

Port Renfrew Utility System

2025 Annual Report



Drinking Water, Wastewater, Street Lighting and Refuse

Introduction

This report provides a summary of the Port Renfrew Utility Services for the year 2025 and includes a description of services and a summary of the water, sewer, street lighting, and refuse disposal services in terms of operations, maintenance, capital upgrades, and finances for each service.

Port Renfrew Utility Services Committee

The Port Renfrew Utility Services Committee (PRUSC) has authority delegated by the Capital Regional District (CRD) Board for provision of water, sewer, street lighting and refuse disposal for the Port Renfrew community. Refuse disposal service is also provided to the Pacheedaht First Nation under a service delivery agreement. This Annual Report relates to the services provided under the authority of the PRUSC. Snuggery Cove Water Local Service (Debt Servicing) was created for the sole purpose of servicing debt relating to the expansion of the Port Renfrew water system to the Snuggery Cove area. The debt was paid off and the service budget was discontinued from 2021 onwards.

WATER SERVICE

Service Description

The community of Port Renfrew, located in the Juan de Fuca Electoral Area of the CRD, is comprised of rural residential and commercial and institutional development. The Port Renfrew water service was originally owned by a forestry company and was transferred to the CRD in 1989 to service the Beach Camp area. In 2002, the water service area was extended to include the Snuggery Cove area and again in 2016 to include the lands to the south of Beach Camp. The water service consists of approximately 257 parcels, encompassing a total area of approximately 135 hectares. Of the 257 parcels, 336 Single Family Equivalents (SFE) were customers to the water system in 2025.

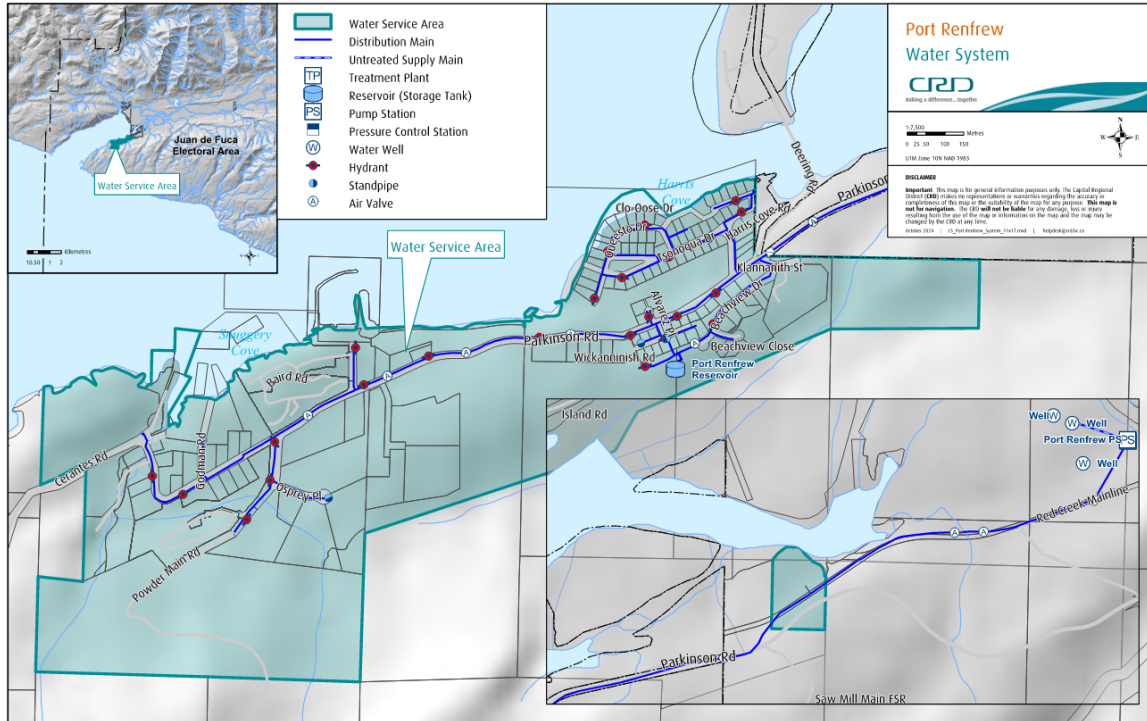


Figure 1: Map of the Water Service Area

The Port Renfrew water system is primarily comprised of:

- One groundwater well, related pumping and control equipment, and building.
- Disinfection process equipment (chlorine) and an aeration tower/scrubber for hydrogen sulfide reduction to improve water taste and odour.
- Two steel storage tanks total combined volume is 888 cubic meters (or 235,000 US gallons).
- 7.6 kilometers of watermains. Other water system assets: 212 service connections (entities billed), 25 hydrants and an auxiliary generator.

