

### DRINKING WATER SYSTEM ANNUAL REPORT

**Reporting Period:** January 1<sup>st</sup> to December 31<sup>st</sup>, (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, <b>and</b> 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
Replace meters	2022/2023
Replace AC well line	2021/2021
Groundwater monitoring (data collection) all wells	2020



## DOUGLAS HILL WATER SYSTEM

### Facility Location:

175 Ingram Street  
Cobble Hill

### Facility Information:15-300 DWC

Facility Type:

### Facility Sampling History:

Location	Date	Total Coliform	E.Coli
S-1 easement behind 4373 Jim's Crescent , S-1 easement behind 4373 Jim's Crescent	18-Dec-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	11-Dec-2018	L1	L1
S-3 4171 Judge Drive, S-3 4171 Judge Drive	4-Dec-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	26-Nov-2018	L1	L1
S-1 easement behind 4373 Jim's Crescent , S-1 easement behind 4373 Jim's Crescent	20-Nov-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	13-Nov-2018	L1	L1
S-3 4171 Judge Drive, S-3 4171 Judge Drive	6-Nov-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	29-Oct-2018	L1	L1
S-1 easement behind 4373 Jim's Crescent , S-1 easement behind 4373 Jim's Crescent	22-Oct-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	16-Oct-2018	L1	L1
S-3 4171 Judge Drive, S-3 4171 Judge Drive	10-Oct-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	2-Oct-2018	L1	L1
S-1 easement behind 4373 Jim's Crescent , S-1 easement behind 4373 Jim's Crescent	25-Sep-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	18-Sep-2018	L1	L1



S-3 4171 Judge Drive, S-3 4171 Judge Drive	11-Sep-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	5-Sep-2018	L1	L1
S-1 easement behind 4373 Jim's Crescent , S-1 easement behind 4373 Jim's Crescent	28-Aug-2018	L1	L1
S-3 4171 Judge Drive, S-3 4171 Judge Drive	22-Aug-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	14-Aug-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	8-Aug-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	23-Jul-2018	L1	L1
S-3 4171 Judge Drive, S-3 4171 Judge Drive	16-Jul-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	9-Jul-2018	L1	L1
S-1 easement behind 4373 Jim's Crescent , S-1 easement behind 4373 Jim's Crescent	3-Jul-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	27-Jun-2018	L1	L1
S-1 easement behind 4373 Jim's Crescent , S-1 easement behind 4373 Jim's Crescent	18-Jun-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	12-Jun-2018	L1	L1
S-3 4171 Judge Drive, S-3 4171 Judge Drive	4-Jun-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	28-May-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	23-May-2018	L1	L1
S-1 easement behind 4373 Jim's Crescent , S-1 easement behind 4373 Jim's Crescent	14-May-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	7-May-2018	L1	L1
S-3 4171 Judge Drive, S-3 4171 Judge Drive	30-Apr-2018	L1	L1
S-1 easement behind 4373 Jim's Crescent , S-1 easement behind 4373 Jim's Crescent	24-Apr-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	16-Apr-2018	L1	L1
S-3 4171 Judge Drive, S-3 4171 Judge Drive	10-Apr-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	3-Apr-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	27-Mar-2018	L1	L1
S-1 easement behind 4373 Jim's Crescent , S-1 easement behind 4373 Jim's Crescent	19-Mar-2018	L1	L1
S-3 4171 Judge Drive, S-3 4171 Judge Drive	13-Mar-2018	L1	L1



S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	5-Mar-2018	L1	L1
S-1 easement behind 4373 Jim's Crescent , S-1 easement behind 4373 Jim's Crescent	26-Feb-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	19-Feb-2018	L1	L1
S-3 4171 Judge Drive, S-3 4171 Judge Drive	13-Feb-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	5-Feb-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	22-Jan-2018	L1	L1
S-3 4171 Judge Drive, S-3 4171 Judge Drive	16-Jan-2018	L1	L1
S-2 4224 Douglas Vale, S-2 4224 Douglas Vale	8-Jan-2018	L1	L1
S-1 easement behind 4373 Jim's Crescent , S-1 easement behind 4373 Jim's Crescent	2-Jan-2018	L1	L1



