab data are posted monthly on the RDN website at www.rdn.bc.ca/san-pareil. Tables of water quality testing results for both the source water and distribution system are provided at the end of this report under Appendix B.

5. Water Quality Inquiries and Complaints

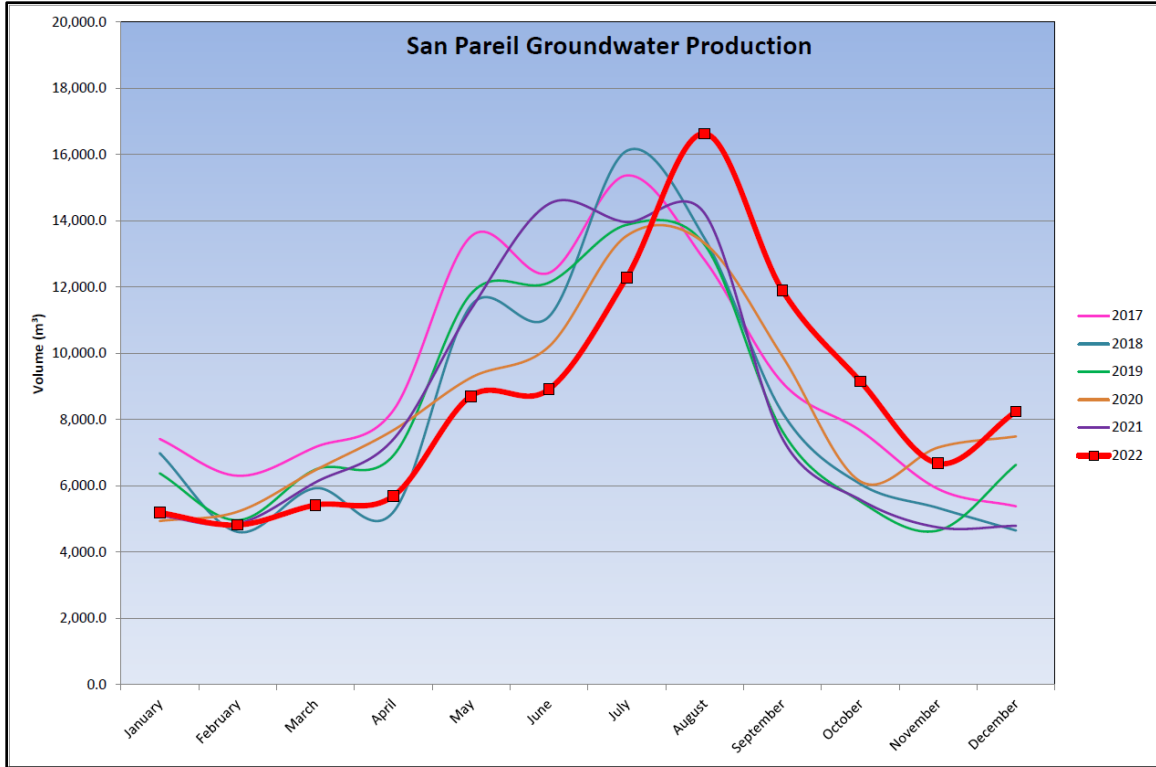
A few complaints were received from the San Pareil water service area in 2022 which were typically related to high water bills. Several refunds were subsequently issued under the RDN’s Leak Policy. A small group of property owners on Shorewood Drive are currently working towards entering the service area and extending the community watermain at their own expense.

A summary of the water system incidents in 2022 is given in the table below.

Activity in 2022	Date(s)	History/Notes
Boil Water Advisories	None	None
High Turbidity Events	None	None
Equipment Malfunction	None	None
Water Main Breaks	None	None
Pump Failures	None	None

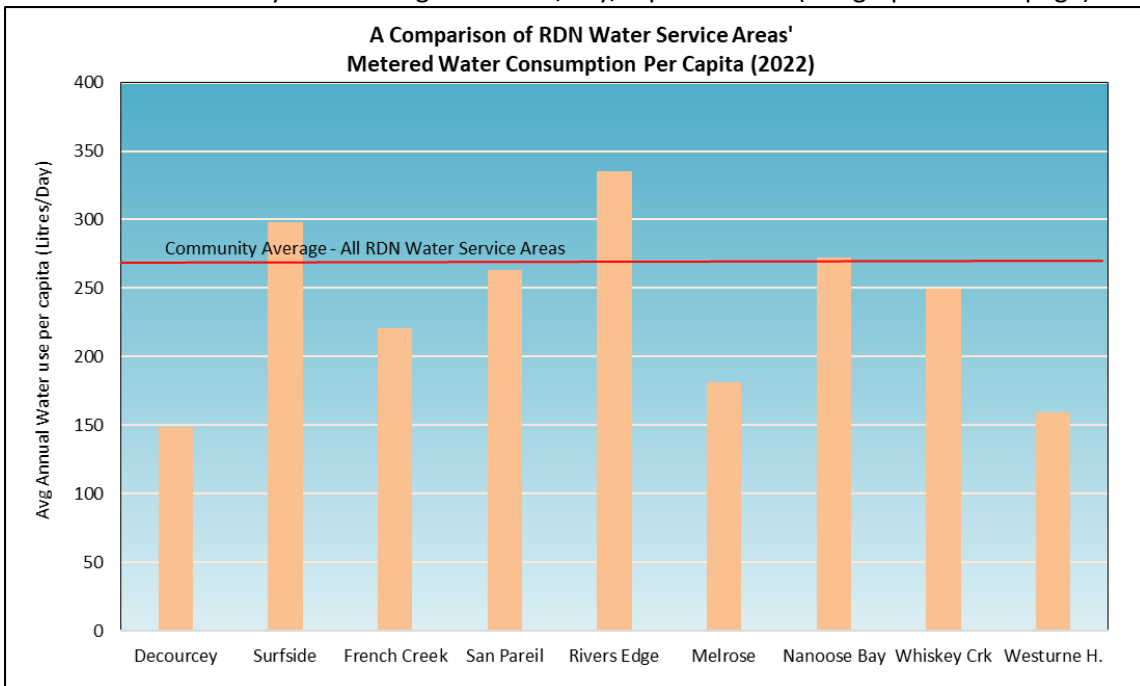
6. Groundwater Production and Consumption

The monthly groundwater production for San Pareil for the past 6 years is shown in the chart below. In 2022, groundwater production was above average overall in the late summer due to higher than normal seasonal temperatures.



