



DRINKING WATER SYSTEM ANNUAL REPORT

Reporting Period: January 1st to December 31st, (year)

Water System

Water System Owner

Primary Contact Name (Operator or Manager)

Phone Number (Operator or Manager)

E-mail (Operator or Manager)

DESCRIBE YOUR WATER SUPPLY SYSTEM

What is the Source(s) of Raw Water?

- Deep Well, Shallow Well, Surface Water, Other

If other, specify details:

Does the Drinking Water System have Primary Disinfection?

- Yes, No

- Chlorination, Ultraviolet Light, Ozone, Other

If other, specify details:

Does the Drinking Water System have Secondary Disinfection?

- Yes, No

- Chlorination, Other

If other, specify details:

Does the Drinking Water System have Filtration?

- Yes, No

Check all boxes that apply

- Cartridge Filter(s), Carbon Filter, Sand Filtration, Reverse Osmosis, Other

If other, specify details:

PUBLIC REPORTING

Emergency Response & Contingency Plan (ERCP)

Is your ERCP up to Date?

- Yes, No

How do you Inform the System Users of the ERCP?

- Hand Delivered, Bulletin Board, Newspaper, Utility Bill Insert, Website, Other (specify details) Radio, Social Media

Drinking Water System Annual Report

How do you Inform the System Users of the Annual Report?

- Hand Delivered, Bulletin Board, Newspaper, Utility Bill Insert, Website, Other (specify details)

COMPLIANCE WITH OPERATING PERMIT

List the conditions of your Operating Permit (Contact the DWO for a copy if needed):

Are you in compliance with your Operating Permit? Yes No

BACTERIOLOGICAL TESTING AND DRINKING WATER PROTECTION REGULATION WATER QUALITY STANDARDS

How many bacteriological samples were collected during this reporting period? _____

What is the minimum required sampling frequency for this system? (#samples/month) _____

Additional sampling details:

Was the minimum required sampling frequency achieved? Yes No

Comments:

Bacteriological summary attached to this report? Yes No

If no, how do the users of the system view the results?

WATER QUALITY STANDARDS FOR POTABLE WATER

Parameter:	Standard:	Did this system meet standard?	
Escherichia coli (for all samples)	No detectable <i>Escherichia coli</i> per 100ml	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Total Coliform Bacteria (if only 1 sample collected in a 30 day period)	No detectable total coliform bacteria per 100ml	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Total Coliform Bacteria (if more than 1 sample collected in a 30 day period)	No more than 10% of samples contain total coliform bacteria, and No sample has more than 10 total coliform bacteria per 100ml	<input type="checkbox"/> Yes	<input type="checkbox"/> No

If the system did not meet any of above Drinking Water Protection Regulation standards, record the results in the table below; attach additional sheets if necessary.

Date	TC/100ml	E.coli/100ml	Reason	Corrective Action

CHEMICAL SAMPLING COMPLETED DURING THIS REPORTING PERIOD

Was any chemical sampling conducted during reporting period? Yes No

If no, when were the last chemical samples conducted for this system? (date) Don't know

If yes, attach a list of the chemical results

If any water samples did not meet the Guidelines for Canadian Drinking Water Quality, record the results in the table below; attach additional sheets if necessary.

Next scheduled full chemical test (date)

Parameter	Result	Corrective Action / Treatment / Comments

ADDITIONAL TESTING

Does the system have analyzers for continuous monitoring? Yes No

If yes, check all boxes that apply:

Chlorine Turbidity Other (details)

Are the results available on request?

If any additional testing or sampling was conducted, record results in the table below; attach additional sheets if necessary.

Additional Testing & Reason for Sampling	Corrective Action Taken

WATER QUALITY COMPLAINTS

Were there any water quality complaints in this reporting period? (e.g. taste, odour, colour etc.) Yes No

If yes, complete the table below; attach additional sheets if necessary.