Water Supply

2025 data shows that the water level in the winter, when at its highest, was 24 meters above the well pump, and in the summer at its lowest point was 14 meters above the pump.

Water Production and Demand

In total, 86,780 cubic meters (8,000 m³ average was used for April due to missing data) of water was extracted (water production) from the well in 2025; a decrease of 3% over the previous year and 12% above the five-year annual average. Figure 2 represents the monthly comparison of treated water volumes, produced for the years 2020 to 2025 inclusive, and shows that there continues to be a very high demand in July and August which is typically the peak of drought like conditions and tourism in the area, before trending lower for the rest of the year.

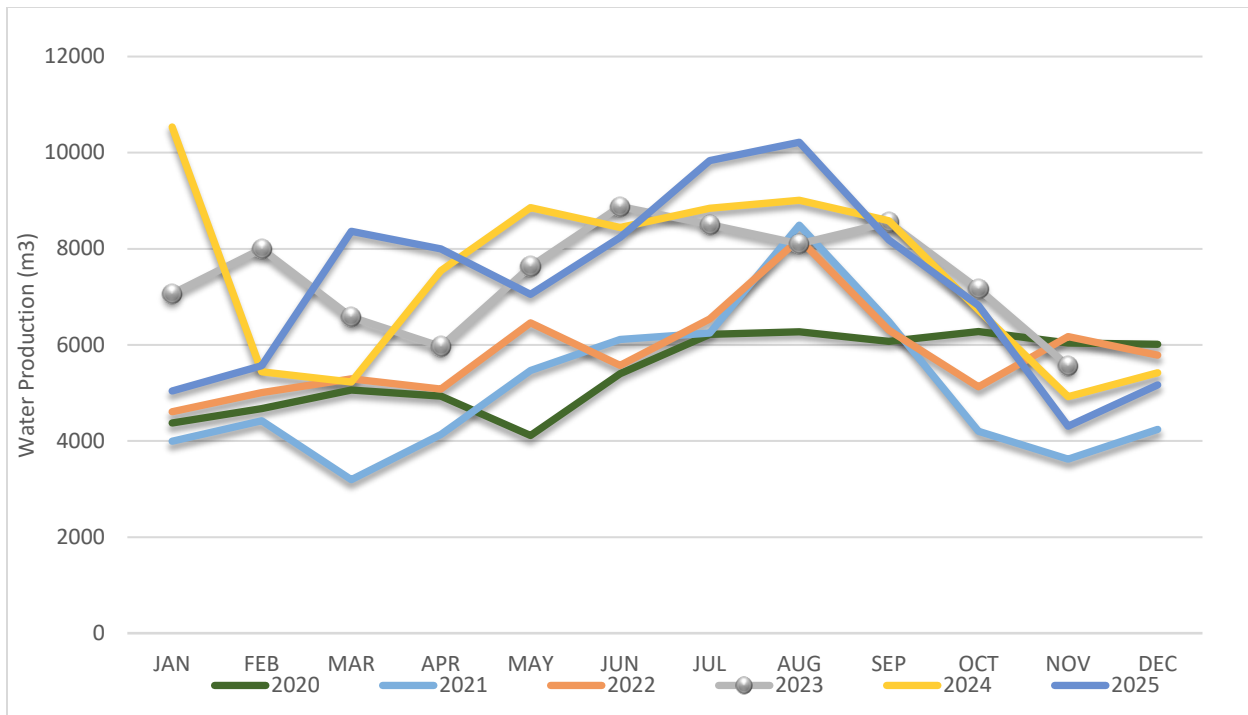


Figure 2: Water Service Monthly Water Production

Drinking Water Quality

The analytical results (biological, chemical, and physical parameters) of water samples collected in 2025 from the Port Renfrew water system indicate that the drinking water was of good quality and within Guidelines for Canadian Drinking Water Quality (GCDWQ) health-related regulatory and aesthetic limits, including disinfection by-products. While the treated water temperature did exceed the aesthetic limit of 15°C during the summer months, this had no other negative impact on the drinking water quality.