Consumption

In the Fall/Winter of 2022, the average usage per home in San Pareil was 0.43 cubic metres per day (94.6 imperial gallons). In the summer, the average water usage was 1.04 cubic metres per day (228.8 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 263 L/day (based on 2.4 people/household). This consumption is **2% less** than all the other RDN water system averages of 269 L/day/capita in 2022 (see graph on next page).



7. Maintenance Program

A weekly pump station inspection is carried out to reduce or eliminate the risk of contamination and system failure, and to ensure the consistent application of chlorine for treatment purposes. Fire hydrants are serviced once per year (either ‘A-level’ or ‘B-level’ maintenance) in the spring. The reservoirs are cleaned every 2-3 years. Twenty-four hour on-call coverage is in place to respond to water system emergencies and alarms.

8. Operator Certification

The Regional District Water & Utility Services staff is comprised of one Manager, one Project Engineer, one Engineering Technologist, one Engineering Technician, one Chief Operator, and seven certified operators. The operators receive ongoing training and certification in:

- | | | |
|----------------------------|---|----------------------------|
| ✓ Water Treatment | ✓ Chlorine Handling | ✓ Confined Space Awareness |
| ✓ Water Distribution | ✓ WHMIS (Workplace Hazardous Material Information System) | ✓ Fall Protection |
| ✓ Wastewater Collection | ✓ TDG (Transportation of Dangerous Goods) | ✓ First Aid |
| ✓ Cross Connection Control | | ✓ Silica Awareness |
| ✓ Asbestos Awareness | | |

9.0 Water System Projects

9.1 2022 Completed Studies & Projects

- Replaced harmonic filter;
- Corresponded with residents regarding water conservation;
- Utilized leak detection equipment and tracking;
- Set new water rates structure based on rewarding conservation;
- Followed Cross Connection Control program to reduce backflow prevention risks;
- Enforced outdoor sprinkling regulations;
- Advised residents regarding water leak repairs;
- Continued the 2021-2030 Water Conservation Plan;
- Completed regular watermain flushing and hydrant maintenance;
- Maintained a high level of water quality;
- Continued quality control through regular testing and monitoring of water system; and
- Continued valve maintenance program.



San Pareil Well Site

9.2 2023 Proposed Projects & Upgrades

- Cleaned and inspected reservoir 1;
- Complete irrigation checks for high-water users;
- Begin billing for metered consumption based on revised water rates;

- Continue watermain flushing program and hydrant maintenance;
- Implement Phase 2 Water Systems SCADA Master Plan;
- Continue leak detection equipment utilization program;
- Investigate new watermain flushing and metering procedures to promote conservation;
- Continue valve maintenance program;
- Continue the 2021-2030 DWWP Water Conservation Plan; and
- Continue to offer numerous water-saving incentives via rebates.

10. Emergency Response & Contingency Plan

The Regional District Emergency Response & Contingency Plan (ERCP) contains procedures and contact information to efficiently respond to water system emergencies such as contamination of water supply, loss of supply, pump failure, and drought management. The ERCP was reviewed and updated in 2022, and copies are available on our website, at each RDN office, in each pumphouse, and in each Water Services vehicle. A copy of the ERCP is also attached to this report in Appendix C.

11. Supply Security

The RDN continues to effectively manage water supply in its service areas in response to ongoing demand and the effects of climate change. Most RDN water service areas are not expected to expand, so growth in demand is not expected. Initiatives that provide resiliency for the groundwater sources that serve residents remain a high priority. Reservoir capacity and redundancy are reviewed with regards to water storage during periods of drought, and water from backup sources is available to be delivered in the case of an emergency. Groundwater quality is regularly tested in all RDN water service areas. The aquifers within the regional district are monitored through the RDN's Drinking Water and Watershed Protection (DWWP) program. The most sustainable way to protect water supply is through demand management (conservation), which is promoted through outreach and stewardship initiatives provided by the RDN's Team WaterSmart , as well as the RDN Water Service Area's Water Conservation Plan 2020-2030. Rebates for well water testing, water smart landscaping, and rainwater harvesting further assist RDN residents to reduce water usage in high demand seasons. A new tiered system for water rates taking effect in 2023 will help promote conservation by rewarding low water users with reduced rates and encouraging high water users to seek ways to use less. Additional planning and preparation initiatives will be introduced in the future to support water supply security.

12. Cross Connection Control

The RDN's Cross Connection Control Program was put in place to protect the public health by reducing the risk of contaminants flowing back into the public water supply. The RDN Manager of Water Services is the designated Cross Connection Control Manager.

The RDN's Cross Connection Control Program addresses cross connection threats through operating policies and procedures, as well as assisting customers with backflow preventer selection, installation, testing, maintenance and reporting. The program receives its authority from *RDN Cross Connection Control Regulation Bylaw No. 1788*, and the *British Columbia Building Code, Part 7*, which requires that potable water be protected from contamination. Additionally, a webpage has been established at <https://rdn.bc.ca/cross-connection-control-program> to

educate RDN water service customers about cross connection hazards, and lists the relevant links to current standards and resources.

Two of the RDN's water system operators received certification as backflow assembly testers through the British Columbia Water & Waste Association (BCWWA).