Date	Water Quality Complaint	Corrective Action / Treatment

OPERATIONAL PROBLEMS

Were there any operational problems during this reporting period? (e.g. insufficient water supply, malfunction of disinfection equipment, line breaks, elevated turbidity etc.). Yes No

If yes, complete the table below; attach additional sheets if necessary.

Incident Date	Type of Operational Problem	Corrective Action Taken

MAJOR UPGRADES/REPAIRS & EXPENSES

Were there any major upgrades/repairs or any major costs incurred during this reporting period? Yes No

If yes, complete the table below; attach additional sheets if necessary.

Major Upgrades/Expenses	Details
Improvements required by DWO	
Additions/changes to system	
Purchase or install new equipment	
Equipment repair or replacement	
Annual maintenance of system	
Specialist report	
Other	

FUTURE IMPROVEMENTS

Are there any plans for future improvements? Yes No

If yes, complete the table below; attach additional sheets if necessary.

Future Upgrades or Improvements	Estimated Date of Completion

<p>Click here to enter a date. DATE COMPLETED:</p>	<p>COMPLETED BY:</p>
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APPENDIX A

WATER SYSTEM OPERATING CONDITIONS FOR

SHELLWOOD WATER SYSTEM

4300 Entrance Avenue

Ladysmith, BC, V9G 1M8

1. Monitoring

The Water System Owner shall develop and implement a routine water-monitoring program of the raw water and finished water within the distribution system.

The water-monitoring program must be in writing, established in consultation with the Drinking Water Officer, and found to be acceptable to the Drinking Water Officer. At a minimum, the water supplier must collect monthly bacteriological samples from the distribution system. The water samples must be analysed for *E. coli* and total coliform at a laboratory approved by the Provincial Health Officer. Based on the results of the monthly bacteriological monitoring program, the monitoring requirements may be extended or altered by the Drinking Water Officer.

Chemical sampling must occur on the finished water, and on each individual well and have the results submitted to the Drinking Water Officer. Each (raw) water well and the finished water supply shall be chemically sampling every five years at a minimum and include those parameters specified by the Drinking Water Officer.

The finished water quality chemical parameters must meet or be lower than the maximum acceptable concentrations (MAC) limits as listed in the most recent edition of the Guidelines for Canadian Drinking Water Quality, prepared by the Environmental Health Directorate, Health Canada.

All bacteriological or chemical results must be immediately forwarded to the Drinking Water Officer.

The Water System Owner may only utilize wells that have been given source approval by the Drinking Water Officer or the Public Health Engineer (Wells #1, #2 and #3) Any new sources of water require both a Construction Permit and source approval by the Drinking Water Officer or his delegate, before the Water System Owner can utilize it.

2. Disinfection, Storage and Distribution System Maintenance

The Water System Owner shall establish a written maintenance program for the disinfection, storage and distribution system in consultation with the Drinking Water Officer. All work, complaints or incidents concerning the water system are to be documented in a logbook and be available for review by the Drinking Water Officer.

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Engineering &
Environmental Services

3. Certified Operators

The works shall be operated and maintained by a person(s) that has completed the Environmental Operators Certification Program Society (EOCPS) Small System Operator's course or its equivalent. In addition, the Drinking Water Officer or his delegate shall be notified within 30 days of any change to the water system operator.

4. Annual Report

The Water System Owner shall submit and make public, by April 1st of each year, an annual report to the Drinking Water Officer.

The annual report must include: the previous calendar year's customer complaints or incidents, all bacteriological water sample results, emergency repairs or upgrades to the water system; the most recent chemical water sample results; a description of the water system; and location of the Emergency Response Plan for the water system.

5. Emergency Procedures

In the event of an emergency or condition which prevents the effective operation of the approved method of water treatment, leads to a loss of pressure/water, or threatens the safety of the water supply, the Water System Owner shall immediately take appropriate remedial action.

The Water System Owner shall notify the Drinking Water Officer and follow the Emergency Response Plan that was submitted and accepted by the Drinking Water Officer.