Typical Port Renfrew drinking water quality characteristics for 2025 are summarized as follows:

Raw Water

- The source water from the well was free of *E. coli* and total coliform bacteria throughout 2025.
- The well water was low in iron and manganese concentrations, slightly hard (mean hardness 43.3 mg/L). pH was not tested in 2025.
- The median raw water turbidity was 0.15 Nephelometric Turbidity Units (NTU).
- The source water contains persistently high hydrogen sulfide concentrations that exceed the GCDWQ aesthetic objective. Treatment at the well site successfully removes this.

Treated Water

- The water delivered to the customers was safe to drink throughout the year. No sample out of 84 compliance samples in the distribution system tested positive for *E. coli* or total coliform bacteria in 2025.
- The mean annual free chlorine concentration in the distribution system was an acceptable 0.49 mg/L.

- The average annual disinfection by-product total concentrations for trihalomethanes (TTHM) were well below the GCDWQ limit. Haloacetic acids (HAA) were not tested in 2025. HAA concentrations are typically low when THM concentrations are low.
- Hydrogen sulfide concentrations in the treated water were below the detection limit in all quarterly samples from the distribution system.

Table 1 and 2 included as attachments provide a summary of the 2025 raw and treated water test results.

Water Quality data collected from this drinking water system can also be reviewed on the CRD website:

<https://www.crd.bc.ca/about/data/drinking-water-quality-reports>

Water Service Operational Highlights

The following is a summary of the major operational issues that were addressed by CRD Infrastructure and Water Services staff:

- Multiple water leaks were responded to and repaired throughout the system. The majority were on homeowners' property.
- Annual maintenance was completed on the backup generator with no issues noted. Repairs were made to the Chlorine injector pump.
- All safety related preventive maintenance for 2025 was completed such as fire extinguisher testing, backflow testing, and a formal safety inspection.
- Multiple homeowner water lines and shutoffs were exposed in base camp with further work to continue into 2026.
- Annual maintenance was completed on all hydrants, standpipes, and system valves. A failed standpipe was replaced.

Water Service Capital Projects Update

The Capital Projects in progress or completed in 2025 include the initiation of the Water Master Plan Study.

SEWER SERVICE

Service Description

The Port Renfrew sewer system serves 89 properties in the Beach Camp and localized residential area below and has continued to operate reliably in the past year, although the wastewater treatment plant (WWTP) occasionally had difficulty processing peak flow events. The treatment process consists of an extended aeration facility and a steel outfall which discharges treated effluent to the San Juan River estuary under a Ministry of Environment permit. The 89 properties are comprised of 97.77 SFE's.

