

REGIONAL DISTRICT OF NANAIMO

Water Service Area Annual Report 2024



Whiskey Creek Water Service Area June 2025



REGIONAL DISTRICT OF NANAIMO

Water & Utility Services Department

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Appendix A - Map of Whiskey Creek Water Service Area

Appendix B - Water Quality Testing Results

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1.0 Introduction

The following annual report describes the Whiskey Creek Water Service Area and summarizes the water quality and production data from 2024. 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 2025.

2.0 Whiskey Creek Water Service Area

The Whiskey Creek Water Service Area is located eight kilometres southwest of Qualicum Beach on the south side of Highway 4. The water system was constructed in the 1970s and was initially operated by the subdivision developer, Westerlea Estates Ltd. In January 2011, the ownership and operation of the Whiskey Creek Water District was transferred to the RDN. Well water passes through an ultraviolet (UV) disinfection process, is chlorinated, and is then stored in one above-ground reservoir. A permanent backup generator is available in the event of a power failure. There are 125 residential lots connected to the water system. A map of the Whiskey Creek Water Service Area is provided in Appendix A for reference.

2.1 Groundwater Wells

Two groundwater wells are present at 1070 Carson Road, Qualicum Beach, B.C. Well #1 is utilized as a monitoring well, and Well #2 is the main production well.

Well / Name	Well Depth	Wellhead Protection In Place	Treated/Untreated with Chlorine
#1	15.5 m	Yes	Not treated
#2	10.1 m	Yes	Treated

2.2 Reservoirs

One service reservoir (concrete) is present at 979 Poplar Way and has a capacity of 195 m³ (43,000 imperial gallons).

2.3 Distribution System

The water distribution system in Whiskey Creek is summarized in the table below. There are 9 fire hydrants and 4 flush-outs in the system, though the hydrants will eventually be removed as fire protection is provided via tanker service for this area.

Watermain Material	Length of mains in Whiskey Creek Water Service Area	Prevalence in Water Service Area
100mm or smaller AC	1,280 m	30%
150mm or larger AC	1,920 m	45%
75mm HDPE	1,085 m	25%

Note: AC is asbestos-concrete; HDPE is high-density polyethylene (plastic)



Drilling Whiskey Creek Well #1 (2019)

3.0 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 watermain. The following table includes a summary of all testing:

Timing	Location	Tests
Weekly	RDN (in-house) Laboratory	Total coliforms, E.Coli, Temperature, pH, Conductivity, Free Chlorine residual, Salinity, Turbidity, TDS
Weekly	BC Centre for Disease Control	Total coliforms, E.Coli
Monthly	RDN (in-house) Laboratory	Raw water UVT, Bacteria (total coliform and E.Coli)
Monthly	BC Centre for Disease Control	Raw water bacteria (total coliform and E.Coli)
Quarterly	Bureau Veritas	Raw water pH test
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