13. Cyber Security

The RDN uses a multi-level approach to cyber-security. Corporate network security is employed via a universal threat management gateway that implements various methods of data security, which includes daily definition updates to block known cyber threats. In addition, all RDN PC's are protected with anti-virus software. RDN water systems are connected to the corporate network via IP-Sec VPN's for remote management by information technology and equipment operators. Future infrastructure upgrades will see our water systems located on segregated networks to limit the vulnerability from cybersecurity threats.

14. Closing

An annual report for the year 2023 will be prepared and submitted to Island Health in the Spring of 2024. Annual reports are also available on our website at: www.rdn.bc.ca/san-pareil.



San Pareil
Reservoir #2

APPENDIX A

**MAP OF SAN PAREIL
WATER SERVICE AREA**

SAN PAREIL WATER SERVICE AREA



APPENDIX B

WATER QUALITY TESTING RESULTS

SAN PAREIL WATER SERVICE AREA



Facility Location:

Terrien Way

Facility Information: Facility Type: 15-300 connections DWC

Facility Sampling History:

<u>Date Collected</u>	<u>Total Coliform</u>	<u>Total E. Coli</u>	<u>Site Name</u>
01/19/2022	LT1	LT1	1090 PLUMMER ROAD
02/23/2022	LT1	LT1	1090 PLUMMER ROAD
03/21/2022	LT1	LT1	1090 PLUMMER ROAD
04/27/2022	LT1	LT1	1090 PLUMMER ROAD
05/25/2022	LT1	LT1	1090 PLUMMER ROAD
06/21/2022	LT1	LT1	1090 PLUMMER ROAD
07/26/2022	LT1	LT1	1090 PLUMMER ROAD
08/17/2022	LT1	LT1	1090 PLUMMER ROAD
09/27/2022	LT1	LT1	1090 PLUMMER ROAD
10/17/2022	LT1	LT1	1090 PLUMMER ROAD
11/28/2022	LT1	LT1	1090 PLUMMER ROAD
01/05/2022	QRWRT	QRWRT	793 SAN MALO CRESCENT
01/17/2022	LT1	LT1	793 SAN MALO CRESCENT
02/01/2022	LT1	LT1	793 SAN MALO CRESCENT
03/02/2022	LT1	LT1	793 SAN MALO CRESCENT
04/06/2022	LT1	LT1	793 SAN MALO CRESCENT
05/03/2022	LT1	LT1	793 SAN MALO CRESCENT
06/29/2022	LT1	LT1	793 SAN MALO CRESCENT
07/05/2022	ESTCT 60 ESTHCD	LT1	793 SAN MALO CRESCENT
07/13/2022	LT1	LT1	793 SAN MALO CRESCENT
08/03/2022	LT1	LT1	793 SAN MALO CRESCENT
09/07/2022	LT1	LT1	793 SAN MALO CRESCENT
10/05/2022	LT1	LT1	793 SAN MALO CRESCENT
11/02/2022	LT1	LT1	793 SAN MALO CRESCENT
12/05/2022	LT1	LT1	793 SAN MALO CRESCENT
12/21/2022	REJCT DELAY3	REJCT DELAY3	793 SAN MALO CRESCENT
01/17/2022	LT1	LT1	962 BALLENAS RD

02/15/2022	LT1	LT1	962 BALLENAS RD
03/09/2022	LT1	LT1	962 BALLENAS RD
04/19/2022	LT1	LT1	962 BALLENAS RD
05/10/2022	LT1	LT1	962 BALLENAS RD
07/13/2022	LT1	LT1	962 BALLENAS RD
08/31/2022	LT1	LT1	962 BALLENAS RD
09/20/2022	LT1	LT1	962 BALLENAS RD
10/12/2022	LT1	LT1	962 BALLENAS RD
11/09/2022	LT1	LT1	962 BALLENAS RD
12/07/2022	LT1	LT1	962 BALLENAS RD
01/10/2022	LT1	LT1	995 SABINE RD.
01/25/2022	LT1	LT1	995 SABINE RD.
02/09/2022	LT1	LT1	995 SABINE RD.
03/14/2022	LT1	LT1	995 SABINE RD.
04/12/2022	LT1	LT1	995 SABINE RD.
06/15/2022	LT1	LT1	995 SABINE RD.
09/14/2022	LT1	LT1	995 SABINE RD.
10/26/2022	LT1	LT1	995 SABINE RD.
11/22/2022	LT1	LT1	995 SABINE RD.
12/12/2022	LT1	LT1	995 SABINE RD.
02/15/2022	LT1	LT1	Audit - 906 Ballenas San Pariel WS
01/26/2022	LT1	LT1	Water Hauling Tank Treated water
02/09/2022	LT1	LT1	Water Hauling Tank Treated water
03/02/2022	LT1	LT1	Water Hauling Tank Treated water
06/28/2022	LT1	LT1	Water Hauling Tank Treated water

Interpreting Sample Reports

In VIHA, the results of drinking water sampling are reported using the following coding system:

LT1 Less than 1 (no detectable bacteria) - Meaning: No bacteria present

L1 Less than 1 (no detectable bacteria) - Meaning: No bacteria present

REJECT DELAY3 means sample was in transit too long and was not tested



Regional District of Nanaimo - Water Services Department

San Pareil Water Analysis - 2022 Monthly Report

Date	Sample Location (Address)	BC Centre for Disease Control		RDN In-House Laboratory and Spectrophotometer									
		E. coli *	Total Coliform *	E.coli *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
5-Dec-22	793 San Malo	0	0	0	0	8	7.14	0.78	52.1	0.05	100.1	Fe and Mn are no longer tested in-house. See Annual Tap Water Results at https://www.rdn.bc.ca/san-pareil	
7-Dec-22	962 Ballenas	0	0	0	0	9	7.48	0.48	60.0	126.90	0.3		
12-Dec-22	995 Sabin	0	0	0	0	9	7.21	0.83	43.6	0.04	92.5		
21-Dec-22	793 San Malo			0	0	7	7.16	0.50	43.0	0.04	91.4		
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC

Legend:

* Coliforms are measured in colony forming units (CFU) per 100 millilitres of water (CFU/100mL)

Green font indicates a value flagged for operational consideration

Red font indicates non-compliance with the Maximum Acceptable Concentration (MAC) in the CDWG

Comments:

A full potability scan, including metals and minerals, is completed once per year at an external lab.