6. Disinfection

The Water System Owner may be required to install disinfection equipment at a later date based on the results of the monitoring program or other related information. The need for disinfection is at the discretion of the Drinking Water Officer.

Date: January 1, 2013



Environmental Health Officer

SHELLWOOD WATER SYSTEM

Facility Information

Location 175 Ingram Street Duncan
 Type 15 - 300 Connections

Facility Sampling History

Location	Date	Total Coliform	E. Coli/Enterococci
Shellwood 2 4301 Entrance Ave	09-Jan-2024	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	02-Jan-2024	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	19-Dec-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	11-Dec-2023	LT1	LT1
Shellwood Water System Audit	07-Dec-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	05-Dec-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	27-Nov-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	22-Nov-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	15-Nov-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	06-Nov-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	31- Oct-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	24- Oct-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	17- Oct-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	10- Oct-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	03- Oct-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	26-Sep-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	19-Sep-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	13-Sep-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	05-Sep-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	29-Aug-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	21-Aug-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	15-Aug-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	09-Aug-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	31-Jul-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	24-Jul-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	17-Jul-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave Entrance Ave	10-Jul-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	05-Jul-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	26-Jun-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	19-Jun-2023	QRWRT	QRWRT
Shellwood 2 4301 Entrance Ave	13-Jun-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	06-Jun-2023	QRWRT	QRWRT
Shellwood 2 4301 Entrance Ave	30-May-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	24-May-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	15-May-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	08-May-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	02-May-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	24-Apr-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	18-Apr-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	11-Apr-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	04-Apr-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	28-Mar-2023	QRWRT	QRWRT
Shellwood 2 4301 Entrance Ave	20-Mar-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	13-Mar-2023	LT1	LT1

SHELLWOOD WATER SYSTEM

Facility Information

Location 175 Ingram Street Duncan
Type 15 - 300 Connections

Facility Sampling History

Location	Date	Total Coliform	E. Coli/Enterococci
Shellwood 2 4301 Entrance Ave	06-Mar-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	01-Mar-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	14-Feb-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	06-Feb-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	30-Jan-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	23-Jan-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	16-Jan-2023	LT1	LT1
Shellwood 2 4301 Entrance Ave	09-Jan-2023	LT1	LT1
Shellwood 1 at 4280 Shell Beach Road	04-Jan-2023	LT1	LT1

SHELLWOOD WATER SYSTEM

DISTRIBUTION - S2

			<i>Sample ID</i>	S2-4301 ENTRANCE AVENUE (WTX 2CA9B)
			<i>Sampling Date</i>	04/27/23
			<i>Sampling Time</i>	12:45 PM
<i>Parameter Name</i>	<i>MAC</i>	<i>AO</i>	<i>Units</i>	<i>Result</i>
Nitrite (N)	1		mg/L	<0.0050
Nitrate (N)	10		mg/L	<0.020
Conductivity			uS/cm	450
pH			pH	7.73
Total Dissolved Solids		500	mg/L	260
Alkalinity (PP as CaCO3)			mg/L	<1.0
Alkalinity (Total as CaCO3)			mg/L	140
Bicarbonate (HCO3)			mg/L	170
Carbonate (CO3)			mg/L	<1.0
Hydroxide (OH)			mg/L	<1.0
Chloride (Cl)		250	mg/L	32
Sulphate (SO4)		500	mg/L	40
True Colour		15	Col. Unit	<5.0
Nitrate plus Nitrite (N)			mg/L	<0.020
Langelier Index (@ 20C)			N/A	-0.109
Langelier Index (@ 4C)			N/A	-0.358
Saturation pH (@ 20C)			N/A	7.84
Saturation pH (@ 4C)			N/A	8.09
Dissolved Fluoride (F)	1.5		mg/L	0.099
Tannins and Lignins			mg/L	<0.2
Turbidity	see remark	see remark	NTU	2.1
Total Hardness (CaCO3)			mg/L	98.5
Total Aluminum (Al)	2900		ug/L	<3.0
Total Antimony (Sb)	6		ug/L	<0.50
Total Arsenic (As)	10		ug/L	0.19
Total Barium (Ba)	2000		ug/L	6.2
Total Beryllium (Be)			ug/L	<0.10
Total Bismuth (Bi)			ug/L	<1.0
Total Boron (B)	5000		ug/L	77
Total Cadmium (Cd)	7		ug/L	<0.010
Total Chromium (Cr)	50		ug/L	<1.0
Total Cobalt (Co)			ug/L	<0.20
Total Copper (Cu)	2000	1000	ug/L	58.9
Total Iron (Fe)		300	ug/L	35.5
Total Lead (Pb)	5		ug/L	<0.20
Total Manganese (Mn)	120	20	ug/L	92.6