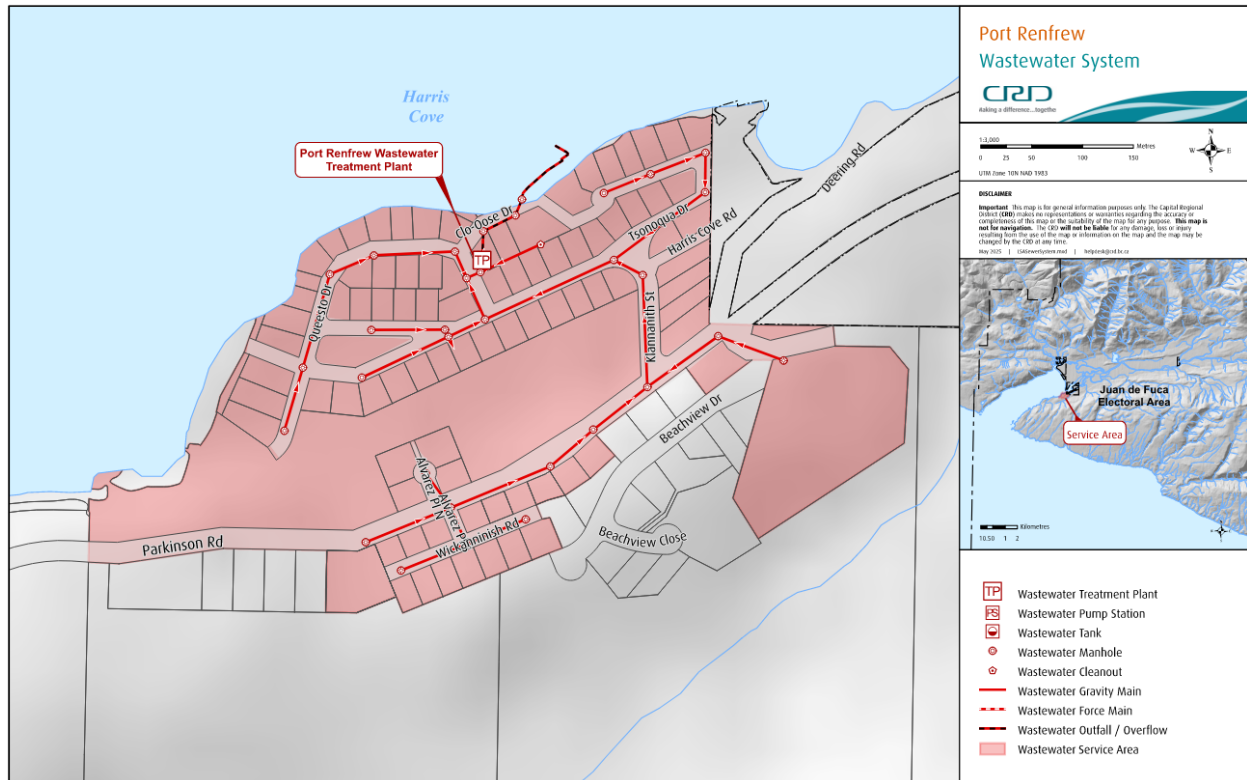


Figure 3: Map of the Sewer Service Area

A sewage volume of 17,154 cubic meters was treated and discharged in 2025 which equates to a value of 195 cubic meters/SFE. Sewage flows in Port Renfrew decreased by 4% from 2024. Flows can be influenced by annual rainfall and tourist numbers. During the rainy season, inflow and infiltration water enters the sewer system through cracks and defects in the pipes and manholes that were installed in the 1960's.

Figure 4 shows Port Renfrew sewer flow trends over the last 10 years.

Port Renfrew Sewer - Annual Flow

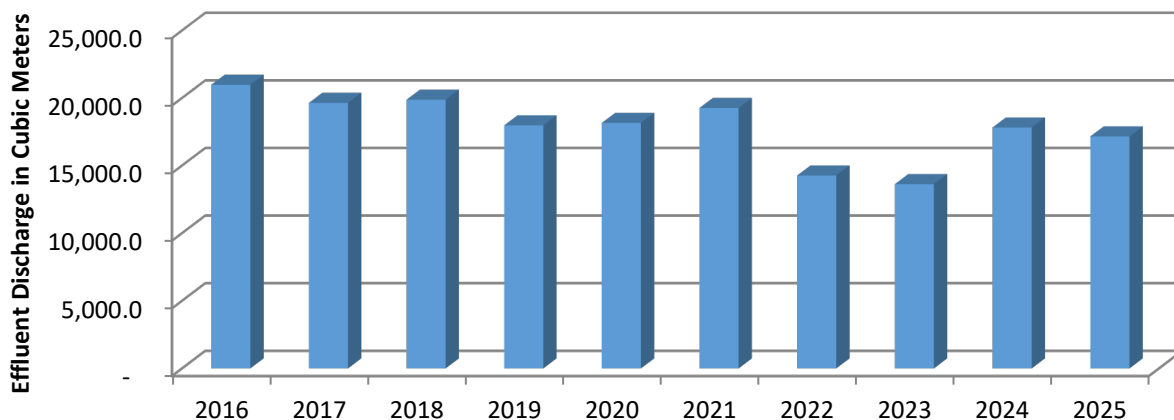


Figure 4: Port Renfrew Sewer 10 year Flows

Treated Effluent Discharge Quality

Regulatory Compliance – Wastewater

Flow and effluent quality are assessed for compliance with the provincial discharge permit on a daily and monthly basis, respectively. Mean daily flows in 2025 were similar to flow rates in 2024; flow did not exceed the permitted daily maximum in 2025. Monthly compliance parameters met all regulatory limits.