4.0 Water Quality - Source Water and Distribution System

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

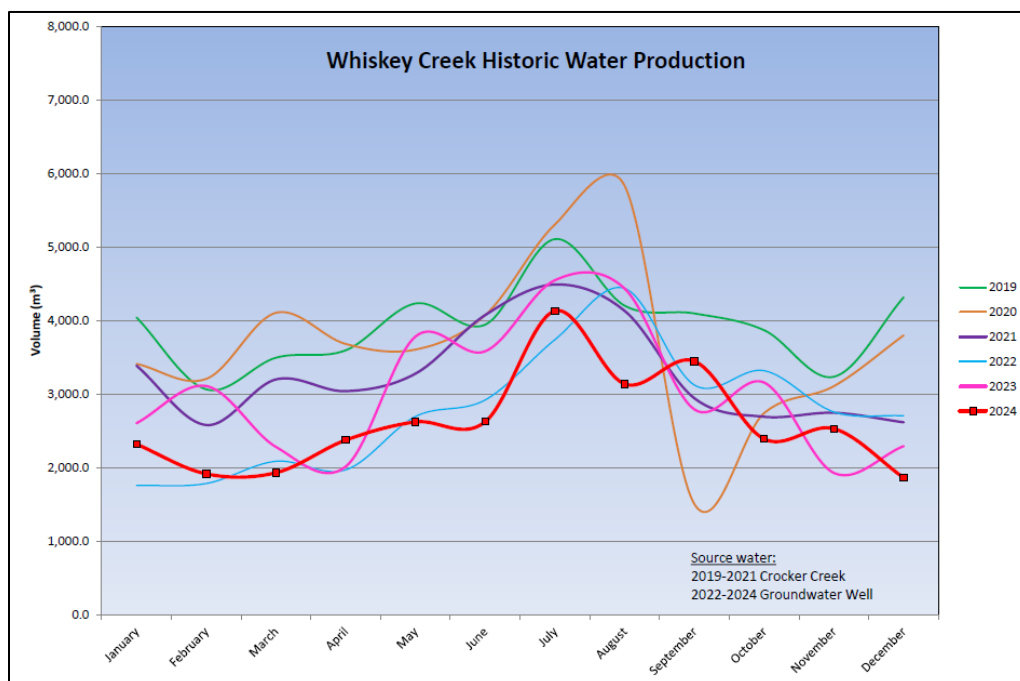
5.0 Water Quality Inquiries and Complaints

A few inquiries and complaints were received from the Whiskey Creek water service area in 2024 and were typically related to water billing and seasonal conservation guidelines. A summary of the water system incidents in 2024 is given in the table below.

Activity in 2024	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

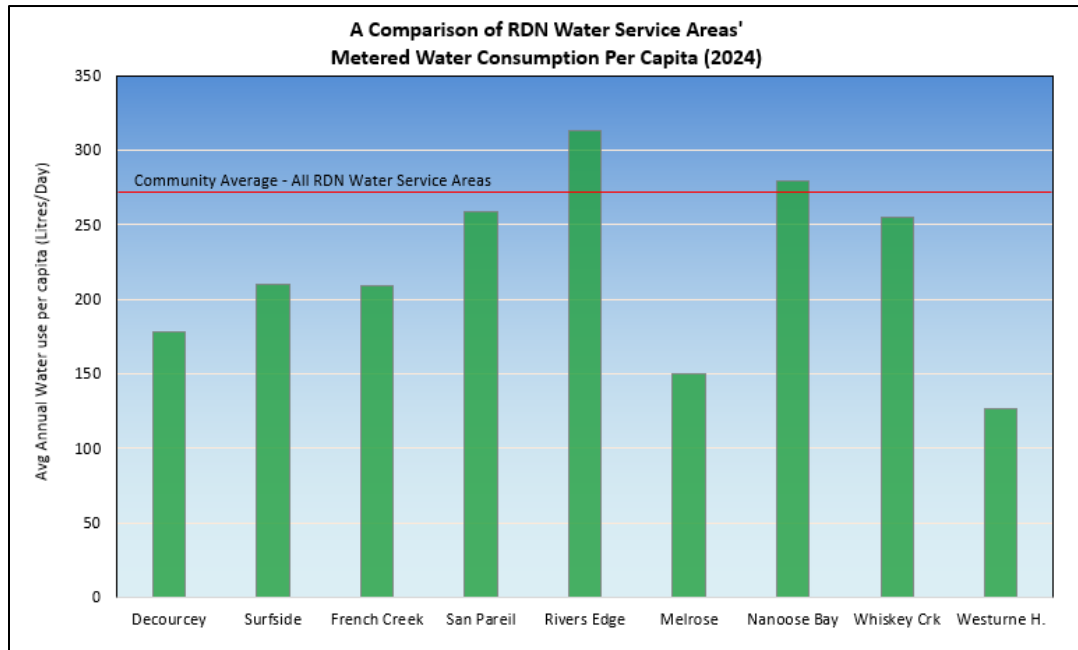
6.0 Groundwater Production and Consumption

Monthly groundwater production in the Whiskey Creek Water Service Area for the past 5 years is shown in the chart below.



