

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
Genset installation	2020
WTP inspection and upgrades	2020/2021
investigate for new well	2024/2025
Groundwater monitoring (data collection) all wells	2020



WOODLEY RANGE WATER SYSTEM

Facility Location:

5005 Aho Road
Ladysmith

Facility Information:

Facility Type: 15-300 DWC

Facility Sampling History:

Location	Date	Total Coliform	E.Coli
4966 Aho Road Woodley Range, 4966 Aho Road	17-Dec-2018	L1	L1
5120 Aho Road Woodley Range, 5120 Aho Road	10-Dec-2018	L1	L1
4828 Judiths Run - Woodley Range, 4828 Judiths Run	3-Dec-2018	L1	L1
Lot 53 Henry Roethel Road, Lot 53 Henry Roethel Road	26-Nov-2018	L1	L1
4966 Aho Road Woodley Range, 4966 Aho Road	19-Nov-2018	L1	L1
5120 Aho Road Woodley Range, 5120 Aho Road	13-Nov-2018	L1	L1
4828 Judiths Run - Woodley Range, 4828 Judiths Run	5-Nov-2018	L1	L1
4966 Aho Road Woodley Range, 4966 Aho Road	22-Oct-2018	L1	L1
5120 Aho Road Woodley Range, 5120 Aho Road	16-Oct-2018	L1	L1
4828 Judiths Run - Woodley Range, 4828 Judiths Run	9-Oct-2018	L1	L1
Lot 53 Henry Roethel Road, Lot 53 Henry Roethel Road	3-Oct-2018	L1	L1
4828 Judiths Run - Woodley Range, 4828 Judiths Run	24-Sep-2018	L1	L1
4966 Aho Road Woodley Range, 4966 Aho Road	17-Sep-2018	L1	L1
5120 Aho Road Woodley Range, 5120 Aho Road	10-Sep-2018	L1	L1



Lot 53 Henry Roethel Road, Lot 53 Henry Roethel Road	27-Aug-2018	L1	L1
4966 Aho Road Woodley Range, 4966 Aho Road	20-Aug-2018	1	L1
5120 Aho Road Woodley Range, 5120 Aho Road	13-Aug-2018	L1	L1
4828 Judiths Run - Woodley Range, 4828 Judiths Run	7-Aug-2018	L1	L1
Lot 53 Henry Roethel Road, Lot 53 Henry Roethel Road	30-Jul-2018	L1	L1
4966 Aho Road Woodley Range, 4966 Aho Road	24-Jul-2018	L1	L1
4828 Judiths Run - Woodley Range, 4828 Judiths Run	9-Jul-2018	L1	L1
Lot 53 Henry Roethel Road, Lot 53 Henry Roethel Road	3-Jul-2018	L1	L1
4966 Aho Road Woodley Range, 4966 Aho Road	26-Jun-2018	L1	L1
4828 Judiths Run - Woodley Range, 4828 Judiths Run	19-Jun-2018	L1	L1
Lot 53 Henry Roethel Road, Lot 53 Henry Roethel Road	13-Jun-2018	L1	L1
5120 Aho Road Woodley Range, 5120 Aho Road	5-Jun-2018	L1	L1
4828 Judiths Run - Woodley Range, 4828 Judiths Run	22-May-2018	L1	L1
Lot 53 Henry Roethel Road, Lot 53 Henry Roethel Road	15-May-2018	L1	L1
5120 Aho Road Woodley Range, 5120 Aho Road	8-May-2018	L1	L1
4828 Judiths Run - Woodley Range, 4828 Judiths Run	1-May-2018	L1	L1
4828 Judiths Run - Woodley Range, 4828 Judiths Run	23-Apr-2018	L1	L1
4966 Aho Road Woodley Range, 4966 Aho Road	17-Apr-2018	L1	L1
5120 Aho Road Woodley Range, 5120 Aho Road	9-Apr-2018	L1	L1
Lot 53 Henry Roethel Road, Lot 53 Henry Roethel Road	4-Apr-2018	L1	L1
5120 Aho Road Woodley Range, 5120 Aho Road	14-Mar-2018	L1	L1
4828 Judiths Run - Woodley Range, 4828 Judiths Run	6-Mar-2018	L1	L1
Lot 53 Henry Roethel Road, Lot 53 Henry Roethel Road	27-Feb-2018	L1	L1
4966 Aho Road Woodley Range, 4966 Aho Road	19-Feb-2018	L1	L1
5120 Aho Road Woodley Range, 5120 Aho Road	13-Feb-2018	L1	L1
4828 Judiths Run - Woodley Range, 4828 Judiths Run	6-Feb-2018	L1	L1
Lot 53 Henry Roethel Road, Lot 53 Henry Roethel Road	30-Jan-2018	L1	L1
4966 Aho Road Woodley Range, 4966 Aho Road	22-Jan-2018	L1	L1
5120 Aho Road Woodley Range, 5120 Aho Road	15-Jan-2018	L1	L1
4828 Judiths Run - Woodley Range, 4828 Judiths Run	9-Jan-2018	L1	L1