Receiving Water

Routine receiving water monitoring was last required for the Port Renfrew Wastewater Treatment Plant in 2024 and will be next required in 2028 unless there are planned bypasses, plant failures/overflows, or wet weather overflows that exceed three days duration in the winter or one day duration in the summer. Bypass or overflow sampling is only required once per season for events that are similar in nature as long as the first seasonal sampling confirms results were within guidelines set to protect human primary contact for recreation.

There was no overflow/emergency receiving water sampling conducted in 2025.

Sewer Service Operational Highlights

The following is a summary of the major operational issues that were addressed by CRD Infrastructure and Water Services staff:

- Annual maintenance was completed on both lift pumps with some minor corrective maintenance performed.
- Repairs were made to the scum skimmer at the WWTP.
- Monthly removal of solids via vac truck from the WWTP have helped maintain effluent compliance.
- Some minor control issues were repaired/resolved with the new generator unit.

Sewer Service Capital Projects Update

The Capital Projects that were in progress or completed in 2025 included:

- Generator Upgrade – replacement generator installed and commissioned in 2025.
- Sewer Master Plan initiated.

Street Lighting Service

Street lighting service is provided in the area of Port Renfrew known as Beach Camp. The streetlights are operated and maintained by BC Hydro, and costs are recovered through a parcel tax and user charge on parcels in the area where the service is provided. There were no significant issues with this service in 2025.

Refuse Disposal Service

The Port Renfrew Refuse Disposal service serves 380 taxable folios including 332 residential folios within the service area and is funded through direct tax requisition based on the value of each property. The Pacheedaht First Nation also utilizes the service through a fee-for-service agreement. The increased tonnages of materials received and transferred from the Port Renfrew Garbage and Recycling Depot in 2025 are as follows:

Port Renfrew Garbage & Recycling Depot
(tonnes)

	2025	2024
<i>Garbage</i>	304	245
<i>Recyclables</i>		
<ul style="list-style-type: none"> • <i>Scrap metal and large appliances</i> 	50	60
<ul style="list-style-type: none"> • <i>Packaging and printed paper</i> 	29	30
<ul style="list-style-type: none"> • <i>Tires/electronics</i> 	0	4
<p><i>Note: Beverage containers, paint, used motor oil and used cooking oil are also accepted at the depot – quantities are not available due to the hauling and processing arrangements in place for these products.</i></p>		

In 2025, the facility continued transitioning to being operated as a staff operator model under set hours. Capital upgrades to the facility continued in 2025 with the completion of repairs to the site entrance gate fencing and construction of the covered storage area for recyclables and compactor bin installation. Final construction for both items is expected to be completed in early 2026.

Financial Report

Please refer to the attached 2025 Statement of Operations and Reserve Balances for Port Renfrew Water, Sewer, Street Lighting and Refuse Disposal services.

Revenue includes taxes (Transfers from Government), fixed user fees (User Charges), Water Sales, interest on savings (Interest earnings), and miscellaneous revenue such as late payment charges (Other revenue).

Expenses include all costs for providing the services. General Government Services include budget preparation, financial management, utility billing and risk management services. CRD Labour and Operating Costs include CRD staff time as well as the cost of equipment, tools, and vehicles. Debt servicing costs are interest and principal payments on long term debt. Other Expenses include all other costs to administer and operate the services, for example, insurance, supplies, water testing and electricity etc.

The difference between Revenue and Expenses is reported as Net revenue (expenses). Any transfers to or from capital or reserve funds for the service (Transfers to own funds) are deducted from this amount and it is then added to any surplus or deficit carry forward from the prior year, yielding an Accumulated Surplus (or deficit). In alignment with *Local Government Act* Section 374 (11), any deficit must be carried forward and included in next year's financial plan.

