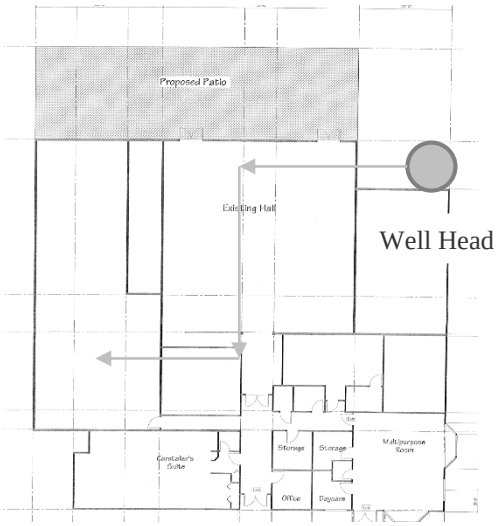
MAPLE RIDGE
BRITISH COLUMBIA

MAPLE RIDGE
PARKS, RECREATION
& CULTURE

Maple Ridge Parks, Recreation & Culture

WATER QUALITY REPORT 2018

Whonnock Community Centre Water System



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Prepared by:

Andrew McAusland
Facilities Maintenance Supervisor
City of Maple Ridge

INTRODUCTION

Maple Ridge Parks Recreation & Culture, Facilities Department provides well water under permit by the Fraser Health Authority (FHA). As required by Section 15 of the British Columbia Drinking Water Protection Act, this document is the Maple Ridge Parks, Recreation, & Culture, Faculties Department annual report on the Small Drinking Water systems that the City operates on of users at Whonnock Community Hall – 27871 113 Avenue, Maple Ridge.

OUTLINE

Well identification number - 35445
GPS location of well head – N49.20829° - W122.44890° accuracy 39'

Whonnock Community Hall well is 90 ft. deep and provides fresh water for the Hall, its caretaker and a pre-school. The water system controls, mechanical and disinfection equipment are contained within the mechanical room and include the pressure tank and switch, filter and head; ultra violet disinfection and a locking gate valve. The well head is mechanically sealed with padlocks. The well pump is located in the shaft.

EQUIPMENT

- Medial filter model MC14AM, serial # 158642 115v K10
- Well-rite WR 240 Air Pressure tank – installed March / 2008
- Pressure switch 60-40
- Pump ¾ horse 230 v
- Franklin electric control
- TROJANUVMAX model PR015 including sensor and electronic monitor serial # 000523 Part #650497
- Replacement lamp #602807
- Replacement sleeve #602734
- American Plumber Canister filter model W2010-PR
- 5 Micron non pleated filter
- Clock head : Model 2700 115v

FACILITY MAINTENANCE

This well is maintained by the Maple Ridge Parks, Recreation & Culture, Facilities Department. A qualified Small Water System Operator provides security, monitoring, maintenance, upgrades and emergency response to all of our Parks and Facilities small water systems.

ROUTINE WATER SAMPLING

Water samples are taken from each location every Tuesday morning by the Operations Department and a courier delivers these samples on the same day, to the Metro Vancouver laboratory in Burnaby. The Metro Vancouver lab sends the results to the City of Maple Ridge and the Fraser Health Authority by e-mail. The results are reported weekly unless an indicator is found in the sample. In this event, a communication from the Metro Vancouver lab is issued on the Wednesday (Thursday latest) to the City of Maple Ridge. It is important to note that this monitoring program provides a representative picture of drinking water quality in the well system to the tap only.

ADVISORIES

In the event of a concern discovered upon analysis, the Metro Vancouver Water Department lab will email until the report has been received by the City of Maple Ridge. The communications should follow the following list until a response has been assured:

1. Michael Albrecht	604 363 6671 cell	
2. Andrew McAusland	604 788 6543 cell	604-467-7476 office
3. Michael Millward	604-619-8314 cell	604-467-7385 office
4. David Boag	604-619-8315 cell	604-467-7344 office

All inquiries from the media and public must be referred to the Parks and Facilities Director (604) 467-7344.

Fraser Health Authority contact info:

Binny Sivia - Public Health Officer	604-870-7902
After hours pager, carried by an MHO	604-527-4806
Dr. Larry Gustafson - Ministry of Health	604-476-7076

If required, the well is shut down immediately and a notice will be posted advising the users that the water is not potable until further notice.

EMERGENCY MEASURES:

Response instructions

- Keys, devices and signs are taken to the location described in the alarm advisory and the water valve is physically shut off and locked out.
- Signs are posted at all entrance doors, informing the public of the water shut-off.
- The date of the notice and the responding staff's initial should be written on each posting.
- The area Caretaker must be informed immediately while the above procedure is being implemented.

Contacts:

- Whonnock Community Office: 604-462-8212
- Caretaker: Stevie Shayler: 778-846-5257
- The Booking Clerk and Caretakers are responsible for informing the user groups who may have been exposed to the drinking water conditions since the last favorable analysis.
- Binny Sivia (Public Health Inspector) is to be notified at (1-604-870-7902) within one business day – emergency phone (604-527-4806).
- Inform Michael Millward (604-467-7385), and David Boag (604-467-7344) when the above steps have been completed.
- City Water Works (604-467-7393) must be contacted to arrange an immediate sample taken for re-test.