Notes below about pH (2015) from https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html#_ftn1

Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments



Regional District of Nanaimo - Water Services Department

San Pareil Water Analysis - 2022 Monthly Report

Date	Sample Location (Address)	BC Centre for Disease Control		RDN In-House Laboratory and Spectrophotometer									
		E. coli *	Total Coliform *	E.coli *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
3-Nov-22	793 San Malo	0	0	0	0	14	7.10	0.66	58.2	0.06	122.9	Fe and Mn are no longer tested in-house. See Annual Tap Water Results at https://www.rdn.bc.ca/san-pareil	
8-Nov-22	962 Ballenas	0	0	0	0	12	6.94	0.28	55.1	0.05	116.8		
16-Nov-22	1090 Plummer	0	0	0	0	12	7.24	0.70	45.5	0.05	96.8		
22-Nov-22	995 Sabine	0	0	0	0	11	7.07	0.88	46.0	0.50	96.4		
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC

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Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments



Regional District of Nanaimo - Water Services Department

San Pareil Water Analysis - 2022 Monthly Report

Date	Sample Location (Address)	BC Centre for Disease Control		RDN In-House Laboratory and Spectrophotometer									
		E. coli *	Total Coliform *	E.coli *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
5-Oct-22	793 San Malo	0	0	0	0	16	7.00	0.56	46.1	0.05	98.2	Fe and Mn are no longer tested in-house. See Annual Tap Water Results at https://www.rdn.bc.ca/san-pareil	
12-Oct-22	962 Ballenas	0	0	0	0	16	6.82	0.40	50.7	0.05	107.5		
17-Oct-22	1090 Plummer	0	0	0	0	14	6.90	0.80	51.4	0.05	108.9		
26-Oct-22	995 Sabine	0	0	0	0	14	6.97	0.67	50.2	0.05	101.1		
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC

Legend:

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Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments



Regional District of Nanaimo - Water Services Department

San Pareil Water Analysis - 2022 Monthly Report

Date	Sample Location (Address)	BC Centre for Disease Control		RDN In-House Laboratory and Spectrophotometer									
		E. coli *	Total Coliform *	E.coli *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
7-Sep-22	793 San Malo	0	0	0	0	16	7.14	0.61	45.2	0.04	95.9	Fe and Mn are no longer tested in-house. See Annual Tap Water Results at https://www.rdn.bc.ca/san-pareil	
14-Sep-22	995 Sabine	0	0	0	0	17	7.06	0.63	62.0	0.06	131.1		
20-Sep-22	962 Ballenas	0	0	0	0	15	7.10	0.58	51.1	0.05	100.1		
27-Sep-22	1090 Plummer	0	0	0	0		7.12	0.56	62.1	0.06	131.2		
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC

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San Pareil Water Analysis - 2022 Monthly Report

Date	Sample Location (Address)	BC Centre for Disease Control		RDN In-House Laboratory and Spectrophotometer									
		E. coli *	Total Coliform *	E.coli *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
2-Aug-22	793 San Malo	0	0	0	0	17	6.83	0.70	41.3	0.04	87.7	Fe and Mn are no longer tested in-house. See Annual Tap Water Results at https://www.rdn.bc.ca/san-pareil	
9-Aug-22	962 Ballenas			0	0	16	6.92	0.55	44.6	0.04	94.6		
17-Aug-22	1090 Plummer	0	0	0	0	17	7.63	0.59	44.7	0.04	94.9		
23-Aug-22	995 Sabine	0	0	0	0	17	6.72	0.54	45.2	0.04	95.8		
30-Aug-22	962 Ballenas	0	0	0	0	18	7.18	0.23	47.7	0.05	101.0		
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC

Legend:

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Notes below about pH (2015) from https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html#_ftn1

Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
Treatment-related	pH (2015)	None	7.0-10.5	Not applicable	Not applicable	The control of pH is important to maximize treatment effectiveness, control corrosion and reduce leaching from distribution system and plumbing components.



Regional District of Nanaimo - Water Services Department

San Pareil Water Analysis - 2022 Monthly Report

Date	Sample Location (Address)	BC Centre for Disease Control		RDN In-House Laboratory and Spectrophotometer									
		E. coli *	Total Coliform *	E.coli *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
6-Jul-22	795 San Malo	0	60	0	0	15	7.23	0.48	54.8	0.05	116.0	Fe and Mn are no longer tested in-house. See Annual Tap Water Results at https://www.rdn.bc.ca/san-pareil	
13-Jul-22	795 San Malo	0	0	0	0	n/a	n/a	0.68	1.0	n/a	n/a		
13-Jul-22	962 Ballenas	0	0	0	0	15	6.95	0.59	33.8	0.08	71.8		
20-Jul-22	995 Sabine			0	0	12	6.85	0.76	34.3	0.03	72.9		
26-Jul-22	1090 Plummer	0	0	0	0	12	6.87	0.57	36.9	0.04	78.5		
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC

Legend:

* Coliforms are measured in colony forming units (CFU) per 100 millilitres of water (CFU/100mL)

Green font indicates a value flagged for operational consideration

Red font indicates non-compliance with the Maximum Acceptable Concentration (MAC) in the CDWG

Comments:

A full potability scan, including metals and minerals, is completed once per year at an external lab.