Consumption

In the fall/winter of 2023/2024, the average usage per home in the Whiskey Creek Water Service Area was 0.55 cubic metres per day (121 imperial gallons). In the summer of 2024, the average water usage was 0.74 cubic metres per day (163 imperial gallons). Based on these figures, the annual consumption per capita is estimated to be 255 L/day (based on 2.4 people/household). This consumption is **6% less** than the average of all the other RDN water systems of 270 L/day/capita in 2024.



7.0 Maintenance Program

Weekly pump station inspections are carried out to reduce or eliminate the risk of contamination and system failure, and to ensure the consistent application of chlorine for treatment purposes. Watermains are flushed once annually in the spring. The water storage reservoir is cleaned once every 3-4 years, as required. Twenty-four hour on-call coverage is in place to respond to water system emergencies and alarms.

8.0 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 | | ✓ Cyber Security |

9.0 Water Service Area Projects

9.1 2024 Completed Studies & Projects

- Renewed chlorine analyzer;
- Begin planning watermain upgrade on Columbine Way;
- Corresponded with residents regarding water conservation;
- Completed irrigation checks for high water users;
- Counselling residents regarding water leak repairs and bill adjustments;
- Enforced outdoor watering restrictions during summer months;
- Continued the 2020-2030 Water Conservation Plan;
- Followed Cross Connection Control program to reduce backflow prevention risks;
- Completed regular watermain flushing and hydrant maintenance;
- Continued valve maintenance program; and
- Maintained a high level of water quality.

9.2 2025 Proposed Projects & Upgrades

- Remove fire hydrants from the water system;
- Continue Columbine Way watermain replacement project;
- Pumphouse repair and maintenance;
- Complete irrigation checks for high water users;
- Continue watermain flushing program;
- Continue valve maintenance program;
- Continue the 2020-2030 DWWP Water Conservation Plan; and
- Continue to offer numerous water-saving incentives via rebates.



Whiskey Creek Well #1

10.0 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 2024, 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.

11.0 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 unlikely 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 tiered system for water rates (introduced in 2023) helps 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.



Drinking Water
Source Area
Protection sign on
Hebert Road

12.0 Cross Connection Control (CCC)

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 are certified backflow assembly testers through the British Columbia Water & Waste Association (BCWWA), and one operator is additionally certified as a Cross Connection Control Inspector.

13.0 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 RDN water systems located on segregated networks to limit the vulnerability from cybersecurity threats. All RDN employees are required to regularly complete extensive training on cyber security awareness.