# Laboratory Report

# ALS Environmental

Report For: Cowichan Valley Regional District  
Received: 11/13/2018 12:15  
Report ID: L2183936  
Report Name: ALS Final Results Report

**Sample ID: L2183936-1**

Water System: Douglas Hill Water (DHW)  
Facility: Distribution  
Sampling Pt: S3-4171 Judge Dr (2-3-MD, 27AD2)  
Comment: S3-4171 JUDGE DR  
Sampled: 10/18/2018 12:30

INORGANIC		Criteria & Type		Status
Aluminum (total)	< 0.010 mg/L	<=0.1	Operational - Conventional	Final
Ammonia (total, as N)	< 0.0050 mg/L			Final
Antimony (total)	< 0.00050 mg/L	<=0.006	MAC	Final
Arsenic (total)	0.00113 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)	18.3 mg/L			Final
Chloride	8.42 mg/L	<=250	AO	Final
Chromium (total)	0.0021 mg/L	<=0.05	MAC	Final
Cobalt (total)	< 0.010 mg/L			Final
Copper (total)	0.0022 mg/L	<=1	AO	Final
Fluoride	0.065 mg/L	<=1.5	MAC	Final
Iron (total)	< 0.030 mg/L	<=0.3	AO	Final
Lead (total)	< 0.00050 mg/L	<=0.005	MAC	Final
Lithium (total)	< 0.010 mg/L			Final
Magnesium (total)	10.5 mg/L			Final
Manganese (total)	< 0.0020 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)	1.58 mg/L	<=10	MAC	Final
Nitrate + Nitrite (as N)	1.58 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)	0.79 mg/L			Final
Selenium (total)	< 0.0010 mg/L	<=0.05	MAC	Final
Silicon (total, as Si)	10.2 mg/L			Final
Silver (total)	< 0.010 mg/L			Final
Sodium (total)	6.9 mg/L	<=200	AO	Final

# Laboratory Report

ALS Environmental

Report Name: ALS Final Results Report

**Sample ID:** L2183936-1 (continued)  
**Water System:** Douglas Hill Water (DHW)  
**Facility:** Distribution  
**Sampling Pt:** S3-4171 Judge Dr (2-3-MD, 27AD2)  
**Comment:** S3-4171 JUDGE DR  
**Sampled:** 10/18/2018 12:30

## INORGANIC

		Criteria & Type		Status
Strontium (total)	0.0697 mg/L			Final
Sulphate	6.09 mg/L	<=500	AO	Final
Sulphide (total, as S)	< 0.018 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)	< 0.0050 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	< 0.10 mg/L			Final
Total Kjeldahl Nitrogen / TKN	0.135 mg/L			Final
Total Organic Carbon / TOC	< 0.50 mg/L			Final

## PHYSICAL

		Criteria & Type		Status
Alkalinity (bicarbonate, as CaCO3)	83.2 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)	83.2 mg/L			Final
Colour	< 5.0 CU	<=15	AO	Final
Conductivity	202 uS/cm			Final
Hardness (total, as CaCO3)	89.1 mg/L			Final
Langelier Index	-0.14			Final
Langelier Index (@ 20 C)	14			Final
pH	7.5		Current Level	Final
pH	8.12		Current Level	Final
Temperature	14 degrees C	<=15	AO	Final

## Laboratory Report

ALS Environmental

Report Name: ALS Final Results Report

**Sample ID:** L2183936-1 (continued)  
**Water System:** Douglas Hill Water (DHW)  
**Facility:** Distribution  
**Sampling Pt:** S3-4171 Judge Dr (2-3-MD, 27AD2)  
**Comment:** S3-4171 JUDGE DR  
**Sampled:** 10/18/2018 12:30

### PHYSICAL

Total Dissolved Solids / TDS	136 mg/L
Turbidity	0.15 NTU

### Criteria & Type

<=500	AO	Final
<=5	User-Defined	Final

### Status

### RADIONUCLIDES

Uranium (total)	0.00030 mg/L
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### Criteria & Type

<=0.02	MAC	Final
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### Status

### 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:

11/13/2018 mm/dd/yyyy

Approved by:

Rod Lama