

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) CVRD Engineering Services, 175 Ingram Street, Duncan, BC

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

Click here to enter a date.

DATE COMPLETED:

COMPLETED BY:

Future upgrades or improvements	Estimated date of Completion
Rehab/replumb well #1	2020
Install Manganese Treatment system	2020/2021
well upgrades	2020/2021



SHELLWOOD WATER SYSTEM

Facility Location:

4300 Entrance Avenue
Ladysmith

Facility Information:

Facility Type: 15-300 DWC

Facility Sampling History:

Location	Date	Total Coliform	E.Coli
4301 Entrance Ave, 4301 Entrance Ave	17-Dec-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	10-Dec-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	3-Dec-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	26-Nov-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	19-Nov-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	13-Nov-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	5-Nov-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	30-Oct-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	22-Oct-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	16-Oct-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	9-Oct-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	3-Oct-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	24-Sep-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	17-Sep-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	10-Sep-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	4-Sep-2018	L1	L1



4301 Entrance Ave, 4301 Entrance Ave	27-Aug-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	20-Aug-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	13-Aug-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	7-Aug-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	30-Jul-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	24-Jul-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	9-Jul-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	9-Jul-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	3-Jul-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	26-Jun-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	19-Jun-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	13-Jun-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	5-Jun-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	29-May-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	22-May-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	15-May-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	8-May-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	1-May-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	23-Apr-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	17-Apr-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	9-Apr-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	4-Apr-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	26-Mar-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	20-Mar-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	14-Mar-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	6-Mar-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	27-Feb-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	19-Feb-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	13-Feb-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	6-Feb-2018	L1	L1



4280 Shell Beach Road, 4280 Shell Beach Road	30-Jan-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	22-Jan-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	15-Jan-2018	L1	L1
4301 Entrance Ave, 4301 Entrance Ave	9-Jan-2018	L1	L1
4280 Shell Beach Road, 4280 Shell Beach Road	3-Jan-2018	L1	L1

Laboratory Report

ALS Environmental

Report For: Cowichan Valley Regional District
Received: 03/02/2018 09:15
Report ID: L2056384
Report Name: ALS Final Results Report

Sample ID: L2056384-1
Water System: Shellwood Water System
Source: Wells
Facility: Treatment plant
Sampling Pt: S3 - well #1 4275 Shell Bach Rd-raw water (1-2-SR, 2CA98)
Comment: S3-WELL#1 4275 SHELL BEACH RD-RAW WATER
Sampled: 02/13/2018

INORGANIC		Criteria & Type		Status
Aluminum (total)	0.014 mg/L	<=0.1	Operational - Conventional	Final
Ammonia (total, as N)	0.0523 mg/L			Final
Antimony (total)	< 0.00050 mg/L	<=0.006	MAC	Final
Arsenic (total)	0.00019 mg/L	<=0.01	MAC	Final
Barium (total)	< 0.010 mg/L	<=1	MAC	Final
Beryllium (total)	< 0.0050 mg/L			Final
Bismuth (total)	< 0.20 mg/L			Final
Boron (total)	< 0.10 mg/L	<=5	MAC	Final
Bromide	< 0.050 mg/L			Final
Cadmium (total)	< 0.00020 mg/L	<=0.005	MAC	Final
Calcium (total)	26.1 mg/L			Final
Chloride	18.4 mg/L	<=250	AO	Final
Chromium (total)	< 0.0020 mg/L	<=0.05	MAC	Final
Cobalt (total)	< 0.010 mg/L			Final
Copper (total)	< 0.0010 mg/L	<=1	AO	Final
Fluoride	0.081 mg/L	<=1.5	MAC	Final
Iron (total)	0.109 mg/L	<=0.3	AO	Final
Lead (total)	< 0.00050 mg/L	<=0.005	MAC	Final
Lithium (total)	0.014 mg/L			Final
Magnesium (total)	7.62 mg/L			Final
* Manganese (total)	0.231 mg/L	<=0.12	MAC	Final
Mercury (total)	< 0.00020 mg/L	<=0.001	MAC	Final
Molybdenum (total)	< 0.030 mg/L			Final
Nickel (total)	< 0.050 mg/L			Final
Nitrate (as N)	< 0.0050 mg/L	<=10	MAC	Final
Nitrate + Nitrite (as N)	< 0.0051 mg/L	<=10	User-Defined	Final
Nitrite (as N)	< 0.0010 mg/L	<=1	MAC	Final
Phosphorus (total)	< 0.30 mg/L			Final
Potassium (total)	0.57 mg/L			Final
Selenium (total)	< 0.0010 mg/L	<=0.05	MAC	Final
Silicon (total, as Si)	9.66 mg/L			Final
Silver (total)	< 0.010 mg/L			Final