Notes below about pH (2015) from https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html#_ftn1

Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
Treatment-related	pH (2015)	None	7.0-10.5	Not applicable	Not applicable	The control of pH is important to maximize treatment effectiveness, control corrosion and reduce leaching from distribution system and plumbing components.



Regional District of Nanaimo - Water Services Department

San Pareil Water Analysis - 2022 Monthly Report

Date	Sample Location (Address)	BC Centre for Disease Control		RDN In-House Laboratory and Spectrophotometer									
		E. coli *	Total Coliform *	E.coli *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
7-Jun-22	962 Ballenas	0	0	0	0	13	7.03	0.52	29.9	0.03	63.4	Fe and Mn are no longer tested in-house. See Annual Tap Water Results at https://www.rdn.bc.ca/san-pareil	
15-Jun-22	995 Sabine	0	0	0	0	10	6.90	0.25	27.0	0.03	57.6		
21-Jun-22	1090 Plumber	0	0	0	0	9	7.02	0.54	27.5	0.03	56.1		
29-Jun-22	793 San Malo	0	0	0	0	10	n/a	0.67	n/a	n/a	n/a		
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC

Legend:

* Coliforms are measured in colony forming units (CFU) per 100 millilitres of water (CFU/100mL)

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Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
Treatment-related	pH (2015)	None	7.0-10.5	Not applicable	Not applicable	The control of pH is important to maximize treatment effectiveness, control corrosion and reduce leaching from distribution system and plumbing components.



Regional District of Nanaimo - Water Services Department

San Pareil Water Analysis - 2022 Monthly Report

Date	Sample Location (Address)	BC Centre for Disease Control		RDN In-House Laboratory and Spectrophotometer									
		E. coli *	Total Coliform *	E.coli *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
3-May-22	793 San Malo	0	0	0	0	8	7.23	0.75	30.1	0.03	66.6	Fe and Mn are no longer tested in-house. See Annual Tap Water Results at https://www.rdn.bc.ca/san-pareil	
10-May-22	962 Ballenas	0	0	0	0	10	6.97	0.57	31.4	0.03	66.9		
16-May-22	995 Sabine	0	0	0	0	9	6.86	0.80	29.1	0.03	63.3		
25-May-22	1090 Plummer	0	0	0	0	9	6.76	0.83	282.0	0.03	60.2		
31-May-22	793 San Malo			0	0	10	6.85	0.75	28.2	0.03	60.0		
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC

Legend:

* Coliforms are measured in colony forming units (CFU) per 100 millilitres of water (CFU/100mL)

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Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
Treatment-related	pH (2015)	None	7.0-10.5	Not applicable	Not applicable	The control of pH is important to maximize treatment effectiveness, control corrosion and reduce leaching from distribution system and plumbing components.



Regional District of Nanaimo - Water Services Department

San Pareil Water Analysis - 2022 Monthly Report

Date	Sample Location (Address)	BC Centre for Disease Control		RDN In-House Laboratory and Spectrophotometer									
		E. coli *	Total Coliform *	E.coli *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
6-Apr-22	792 San Malo	0	0	0	0	9	8.61	0.69	27.3	0.03	59.6	Fe and Mn are no longer tested in-house. See Annual Tap Water Results at https://www.rdn.bc.ca/san-pareil	
12-Apr-22	995 Sabine	0	0	0	0	8	7.13	0.68	29.1	0.03	61.9		
19-Apr-22	962 Ballenas	0	0	0	0	9	7.12	0.35	32.2	0.03	68.7		
25-Apr-22	1090 Plummer	0	0	0	0	8	7.14	0.58	28.8	0.03	61.3		
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC

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Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
Treatment-related	pH (2015)	None	7.0-10.5	Not applicable	Not applicable	The control of pH is important to maximize treatment effectiveness, control corrosion and reduce leaching from distribution system and plumbing components.



Regional District of Nanaimo - Water Services Department

San Pareil Water Analysis - 2022 Monthly Report

Date	Sample Location (Address)	BC Centre for Disease Control		RDN In-House Laboratory and Spectrophotometer									
		E. coli *	Total Coliform *	E.coli *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
2-Mar-22	793 San Malo	0	0	0	0	8	7.00	0.81	37.0	0.04	0.1	Fe and Mn are no longer tested in-house. See Annual Tap Water Results at https://www.rdn.bc.ca/san-pareil	
8-Mar-22	962 Ballenas	0	0	0	0	9	7.66	0.33	37.4	0.04	79.8		
14-Mar-22	995 Sabine	0	0	0	0	8	7.04	0.70	31.3	0.03	66.7		
21-Mar-22	1090 Plummer	0	0	0	0	8	7.02	0.77	29.9	0.03	63.7		
30-Mar-22	962 Ballenas			0	0	9	8.42	0.22	32.4	0.03	69.0		
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC

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Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
Treatment-related	pH (2015)	None	7.0-10.5	Not applicable	Not applicable	The control of pH is important to maximize treatment effectiveness, control corrosion and reduce leaching from distribution system and plumbing components.



Regional District of Nanaimo - Water Services Department

San Pareil Water Analysis - 2022 Monthly Report

Date	Sample Location (Address)	BC Centre for Disease Control		RDN In-House Laboratory and Spectrophotometer									
		E. coli *	Total Coliform *	E.coli *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
1-Feb-22	793 San Malo	0	0	0	0	8	7.49	0.75	41.4	0.04	84.9	Fe and Mn are no longer tested in-house. See Annual Tap Water Results at https://www.rdn.bc.ca/san-pareil	
9-Feb-22	995 Sabine	0	0	0	0	8	8.35	0.71	36.5	0.03	77.5		
15-Feb-22	962 Ballenas	0	0	0	0	8	6.98	0.25	41.2	0.04	87.6		
23-Feb-22	1090 Plummer	0	0	0	0	8	7.08	0.71	32.5	0.03	69.3		
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC

Legend:

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Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
Treatment-related	pH (2015)	None	7.0-10.5	Not applicable	Not applicable	The control of pH is important to maximize treatment effectiveness, control corrosion and reduce leaching from distribution system and plumbing components.