Table 1

Table 1: 2025 Summary of Raw Water Test Results, Port Renfrew Water System										
PARAMETER		2025 ANALYTICAL RESULTS				CANADIAN GUIDELINES	2015 - 2024 ANALYTICAL RESULTS			
Parameter Name	Units of Measure	Annual Median	Samples Analyzed	Range Minimum Maximum		≤ = Less than or equal to	Median	Samples Analyzed	Range Minimum Maximum	
ND means Not Detected by analytical method used										
Physical Parameters/Non-Metallic Inorganics										
Carbon, Total Organic	mg/L	1.825	4	0.74	4		1.3	34	0.2	43
Hydrogen Sulfide	mg/L	0.295	4	0.28	0.39	<0.05 AO	0.3	13	0.19	0.47
Hardness as CaCO3	mg/L	43.3	4	41.4	46.6	No Guideline Required	42.55	34	36.3	47.8
pH	pH units	Not tested in 2025				6.5 - 8.5 AO	7.3	48	6.6	8.48
Turbidity	NTU	0.15	6	0.05	0.3		< 0.14	57	0.05	< 1.4
Water Temperature	°C	8.3	11	2.3	11.8	>15 AO	8.7	121	5.2	11.1
Microbial Parameters										
Indicator Bacteria and Turbidity										
Coliform, Total	CFU/100 mL	< 1	11	< 1	< 1		< 1	122	<1	2
<i>E. coli</i>	CFU/100 mL	< 1	11	< 1	< 1		< 1	122	<1	< 2
Metals										
Aluminum	ug/L as Al	6.5	4	5.6	7.1	2900 MAC / 100 OG	6.95	34	5.4	13.5
Antimony	ug/L as Sb	< 0.5	4	< 0.5	< 0.5	6 MAC	< 0.5	34	< 0.5	< 0.5
Arsenic	ug/L as As	0.13	4	< 0.1	0.13	10 MAC	0.12	34	< 0.1	0.16
Barium	ug/L as Ba	1.2	4	1.1	1.2	1000 MAC	1.2	34	< 1	1.4
Beryllium	ug/L as Be	< 0.1	4	< 0.1	< 0.1		< 0.1	34	< 0.1	< 0.1
Bismuth	ug/L as Bi	< 1	4	< 1	< 1		< 1	34	< 1	< 1
Boron	ug/L as B	112.5	4	107	121	5000 MAC	113.5	34	98	148
Cadmium	ug/L as Cd	< 0.01	4	< 0.01	< 0.01	7 MAC	< 0.01	34	< 0.01	< 0.01
Calcium	mg/L as Ca	7.8	4	7.62	8.1	No Guideline Required	7.55	34	6.3	8.73
Chromium	ug/L as Cr	< 1	4	< 1	< 1	50 MAC	< 1	34	< 1	< 1
Cobalt	ug/L as Co	< 0.2	4	< 0.2	< 0.2		< 0.2	34	< 0.2	< 0.5
Copper	ug/L as Cu	< 0.2	4	< 0.2	< 0.2	2000 MAC / ≤ 1000 AO	< 0.2	34	< 0.2	4.41
Iron	ug/L as Fe	< 5	4	< 5	< 5	≤ 100 AO	< 5	34	< 5	24.4
Lead	ug/L as Pb	< 0.2	4	< 0.2	< 0.2	5 MAC	< 0.2	34	< 0.2	0.25
Lithium	ug/L as Li	< 2	4	< 2	< 2		< 2	20	< 2	< 5
Magnesium	mg/L as Mg	5.78	4	5.44	6.41	No Guideline Required	5.755	34	4.94	6.62
Manganese	ug/L as Mn	9.35	4	9.2	9.9	120 MAC / ≤ 20 AO	9.9	34	5.2	12.1
Molybdenum	ug/L as Mo	< 1	4	< 1	< 1		< 1	34	< 1	1
Nickel	ug/L as Ni	< 1	4	< 1	< 1		< 1	34	< 1	1.6
Potassium	mg/L as K	3.345	4	3.23	3.46		3.37	34	3.16	3.73
Sulphur	mg/L as S	< 3	4	< 3	< 3		< 3	34	< 3	5.8
Selenium	ug/L as Se	1.175	4	< 0.1	1.99	50 MAC	0.185	34	< 0.1	4.64
Silicon	ug/L as Si	4380	4	4240	4410		4470	34	4000	5400
Silver	ug/L as Ag	< 0.02	4	< 0.02	< 0.02	No Guideline Required	< 0.02	34	< 0.02	< 0.02
Sodium	mg/L as Na	27.35	4	24.6	31.7	≤ 200 AO	28.1	34	24.2	32.2
Strontium	ug/L as Sr	57.6	4	55.4	62.2	7000 MAC	55.2	34	46.5	66.4
Tin	ug/L as Sn	< 5	4	< 5	< 5		< 5	34	< 5	< 5
Titanium	ug/L as Ti	< 5	4	< 5	< 5		< 5	34	< 5	< 5
Thallium	ug/L as Tl	< 0.01	4	< 0.01	< 0.01		< 0.01	34	< 0.01	< 0.05
Uranium	ug/L as U	< 0.1	4	< 0.1	< 0.1	20 MAC	< 0.1	34	< 0.1	< 0.1
Vanadium	ug/L as V	< 5	4	< 5	< 5		< 5	34	< 5	< 5
Zinc	ug/L as Zn	< 5	4	< 5	< 5	≤ 5000 AO	< 5	34	< 5	25.9
Zirconium	ug/L as Zr	< 0.1	4	< 0.1	< 0.1		< 0.1	34	< 0.1	< 0.5