Laboratory Report

ALS Environmental

Report Name: ALS Final Results Report

Sample ID: L2056384-1 (continued)
Water System: Shellwood Water System
Source: Wells
Facility: Treatment plant
Sampling Pt: S3 - well #1 4275 Shell Bach Rd-raw water (1-2-SR, 2CA98)
Comment: S3-WELL#1 4275 SHELL BEACH RD-RAW WATER
Sampled: 02/13/2018

INORGANIC		Criteria & Type		Status
Sodium (total)	44.8 mg/L	<=200	AO	Final
Strontium (total)	0.252 mg/L			Final
Sulphate	34.8 mg/L	<=500	AO	Final
Sulphide (total, as S)	0.174 mg/L			Final
Thallium (total)	< 0.20 mg/L			Final
Tin (total)	< 0.030 mg/L			Final
Titanium (total)	< 0.010 mg/L			Final
Vanadium (total)	< 0.030 mg/L			Final
Zinc (total)	0.0060 mg/L	<=5	AO	Final
MICROORGANISMS		Criteria & Type		Status
Background Bacteria	< 1 CFU/100ml	<=200,OG	User-Defined	Final
Escherichia coli / E. coli (counts)	< 1 CFU/100ml	<=0,P	Microbiological Standard	Final
Fecal (thermal tolerant) Coliforms (counts)	< 1 CFU/100ml	<=0,OG	Microbiological Standard	Final
Heterotrophic Plate Count / HPC	< 1 CFU/ml	<=5	User-Defined	Final
Iron Bacteria (MPN / PA)	SC			Final
Sulfate Reducing Bacteria	SC			Final
Total Coliforms (counts)	< 1 CFU/100ml	<=0,OG	User-Defined	Final
ORGANIC		Criteria & Type		Status
Tannins and Lignins	0.63 mg/L			Final
Total Kjeldahl Nitrogen / TKN	0.063 mg/L			Final
Total Organic Carbon / TOC	1.55 mg/L			Final
PHYSICAL		Criteria & Type		Status
Alkalinity (bicarbonate, as CaCO3)	139 mg/L			Final
Alkalinity (carbonate, as CaCO3)	< 1.0 mg/L			Final
Alkalinity (hydroxide, as CaCO3)	< 1.0 mg/L			Final
Alkalinity (total, as CaCO3)	139 mg/L			Final
Colour	< 5.0 CU	<=15	AO	Final
Conductivity	394 uS/cm			Final
Hardness (total, as CaCO3)	96.4 mg/L			Final
Langelier Index	-0.51			Final
Langelier Index (@ 20 C)	11.4			Final
pH	7.45		Current Level	Final

Laboratory Report

ALS Environmental

Report Name: ALS Final Results Report

Sample ID: L2056384-1 (continued)
Water System: Shellwood Water System
Source: Wells
Facility: Treatment plant
Sampling Pt: S3 - well #1 4275 Shell Bach Rd-raw water (1-2-SR, 2CA98)
Comment: S3-WELL#1 4275 SHELL BEACH RD-RAW WATER
Sampled: 02/13/2018

PHYSICAL

			Criteria & Type	Status
pH	7.46		Current Level	Final
Temperature	11.4 degrees C	<=15	AO	Final
Total Dissolved Solids / TDS	220 mg/L	<=500	AO	Final
Turbidity	3.40 NTU	<=5	User-Defined	Final

RADIONUCLIDES

			Criteria & Type	Status
Uranium (total)	< 0.00010 mg/L	<=0.02	MAC	Final

Result Legend

P=present, A=absent, PR=presumptive, ND=non-detect, OR=over-range, OG=overgrown, Y=yes, N=no,
TNTC=too numerous to count, NR=no result, NT=not tested, IG=ignore, ER=external report, SC=see comment
< means less than lower detection limit shown

> means greater than upper detection limit shown

« means detected & less than number shown

» means detected & greater than number shown

* Indicates Criteria is exceeded

Approved on:
03/29/2018 mm/dd/yyyy
Approved by:
Rod Lama