Regional District of Nanaimo - Water Services Department

San Pareil Water Analysis - 2022 Monthly Report

Date	Sample Location (Address)	BC Centre for Disease Control		RDN In-House Laboratory and Spectrophotometer									
		E. coli *	Total Coliform *	E.coli *	Total Coliform *	Temp. (°C)	pH	Free Chlorine Residual (mg/L)	Total Dissolved Solids (mg/L)	Salinity (%)	Conductivity (µS/cm)	Total Iron (mg/L)	Manganese (mg/L)
5-Jan-22	793 San Malo	0	0	0	0	7	7.11	0.82	39.0	0.04	82.8	Fe and Mn are no longer tested in-house. See Annual Tap Water Results at https://www.rdn.bc.ca/san-pareil	
10-Jan-22	995 Sabine	0	0	0	0	7	6.90	0.89	39.7	0.04	83.1		
17-Jan-22	962 Ballenas	0	0	0	0	8	7.02	0.15	36.4	0.04	77.0		
17-Jan-22	793 San Malo	0	0	0	0	8	7.05	0.80	36.2	0.04	78.9		
19-Jan-22	1090 Plummer	0	0	0	0	8	7.10	0.75	37.1	0.04	84.1		
25-Jan-22	995 Sabine	0	0	0	0	8	7.56	0.68	40.8	0.04	86.7		
CDN Drinking Water Guidelines		<1	<1	<1	<1	n/a	7.0-10.5	n/a	500	n/a	n/a	0.3	0.02 AO 0.12 MAC

Legend:

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Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
Treatment-related	pH (2015)	None	7.0-10.5	Not applicable	Not applicable	The control of pH is important to maximize treatment effectiveness, control corrosion and reduce leaching from distribution system and plumbing components.

CDWG=Canadian Drinking Water Guidelines
 OG= Operational Guidance Value

 MAC=Maximum Acceptable Concentration
 AO= Aesthetic Objective

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Red font indicates non-compliance with the Maximum Acceptable Concentration (MAC) in the CDWG

	Units	CDWG		October 12 2016	September 20 2017	October 29 2018	October 3 2019	October 20 2020	October 14 2021	October 13 2022
Miscellaneous Inorganics										
Fluoride	mg/L	1.5	MAC	0.015	0.023	0.02	<0.05	<0.05	<0.05	<0.05
Alkalinity (total as CaCO)	mg/L			25.5	23.8	24.6	22	26	28	23
Anions										
Dissolved Sulphate	mg/L	500	AO	2	1.7	1.6	1.7	2.6	2.5	2
Dissolved Chloride	mg/L	250	AO	15	13	16	15	8.3	6.8	16
Nitrite	mg/L	1	MAC	<0.0050	<0.0050	<0.0050	<0.005	<0.005	<0.005	<0.005
Miscellaneous										
Apparent Colour	Colour Unit			<5.0	5	5	5	10	<5	<5
Nutrients										
Total Ammonia	mg/L			0.081	<0.020	<0.020	0.084	<0.015	<0.015	<0.015
Physical Properties										
Conductivity	µS/cm			102	91.4	106	100	80	74	110
pH	pH	7.0:10.5	OG	7.31	7.59	7.42	6.93	7.38	7.13	6.87
TDS	mg/L	500	AO	64	54	72	66	58	68	72
Turbidity	NTU			0.16	0.14	0.13	<0.10	<0.10	<0.1	<.1
Microbiological Parameters										
E.coli	MPN/100mL	<1	MAC	<1.0	<1.0	<1.0	0	0	0	0
Total Coliforms	MPN/100mL	<1	MAC	6.4	14	<1.0	4.2	0	0	0
Calculated Parameters										
Total Hardness (CaCO)	mg/L			32.2	29.9	35.1	30.8	26.2	24.3	35.8
Nitrate	mg/L	10	MAC	0.149	0.090	0.090	0.114	0.104	0.087	0.092
Elements										
Total Mercury	mg/L	0.001	MAC	<0.00001	<0.00001	<0.000002	<0.000002	<0.000019	<0.0000019	<0.0000019
Total Metals										
Total Aluminum	mg/L	0.1	OG	0.0058	0.008	0.008	0.0043	0.0084	0.0078	0.0046
Total Antimony	mg/L	0.006	MAC	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Total Arsenic	mg/L	0.01	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Barium	mg/L	1	MAC	0.0055	0.005	0.0052	0.005	0.004	0.0036	0.0053
Total Beryllium	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Bismuth	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Boron	mg/L	5	MAC	<0.050	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05
Total Cadmium	mg/L	0.005	MAC	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Total Chromium	mg/L	0.05	MAC	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Cobalt	mg/L			<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Total Copper	mg/L	1	AO	0.00634	0.00185	0.0106	0.00065	0.00083	0.00329	0.00094
Total Iron	mg/L	0.3	AO	0.0065	0.0104	0.0289	0.0083	0.0148	0.0082	0.0085
Total Lead	mg/L	0.01	MAC	0.00092	0.00065	0.00129	<0.0002	<0.0002	<0.0002	<0.0002
Total Manganese	mg/L	0.02 0.12	AO MAC	<0.001	<0.001	0.0036	<0.001	0.0017	<0.001	<0.001
Total Molybdenum	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Nickel	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Selenium	mg/L	0.05	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Silicon	mg/L			3.02	3.48	2.81	2.5	2.92	2.88	2.77
Total Silver	mg/L			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Total Strontium	mg/L			0.0489	0.042	0.0476	0.0418	0.0345	0.0341	0.0475
Total Thallium	mg/L			<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Total Tin	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Titanium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Uranium	mg/L	0.02	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Vanadium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Zinc	mg/L	5	AO	<0.005	<0.005	0.0072	<0.005	<0.005	<0.005	<0.005
Total Zirconium	mg/L			<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Calcium	mg/L			10.4	9.75	11.5	10.1	8.44	7.94	11.7
Total Magnesium	mg/L			1.54	1.35	1.56	1.38	1.26	1.08	1.6
Total Potassium	mg/L			0.213	0.194	0.207	0.192	0.198	0.168	0.202
Total Sodium	mg/L	200	AO	5.82	4.64	4.99	5.1	4.55	3.94	5.46
Total Sulphur	mg/L			<3.0	<3.0	<3.0	<3	<3	<3	<3
UVT	%T/cm			97.0	>97.7	97.4	95.3	93.7	95.0	97.0