SHELLWOOD WATER SYSTEM

DISTRIBUTION - S2

			<i>Sample ID</i>	S2-4301 ENTRANCE AVENUE (WTX 2CA9B)
			<i>Sampling Date</i>	04/27/23
			<i>Sampling Time</i>	12:45 PM
<i>Parameter Name</i>	<i>MAC</i>	<i>AO</i>	<i>Units</i>	<i>Result</i>
Total Molybdenum (Mo)			ug/L	<1.0
Total Nickel (Ni)			ug/L	<1.0
Total Selenium (Se)	50		ug/L	<0.10
Total Silicon (Si)			ug/L	10300
Total Silver (Ag)			ug/L	<0.020
Total Strontium (Sr)	7000		ug/L	287
Total Thallium (Tl)			ug/L	<0.010
Total Tin (Sn)			ug/L	<5.0
Total Titanium (Ti)			ug/L	<5.0
Total Uranium (U)	20		ug/L	<0.10
Total Vanadium (V)			ug/L	<5.0
Total Zinc (Zn)		5000	ug/L	18.5
Total Zirconium (Zr)			ug/L	<0.10
Total Calcium (Ca)			mg/L	26.6
Total Magnesium (Mg)			mg/L	7.78
Total Potassium (K)			mg/L	0.593
Total Sodium (Na)		200	mg/L	53.4
Total Sulphur (S)			mg/L	12.9
Total Mercury (Hg)	1		ug/L	<0.0019
Total Total Kjeldahl Nitrogen (Calc)			mg/L	0.072
Total Organic Carbon (C)			mg/L	1.1
Total Nitrogen (N)			mg/L	0.072
Total Ammonia (N)			mg/L	0.038
Sulphide (as H ₂ S)		0.05	mg/L	<0.0020
Total Sulphide		0.05	mg/L	<0.0018
Total Coliforms	0		CFU/100mL	0
E. coli	0		CFU/100mL	0
Heterotrophic Plate Count			CFU/mL	<1.0
Fecal Coliforms			CFU/100mL	0
Non-Coliform (Background)			CFU/100mL	<1
Iron Bacteria			CFU/mL	<25
Sulphate reducing bacteria			CFU/mL	<75
Total Trihalomethanes	100		ug/L	37
Bromodichloromethane			ug/L	13
Bromoform			ug/L	<1.0
Dibromochloromethane			ug/L	6.2

SHELLWOOD WATER SYSTEM

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			<i>Sampling Time</i>	12:45 PM
<i>Parameter Name</i>	<i>MAC</i>	<i>AO</i>	<i>Units</i>	<i>Result</i>
Chloroform			ug/L	18
Dalapon			ug/L	<5.0
Monochloroacetic Acid			ug/L	<5.0
Monobromoacetic Acid			ug/L	<5.0
Dichloroacetic Acid			ug/L	8.1
Trichloroacetic Acid			ug/L	9.3
Bromochloroacetic Acid			ug/L	<5.0
Dibromoacetic Acid			ug/L	<5.0
Total Haloacetic Acids	80		ug/L	17