Table 2

Table 2: 2025 Summary of Treated Water Test Results, Port Renfrew Water System										
PARAMETER		2025 ANALYTICAL RESULTS				CANADIAN GUIDELINES	2015 - 2024 ANALYTICAL RESULTS			
Parameter Name	Units of Measure	Annual Median	Samples Analyzed	Range Minimum Maximum		≤ = Less than or equal to	Median	Samples Analyzed	Range Minimum Maximum	
ND means Not Detected by analytical method used										
Physical Parameters/Non-Metallic Inorganics										
Carbon, Total Organic	mg/L as C	0.655	4	0.63	0.77		0.69	36	0.48	15
Hydrogen Sulfide	mg/L	< 0.002	4	< 0.002	< 0.002	< 0.05 AO	< 0.002	13	< 0.002	0.0069
Hardness as CaCO3	mg/L	44.3	4	42.4	48.7	No Guideline Required	42.7	32	37.1	48
pH	pH units	Not tested in 2025				6.5 - 8.5 AO	7.2	39	6.9	7.96
Turbidity	NTU	Not tested in 2025					0.15	13	0.1	0.25
Water Temperature	degrees C	10	97	0	18.9		10.35	1800	0.3	24.1
Microbial Parameters										
Coliform, Total	CFU/100 mL	< 1	84	< 1	< 1	0 MAC	< 1	583	< 1	26
<i>E. coli</i>	CFU/100 mL	< 1	84	< 1	< 1	0 MAC	< 1	583	< 1	2
Hetero. Plate Count, 7 day	CFU/1 mL	Not tested in 2025				No Guideline Required	50	18	< 10	450
Disinfectants										
Chlorine, Free Residual	mg/L as Cl2	0.49	244	0.15	1.04	No Guideline Required	0.43	2445	< 0.02	68
Chlorine, Total Residual	mg/L as Cl2	Not tested in 2025				No Guideline Required	0.49	581	0.05	2.14
Disinfection By-Products										
Trihalomethanes (THMs)										
Bromodichloromethane	ug/L	8.8	4	7.7	18		13.5	34	7.9	26.7
Bromoform	ug/L	7.05	4	6.3	9.1		9.3	34	5.2	20.7
Chloroform	ug/L	6.5	4	4.8	11		8.15	34	4.6	16.74
Chlorodibromomethane	ug/L	12.5	4	12	24		20	34	13	40.3
Total Trihalomethanes	ug/L	34.5	4	31	62	100 MAC	56.5	34	35	98.8
Haloacetic Acids (HAAs)										
HAA5	ug/L	Not tested in 2025				80 MAC	8.4	4	< 5	12
Metals										
Aluminum	ug/L as Al	7.1	4	6.3	8.6	2900 MAC / 100 OG	7.45	32	5.9	23.4
Antimony	ug/L as Sb	< 0.5	4	< 0.5	< 0.5	6 MAC	< 0.5	32	< 0.5	< 0.5