 Notes below about pH (2015) from https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/ewh-sem/alt_formats/pdf/pubs/water-eau/sum_guide-res_recom/summary-table-EN-2020-02-11.pdf

Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
Treatment-related	pH (2015)	None	7.0-10.5	Not applicable	Not applicable	The control of pH is important to maximize treatment effectiveness, control corrosion and reduce leaching from distribution system and plumbing components.

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	Units	CDWG		October 12 2016	September 20 2017	October 29 2018	October 17 2019	October 20 2020	October 14 2021	October 13 2022
Miscellaneous Inorganics										
Fluoride	mg/L	1.5	MAC	0.015	0.026	0.021	<0.05	<0.05	<0.05	<0.05
Alkalinity (total as CaCO)	mg/L			22.1	24	22.4	21	26	27	23
Anions										
Dissolved Sulphate	mg/L	500	AO	1.8	1.7	1.4	1.5	2.3	3.7	2
Dissolved Chloride	mg/L	250	AO	16	12	14	14	7.8	8.4	14
Nitrite	mg/L	1	MAC	<0.0050	<0.0050	<0.0050	<0.005	<0.005	<0.005	<0.005
Miscellaneous										
Apparent Colour	Colour Unit			5	5	5	5	10	<5	<5
Nutrients										
Total Ammonia	mg/L			0.084	<0.020	<0.020	0.064	<0.015	<0.015	<0.015
Physical Properties										
Conductivity	µS/cm			100	91.3	96	96	77	79	100
pH	pH	7.0:10.5	OG	7.21	7.66	7.39	6.97	7.36	7.22	6.89
TDS	mg/L	500	AO	70	66	58	70	62	62	74
Turbidity	NTU			0.17	0.25	0.25	<0.1	<0.1	0.1	<0.1
Microbiological Parameters										
E.coli	MPN/100mL	<1	MAC	<1.0	<1.0	<1.0	0	0	0	0
Total Coliforms	MPN/100mL	<1	MAC	5.3	<1.0	<1.0	0	0	0	0
Calculated Parameters										
Total Hardness (CaCO)	mg/L			31.1	30.3	31.9	29	25.5	25.8	33.5
Nitrate	mg/L	10	MAC	0.229	0.111	0.113	0.135	0.1	0.108	0.099
Elements										
Total Mercury	mg/L	0.001	MAC	<0.00001	<0.00001	0.0000048	<0.000002	<0.0000019	<0.0000019	<0.0000019
Total Metals										
Total Aluminum	mg/L	0.1	OG	0.0069	0.0067	0.0083	0.0045	0.008	0.0104	0.0057
Total Antimony	mg/L	0.006	MAC	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Total Arsenic	mg/L	0.01	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Barium	mg/L	1	MAC	0.0034	0.0028	0.0032	0.0031	0.004	0.0029	0.0032
Total Beryllium	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Bismuth	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Boron	mg/L	5	MAC	<0.050	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05
Total Cadmium	mg/L	0.005	MAC	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Total Chromium	mg/L	0.05	MAC	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Cobalt	mg/L			<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Total Copper	mg/L	1	AO	0.00623	0.00153	0.0103	0.00085	0.00078	0.00353	0.00105
Total Iron	mg/L	0.3	AO	0.0218	0.026	0.0206	0.0151	0.0101	0.0221	0.015
Total Lead	mg/L	0.01	MAC	0.0007	0.00053	0.00071	<0.0002	<0.0002	<0.0002	<0.0002
Total Manganese	mg/L	0.02 0.12	AO MAC	0.0077	0.0092	0.0022	0.0024	0.0013	0.0033	0.0045
Total Molybdenum	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Nickel	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Selenium	mg/L	0.05	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Silicon	mg/L			3.37	4.05	3.31	2.96	2.87	3.56	3.55
Total Silver	mg/L			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Total Strontium	mg/L			0.047	0.0414	0.0436	0.0382	0.0346	0.0366	0.0438
Total Thallium	mg/L			<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Total Tin	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Titanium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Uranium	mg/L	0.02	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Vanadium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Zinc	mg/L	5	AO	<0.005	<0.005	0.0097	<0.005	<0.005	<0.005	<0.005
Total Zirconium	mg/L			<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Calcium	mg/L			9.83	9.73	10.5	9.37	8.24	8.31	10.7
Total Magnesium	mg/L			1.6	1.47	1.41	1.36	1.21	1.23	1.61
Total Potassium	mg/L			0.339	0.285	0.31	0.287	0.175	0.306	0.314
Total Sodium	mg/L	200	AO	5.54	4.7	4.55	4.91	4.55	4.18	4.58
Total Sulphur	mg/L			<3.0	<3.0	<3.0	<3.0	<3	<3	<3
UVT	%T/cm			97.2	97.5	97.4	95.1	93.4	95.0	97.0

 Notes below about pH (2015) from https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/ewh-sem/alt_formats/pdf/pubs/water-eau/sum_guide-res_recom/summary-table-EN-2020-02-11.pdf

Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
Treatment-related	pH (2015)	None	7.0-10.5	Not applicable	Not applicable	The control of pH is important to maximize treatment effectiveness, control corrosion and reduce leaching from distribution system and plumbing components.