14.0 Closing

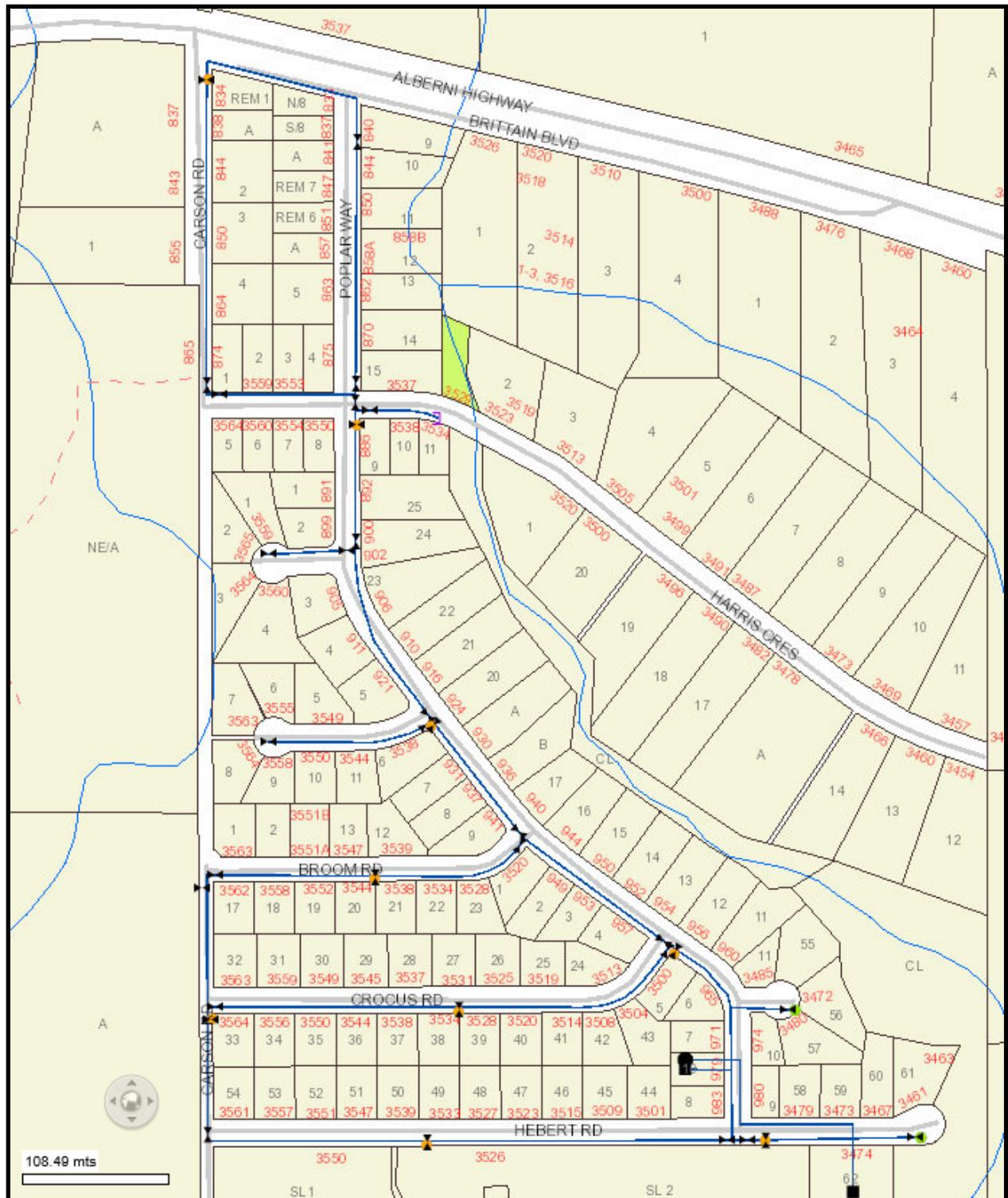
An annual report for 2025 will be prepared and submitted to Island Health in the Spring of 2026. Annual reports are also available on the RDN website: www.rdn.bc.ca/whiskey-creek.



**Whiskey Creek Well Site and UV
Treatment kiosk**

APPENDIX A

MAP OF WHISKEY CREEK WATER SERVICE AREA



APPENDIX B

WATER QUALITY TESTING RESULTS

WHISKEY CREEK WATER SERVICE AREA



Facility Location: Qualicum Beach

Facility Information: Facility Type: 15-300 connections

Facility Sampling History:

Site Name	Date Collected	Total Coliform	Total E. Coli
3533 Hebert Road	3-Jan-2024	LT1	LT1
Whiskey Creek Well Tag No 42538	3-Jan-2024	LT1	LT1
3537 Harris Crescent	24-Jan-2024	LT1	LT1
844 Carson Road	24-Jan-2024	LT1	LT1
3564 Foxglove Road	31-Jan-2024	LT1	LT1
3533 Hebert Road	6-Feb-2024	LT1	LT1
Whiskey Creek Well Tag No 42538	6-Feb-2024	LT1	LT1
844 Carson Road	14-Feb-2024	LT1	LT1
3537 Harris Crescent	21-Feb-2024	LT1	LT1
3564 Foxglove Road	28-Feb-2024	LT1	LT1
3533 Hebert Road	4-Mar-2024	LT1	LT1
3537 Harris Crescent	19-Mar-2024	LT1	LT1
3564 Foxglove Road	19-Mar-2024	LT1	LT1
844 Carson Road	26-Mar-2024	LT1	LT1
Whiskey Creek Well Tag No 42538	26-Mar-2024	LT1	LT1
3533 Hebert Road	9-Apr-2024	LT1	LT1
Whiskey Creek Well Tag No 42538	9-Apr-2024	LT1	LT1
3537 Harris Crescent	24-Apr-2024	LT1	LT1
844 Carson Road	24-Apr-2024	LT1	LT1
3564 Foxglove Road	29-Apr-2024	LT1	LT1
3533 Hebert Road	8-May-2024	LT1	LT1
Whiskey Creek Well Tag No 42538	8-May-2024	LT1	LT1
844 Carson Road	14-May-2024	LT1	LT1
3537 Harris Crescent	21-May-2024	LT1	LT1
3564 Foxglove Road	28-May-2024	LT1	LT1
3533 Hebert Road	5-Jun-2024	LT1	LT1
3537 Harris Crescent	17-Jun-2024	LT1	LT1
Whiskey Creek Well Tag No 42538	17-Jun-2024	LT1	LT1
3564 Foxglove Road	26-Jun-2024	LT1	LT1
3533 Hebert Road	2-Jul-2024	LT1	LT1
Whiskey Creek Well Tag No 42538	2-Jul-2024	LT1	LT1

Site Name	Date Collected	Total Coliform	Total E. Coli
844 Carson Road	9-Jul-2024	LT1	LT1
844 Carson Road	17-Jul-2024	LT1	LT1
3564 Foxglove Road	24-Jul-2024	LT1	LT1
3533 Hebert Road	6-Aug-2024	LT1	LT1
844 Carson Road	13-Aug-2024	LT1	LT1
Whiskey Creek Well Tag No 42538	13-Aug-2024	LT1	LT1
3537 Harris Crescent	21-Aug-2024	LT1	LT1
3564 Foxglove Road	28-Aug-2024	LT1	LT1
3564 Foxglove Road	4-Sep-2024	LT1	LT1
Whiskey Creek Well Tag No 42538	4-Sep-2024	LT1	LT1
844 Carson Road	11-Sep-2024	LT1	LT1
3537 Harris Crescent	16-Sep-2024	LT1	LT1
3564 Foxglove Road	24-Sep-2024	LT1	LT1
3533 Hebert Road	2-Oct-2024	LT1	LT1
3537 Harris Crescent	16-Oct-2024	LT1	LT1
3564 Foxglove Road	23-Oct-2024	LT1	LT1
844 Carson Road	29-Oct-2024	LT1	LT1
Whiskey Creek Well Tag No 42538	29-Oct-2024	LT1	LT1
3533 Hebert Road	6-Nov-2024	LT1	LT1
Whiskey Creek Well Tag No 42538	6-Nov-2024	LT1	LT1
844 Carson Road	25-Nov-2024	LT1	LT1
3537 Harris Crescent	26-Nov-2024	LT1	LT1
3564 Foxglove Road	26-Nov-2024	LT1	LT1
3533 Hebert Road	4-Dec-2024	LT1	LT1
Whiskey Creek Well Tag No 42538	4-Dec-2024	LT1	LT1
844 Carson Road	9-Dec-2024	QRWRT	QRWRT
3537 Harris Crescent	17-Dec-2024	LT1	LT1

Interpreting Sample Reports

At Island Health, the results of drinking water sampling are reported using the following coding system:

- LT1 Less than 1 (no detectable bacteria) - Meaning: No bacteria present
- QRWRT – Sample exceeded 30 hours from time of collection, results may not be valid. No written report will be issued by Island Health, and only a qualitative result will be reported by telephone when test is completed.