Arsenic	ug/L as As	0.125	4	0.1	0.13	10 MAC	0.14	32	< 0.1	0.17
Barium	ug/L as Ba	1.6	4	1.4	1.8	1000 MAC	1.55	32	1	6.4
Beryllium	ug/L as Be	< 0.1	4	< 0.1	< 0.1		< 0.1	32	< 0.1	< 0.1
Bismuth	ug/L as Bi	< 1	4	< 1	< 1		< 1	32	< 1	< 1
Boron	ug/L as B	115.5	4	108	127	5000 MAC	114	32	100	139
Cadmium	ug/L as Cd	< 0.01	4	< 0.01	< 0.01	7 MAC	< 0.01	32	< 0.01	0.038
Calcium	mg/L as Ca	8.225	4	7.86	8.7	No Guideline Required	7.775	32	6.88	8.81
Chromium	ug/L as Cr	< 1	4	< 1	< 1	50 MAC	< 1	32	< 1	< 1
Cobalt	ug/L as Co	< 0.2	4	< 0.2	< 0.2		< 0.2	32	< 0.2	< 0.2
Copper	ug/L as Cu	1.185	4	0.91	2.1	2000 MAC / ≤ 1000 AO	2.07	32	0.2	5.61
Iron	ug/L as Fe	14.05	4	< 5	22.6	≤ 100 AO	10.6	32	< 5	221
Lead	ug/L as Pb	< 0.2	4	< 0.2	< 0.2	5 MAC	< 0.2	32	< 0.2	0.35
Lithium	ug/L as Li	< 2	4	< 2	< 2		< 2	19	< 2	< 2
Magnesium	mg/L as Mg	5.77	4	5.54	6.54	No Guideline Required	5.58	32	4.82	6.33
Manganese	ug/L as Mn	10.2	4	7.8	15	120 MAC / ≤ 20 AO	6.25	32	2.7	217
Molybdenum	ug/L as Mo	< 1	4	< 1	< 1		< 1	32	< 1	1.1
Nickel	ug/L as Ni	< 1	4	< 1	< 1		< 1	32	< 1	< 1
Potassium	mg/L as K	3.285	4	3.24	3.49		3.36	32	3.1	3.72
Selenium	ug/L as Se	< 0.1	4	< 0.1	< 0.1	50 MAC	< 0.1	32	< 0.1	< 0.1
Sulphur	mg/L as S	< 3	4	< 3	< 3		< 3	32	< 3	< 3
Silver	ug/L as Ag	< 0.02	4	< 0.02	< 0.02	No Guideline Required	< 0.02	32	< 0.02	< 0.02
Sodium	mg/L as Na	31.2	4	28.5	37.1	≤ 200 AO	31.6	32	24.8	36
Silicon	ug/L as Si	4400	4	4170	4550		4460	32	4050	5420
Strontium	ug/L as Sr	59.45	4	58	65.2	7000 MAC	55.2	32	48.2	67.9
Tin	ug/L as Sn	< 5	4	< 5	< 5		< 5	32	< 5	< 5
Thallium	ug/L as Tl	< 0.01	4	< 0.01	< 0.01		< 0.01	32	< 0.01	< 0.01
Titanium	ug/L as Ti	< 5	4	< 5	< 5		< 5	32	< 5	5.7
Uranium	ug/L as U	< 0.1	4	< 0.1	< 0.1	20 MAC	< 0.1	32	< 0.1	< 0.1
Vanadium	ug/L as V	< 5	4	< 5	< 5		< 5	32	< 5	< 5
Zinc	ug/L as Zn	< 5	4	< 5	< 5	≤ 5000 AO	< 5	32	< 5	17.2
Zirconium	ug/L as Zr	< 0.1	4	< 0.1	< 0.1		< 0.1	32	< 0.1	0.12