CDWG=Canadian Drinking Water Guidelines
OG= Operational Guidance Value

MAC=Maximum Acceptable Concentration
AO= Asthetic Objective

Grey font indicates a value flagged for operational considerations
Orange font indicates non-compliance with the Aesthetic Objective in the Canadian Drinking Water Guidelines (CDWG)
Red font indicates non-compliance with the Maximum Acceptable Concentration (MAC) in the CDWG

	Units	CDWG		May 19 2015	May 10 2016	May 10 2017	May 2 2018	May 23 2019	May 21 2020	May 6 2021	May 5 2022
Miscellaneous Inorganics											
Fluoride	mg/L	1.5	MAC	0.022	0.021	0.027	0.023	<0.02	<0.05	<0.05	<0.05
Alkalinity (total as CaCO)	mg/L			25.1	25.7	25.3	24.7	22.7	21	22	22
Anions											
Dissolved Sulphate	mg/L	500	AO	1.91	1.95	1.88	2.2	1.2	1.8	2.4	2
Dissolved Chloride	mg/L	250	AO	9	6	4.1	5	7.3	5.5	5.6	5.3
Nitrite	mg/L	1	MAC	<0.0050	<0.0050	<0.0050	<0.0050		<0.005	<0.005	<0.005
Miscellaneous											
Apparent Colour	Colour Unit			<5	5	10	5	5	5	10	<5
Nutrients											
Total Ammonia	mg/L			0.0071	0.014	0.2	<0.020	<0.015	<0.015	<0.015	<0.015
Physical Properties											
Conductivity	µS/cm			82.9	72.3	66.9	64	72.8	62	62	64
pH	pH	7.0:10.5	AO	7.41	7.26	7.43	7.25	7.31	6.92	7.1	6.8
TDS	mg/L	500	AO	50	58	26	52	42	36	30	60
Turbidity	NTU			<0.10	<0.10	0.14	<0.10	<0.1	0.16	<0.1	<0.1
Microbiological Parameters											
E.coli	MPN/100mL	<1	MAC	<1.0	<1.0	<1.0	<1.0	0	0	0	0
Total Coliforms	MPN/100mL	<1	MAC	<1.0	<1.0	<1.0	<1.0	0	0	0	0
Calculated Parameters											
Total Hardness (CaCO)	mg/L			29.7	23.6	22.6	20.6	21.2	19.9	20.1	20.9
Nitrate	mg/L	10	MAC	0.05	0.05	0.06	0.042		<0.02	0.043	0.052
Elements											
Total Mercury	mg/L	0.001	MAC	<0.00001	<0.00001	<0.00001	0.0000021	<0.000002	<0.0000019	<0.0000019	<0.0000019
Total Metals											
Total Aluminum	mg/L	0.1	OG	0.008	0.0104	0.0138	0.0152	0.0094	0.0145	0.0143	0.0141
Total Antimony	mg/L	0.006	MAC	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Total Arsenic	mg/L	0.01	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Barium	mg/L	1	MAC	0.0035	0.0031	0.0034	0.0027	0.0027	0.0024	0.0024	0.0024
Total Beryllium	mg/L			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Bismuth	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Boron	mg/L	5	MAC	<0.05	<0.05	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05
Total Cadmium	mg/L	0.005	MAC	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Total Chromium	mg/L	0.05	MAC	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Cobalt	mg/L			<0.0005	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Total Copper	mg/L	1	AO	0.0026	0.00332	0.00428	0.00516	0.0045	0.00454	0.00616	0.00717
Total Iron	mg/L	0.3	AO	0.016	0.0147	0.0185	0.0147	0.0117	0.0134	0.0156	0.0233
Total Lead	mg/L	0.01	MAC	0.00183	0.00053	0.0006	0.00089	0.00115	0.00065	0.00108	0.00196
Total Manganese	mg/L	0.02 0.12	AO MAC	0.0052	0.0034	0.0016	<0.001	0.0014	<0.001	<0.001	<0.001
Total Molybdenum	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Nickel	mg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Total Selenium	mg/L	0.05	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Silicon	mg/L			3.7	3.46	3.56	3.07	3.36	3.16	3.02	3.09
Total Silver	mg/L			<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Total Strontium	mg/L			0.0372	0.032	0.0304	0.0273	0.0316	0.0263	0.0261	0.0261
Total Thallium	mg/L			<0.00005	<0.00005	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Total Tin	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Titanium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Uranium	mg/L	0.02	MAC	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Vanadium	mg/L			<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Zinc	mg/L	5	AO	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Zirconium	mg/L			<0.0005	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Total Calcium	mg/L			9.87	7.6	7.38	6.55	6.84	6.43	6.44	6.83
Total Magnesium	mg/L			1.23	1.13	1.03	1.04	1	0.928	0.972	0.94
Total Potassium	mg/L			0.212	0.197	0.194	0.189	0.184	0.181	0.175	0.171
Total Sodium	mg/L	200	AO	4.52	4.4	4.15	4.34	4.09	4.12	4.11	3.86
Total Sulphur	mg/L			<3.0	<3.0	<3.0	<3.0	<3	<3	<3	<3

Notes below about pH (2015) from https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html#_ftn1

Type	Parameter (published, reaffirmed)	MAC (mg/L)	Other value (mg/L)	Common sources of parameter in water	Health considerations	Comments
Treatment-related	pH (2015)	None	7.0-10.5	Not applicable	Not applicable	The control of pH is important to maximize treatment effectiveness, control corrosion and reduce leaching from distribution system and plumbing components.