All inquiries from the media and public must be referred to the Parks and Facilities Director (604-467-7344).

Bacteriological Monitoring Standards

Weekly samples are analyzed for fecal coliform, total coliform and heterotrophic plate count (HPC) and response is made according to provincial guidelines.

Table 1. BC Drinking Water Protection Regulation Microbiological Standards

Parameter	Occurrence	Standard
Fecal Coliform	1 sample	Less than 1 fecal coliform per 100mL
Total Coliform	a) 1 sample in a 30 day period	0 total coliform per 100mL
	b) more than 1 sample in a 30 day period.	At least 90% of samples have 0 total coliform per 100mL and no sample has more than 10 total coliform per 100mL

BRITISH COLUMBIA | HealthLinkBC

Number 49c
September 2016

Arsenic in Drinking Water

Arsenic is found naturally in the rocks in the earth's crust. It can be found in some drinking water supplies, and wells. Drinking water containing arsenic can have serious short-term and long-term health effects.

How does arsenic get into drinking water?

Arsenic can get into drinking water from natural deposits or runoff from agriculture, mining and industrial processes.

In B.C., natural minerals are the most common sources of arsenic in drinking water.

The amount of arsenic in ground water supplies like wells is usually higher than in surface water supplies such as lakes, streams and rivers.

What are the health effects of arsenic exposure?

Short to medium term (days to weeks) exposure to very high levels of arsenic in drinking water can lead to arsenic poisoning.

Symptoms of exposure to high levels of arsenic include stomach pain, vomiting, diarrhea, and impaired nerve function, which may result in 'pins and needles' sensation or numbness and burning in hands and feet.

Arsenic can also cause skin changes, which include darkening, and wart-like or corn-like growths. These are mostly found on the palms of the hands or bottoms of the feet. Other symptoms can include skin flushing and rashes.

As children tend to drink more water per unit of body weight than adults, they may have more exposure to arsenic in drinking water. As a result children may be at greater risk of illness when higher levels of arsenic are present.

Long-term (years to decades) exposure to even relatively low amounts of arsenic in drinking water can increase your risk of developing certain cancers, including:

- skin,
- lung,
- kidney,
- bladder, and
- liver.

The risk of cancer is the reason for developing the Canadian guideline for arsenic in drinking water. For more information on The Guidelines for Canadian Drinking Water Quality see, www.canada.ca/en/health-canada/services/publications/healthy-living/guidelines-canadian-drinking-water-quality-guideline-technical-document-arsenic.html.

What amount of arsenic causes health effects?

Health Canada set a Maximum Acceptable Concentration (MAC) of 10 micrograms per litre for arsenic in drinking water. This can also be reported as 10 µg/L, or as 0.010 milligrams per litre (mg/L).

This level was set based on the ability to treat water practicably to this level. This amount is still linked with a health risk higher than the level considered to be a very minor risk. For this reason people should consider taking precautions with their drinking water even if the arsenic levels are slightly below the guideline. Data collected in Canada indicates that the levels of arsenic in drinking water is usually less than 0.005 mg\L, but concentrations may be higher in some areas.

How do I know if there is arsenic in my drinking water?

Public drinking water systems are monitored regularly. In drinking water, arsenic has no odor or taste and can only be detected by a chemical test.

Most private wells are not tested routinely for water quality or contaminants. It is the well owner's responsibility to test the water for arsenic. Any well may contain arsenic or other contaminants. Private wells should be tested regularly for water quality.

Contact your local public health unit or environmental health officer for information on the testing process in British Columbia.

For more information about private well water testing, see HealthLinkBC File #05b Should I Get My Well Water Tested?

What can I do if there is arsenic in my drinking water?

Water with arsenic is only a concern if it is being used for drinking or preparing food.

Exposure through breathing and skin contact is not harmful. For example, there are no known health effects from hand washing, bathing or washing clothing in water with arsenic.

If an initial test detects arsenic, even at levels below the guideline, it is important to have a second test done to confirm the results. If your water tests positive for arsenic above the recommended level, you should use another source for drinking water or treat the current source.

There are several treatment devices and options including reverse osmosis filters and distillation. Chlorination and mechanical filters do not remove arsenic from water. Boiling water may increase the concentration of arsenic.

There is no regulatory control over treatment devices for private homes, therefore the well owner must be careful and select an appropriate treatment device that has been certified for the removal of arsenic.

When purchasing a treatment device, you should consider one that has been certified by an organization accredited by the Standards Council of Canada (SCC). The treatment device should meet the following standards:

- NSF/ANSI Standard 62 on drinking water distillation and adsorption systems; or
- Standard 58 on reverse osmosis drinking water treatment systems; or
- Standards 53 on drinking water treatment units – with specific designation for the water quality parameters you are trying to remove (arsenic).