Lot 53 Henry Roethel Road, Lot 53 Henry Roethel Road	3-Jan-2018	L1	L1
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Laboratory Report

ALS Environmental

Report For: Cowichan Valley Regional District
 Received: 03/02/2018 09:15
 Report ID: L2056383
 Report Name: ALS Final Results Report

Sample ID: L2056383-1
 Water System: Woodley Range Water System
 Source: Wells
 Facility: Wells
 Sampling Pt: Well 26 (2-2-SR, 32864)
 Comment: WELL 26
 Sampled: 02/13/2018

INORGANIC		Criteria & Type	Status
Aluminum (total)	0.019 mg/L	<=0.1 Operational - Conventional	Final
Ammonia (total, as N)	0.0913 mg/L		Final
Antimony (total)	< 0.00050 mg/L	<=0.006 MAC	Final
Arsenic (total)	0.00059 mg/L	<=0.01 MAC	Final
Barium (total)	0.029 mg/L	<=1 MAC	Final
Beryllium (total)	< 0.0050 mg/L		Final
Bismuth (total)	< 0.20 mg/L		Final
Boron (total)	0.18 mg/L	<=5 MAC	Final
Bromide	< 0.050 mg/L		Final
Cadmium (total)	< 0.00020 mg/L	<=0.005 MAC	Final
Calcium (total)	11.9 mg/L		Final
Chloride	3.76 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	0.278 mg/L	<=1.5 MAC	Final
Iron (total)	0.103 mg/L	<=0.3 AO	Final
Lead (total)	< 0.00050 mg/L	<=0.005 MAC	Final
Lithium (total)	0.018 mg/L		Final
Magnesium (total)	0.39 mg/L		Final
Manganese (total)	0.0419 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)	0.30 mg/L		Final
Selenium (total)	< 0.0010 mg/L	<=0.05 MAC	Final
Silicon (total, as Si)	4.48 mg/L		Final
Silver (total)	< 0.010 mg/L		Final



Laboratory Report

ALS Environmental

Report Name: ALS Final Results Report

Sample ID: L2056383-1 (continued)
Water System: Woodley Range Water System
Source: Wells
Facility: Wells
Sampling Pt: Well 26 (2-2-SR, 32864)
Comment: WELL 26
Sampled: 02/13/2018

INORGANIC		Criteria & Type	Status
Sodium (total)	123 mg/L	<=200 AO	Final
Strontium (total)	0.233 mg/L		Final
Sulphate	93.3 mg/L	<=500 AO	Final
Sulphide (total, as S)	0.076 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)	0.0685 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	0.11 mg/L		Final
Total Kjeldahl Nitrogen / TKN	0.106 mg/L		Final
Total Organic Carbon / TOC	0.95 mg/L		Final
PHYSICAL		Criteria & Type	Status
Alkalinity (bicarbonate, as CaCO3)	202 mg/L		Final
Alkalinity (carbonate, as CaCO3)	5.6 mg/L		Final
Alkalinity (hydroxide, as CaCO3)	< 1.0 mg/L		Final
Alkalinity (total, as CaCO3)	208 mg/L		Final
Colour	< 5.0 CU	<=15 AO	Final
Conductivity	601 uS/cm		Final
Hardness (total, as CaCO3)	31.3 mg/L		Final
pH	8.36	Current Level	Final
Total Dissolved Solids / TDS	361 mg/L	<=500 AO	Final
Turbidity	4.19 NTU	<=5 User-Defined	Final



Laboratory Report

ALS Environmental

Report Name: ALS Final Results Report

Sample ID: L2056383-1 (continued)
Water System: Woodley Range Water System
Source: Wells
Facility: Wells
Sampling Pt: Well 26 (2-2-SR, 32864)
Comment: WELL 26
Sampled: 02/13/2018

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

Sample ID: L2056383-2
Water System: Woodley Range Water System
Source: Wells
Facility: Wells
Sampling Pt: Well 67 (2-6-SR, 32868)
Comment: WELL 67
Sampled: 02/13/2018

INORGANIC		Criteria & Type	Status
Aluminum (total)	0.079 mg/L	<=0.1 Operational - Conventional	Final
Ammonia (total, as N)	0.0505 mg/L		Final
Antimony (total)	< 0.00050 mg/L	<=0.006 MAC	Final
Arsenic (total)	0.00012 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)	0.52 mg/L	<=5 MAC	Final
Bromide	0.161 mg/L		Final
Cadmium (total)	< 0.00020 mg/L	<=0.005 MAC	Final
Calcium (total)	6.17 mg/L		Final
Chloride	32.9 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	1.36 mg/L	<=1.5 MAC	Final
Iron (total)	0.053 mg/L	<=0.3 AO	Final
Lead (total)	< 0.00050 mg/L	<=0.005 MAC	Final
Lithium (total)	0.011 mg/L		Final
Magnesium (total)	0.54 mg/L		Final
Manganese (total)	0.0204 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



Laboratory Report

ALS Environmental

Report Name: ALS Final Results Report

Sample ID: L2056383-2 (continued)
Water System: Woodley Range Water System
Source: Wells
Facility: Wells
Sampling Pt: Well 67 (2-6-SR, 32868)
Comment: WELL 67
Sampled: 02/13/2018

INORGANIC		Criteria & Type	Status
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)	0.11 mg/L		Final
Selenium (total)	< 0.0010 mg/L	<=0.05 MAC	Final
Silicon (total, as Si)	5.15 mg/L		Final
Silver (total)	< 0.010 mg/L		Final
Sodium (total)	68.4 mg/L	<=200 AO	Final
Strontium (total)	0.0686 mg/L		Final
Sulphate	3.23 mg/L	<=500 AO	Final
Sulphide (total, as S)	1.99 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)	0.240 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	10 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	0.13 mg/L		Final
Total Kjeldahl Nitrogen / TKN	0.074 mg/L		Final
Total Organic Carbon / TOC	1.07 mg/L		Final
PHYSICAL		Criteria & Type	Status
Alkalinity (bicarbonate, as CaCO3)	126 mg/L		Final
Alkalinity (carbonate, as CaCO3)	9.4 mg/L		Final
Alkalinity (hydroxide, as CaCO3)	< 1.0 mg/L		Final
Alkalinity (total, as CaCO3)	135 mg/L		Final



Laboratory Report

ALS Environmental

Report Name: ALS Final Results Report

Sample ID: L2056383-2 (continued)
Water System: Woodley Range Water System
Source: Wells
Facility: Wells
Sampling Pt: Well 67 (2-6-SR, 32868)
Comment: WELL 67
Sampled: 02/13/2018

PHYSICAL		Criteria & Type		Status
Colour	< 5.0 CU	<=15	AO	Final
Conductivity	379 uS/cm			Final
Hardness (total, as CaCO3)	17.6 mg/L			Final
pH	8.60		Current Level	Final
Total Dissolved Solids / TDS	206 mg/L	<=500	AO	Final
* Turbidity	7.99 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:
06/18/2019 mm/dd/yyyy
Approved by:
Rod Lama