Certification assures that a device works as the manufacturer or distributor claims. Find an up-to-date list of accredited organizations by visiting Standards Council of Canada at www.scc.ca/en/accreditation/product-process-and-service-certification/directory-of-accredited-clients.

For more information on drinking water and treatment options, contact your local environmental health officer.

For More Information

For more information about arsenic and drinking water, visit:

- B.C. Ministry of Environment - Arsenic in Groundwater www2.gov.bc.ca/assets/gov/environment/air-land-water/water/water-wells/as020715_fin3.pdf
- Health Canada – Arsenic in Drinking Water www.canada.ca/en/health-canada/services/healthy-living/your-health/environment/arsenic-drinking-water.html

Sample Range Report

Fraser Health Authority

Facility Name: Whonnock Lake Community Hall WS
Date Range: Jan 1 2018 to Dec 31 2018

Operator Michael Albrecht
11995 Haney Place
Maple Ridge, BC V2X 6A9

Sampling Site	Date Collected	Total Coliform	E. Coli	Fecal Coliform
AUDIT - Kitchen, 27871 113 Ave				
	4-4-2018	L1	L1	
	5-30-2018	L1	L1	
	7-18-2018	L1	L1	
	Total Positive:	0	0	0

Result Values: **E - estimated** **L - less than** **G - greater than**

Samples that contain total coliform:	0	0.00% of total
Samples that contain e. coli:	0	0.00% of total
Samples that contain fecal coliform:	0	0.00% of total
Number of consecutive samples that contain total coliform:	0	
Number of samples that contain total coliform in last 30 days:	0/0	
Total number of samples:	3	

Comments:

Environmental Health Officer
Mar 8 2019

FOR FURTHER INFORMATION PLEASE CALL: Binny Sivia (604) 870-7900

Metro Vancouver Analysis Report
Whonnock Park/Hall

Sample Name	Sample Description	Sample Date	Chlorine Free	Ecoli	Ecoli	HPC	Temperature	Total Coliform	Total Coliform	Turbidity
MPR-WP3	Whonnock Park & Rec. Hall	1/2/2018 11:55			<1	16	11		<1	0.43
MPR-WP3	Whonnock Park & Rec. Hall	1/23/2018 12:25			<1	4	11		<1	0.34
MPR-WP3	Whonnock Park & Rec. Hall	1/30/2018 12:00			<1	20	13		<1	0.25
MPR-WP3	Whonnock Park & Rec. Hall	2/6/2018 12:15			<1	18	12		<1	0.17
MPR-WP3	Whonnock Park & Rec. Hall	2/13/2018 11:55			<1	4	12		<1	0.27
MPR-WP3	Whonnock Park & Rec. Hall	2/20/2018 12:30			<1	14	11		<1	0.20
MPR-WP3	Whonnock Park & Rec. Hall	2/27/2018 11:50			<1	12	12		<1	0.16
MPR-WP3	Whonnock Park & Rec. Hall	3/6/2018 11:35			<1	14	11		<1	0.20
MPR-WP3	Whonnock Park & Rec. Hall	3/13/2018 11:25			<1	28	12		<1	0.38
MPR-WP3	Whonnock Park & Rec. Hall	3/20/2018 11:05			<1	12	11		<1	0.29
MPR-WP3	Whonnock Park & Rec. Hall	3/27/2018 11:40			<1	6	12		<1	0.17
MPR-WP3	Whonnock Park & Rec. Hall	4/3/2018 10:45			<1	4	11		<1	0.54
MPR-WP3	Whonnock Park & Rec. Hall	4/10/2018 11:20			<1	14	11		<1	0.39
MPR-WP3	Whonnock Park & Rec. Hall	4/17/2018 11:15			<1	4	13		<1	0.20
MPR-WP3	Whonnock Park & Rec. Hall	4/24/2018 10:44			<1	12	11		<1	0.19
MPR-WP3	Whonnock Park & Rec. Hall	5/1/2018 12:35			<1	52	16		<1	0.15
MPR-WP3	Whonnock Park & Rec. Hall	5/8/2018 10:55			<1	54	15		<1	0.20
MPR-WP3	Whonnock Park & Rec. Hall	5/15/2018 10:45			<1	10	14		<1	0.11
MPR-WP3	Whonnock Park & Rec. Hall	5/22/2018 10:40			<1	40	14		<1	0.14
MPR-WP3	Whonnock Park & Rec. Hall	6/5/2018 10:45			<1	76	17		<1	0.11
MPR-WP3	Whonnock Park & Rec. Hall	6/12/2018 10:45			<1	6	12		<1	0.15
MPR-WP3	Whonnock Park & Rec. Hall	6/19/2018 11:00			<1	12	12		<1	0.13
MPR-WP3	Whonnock Park & Rec. Hall	6/26/2018 10:45			<1	28	15		<1	0.14
MPR-WP3	Whonnock Park & Rec. Hall	7/3/2018 10:20			<1	6	11		<1	0.19
MPR-WP3	Whonnock Park & Rec. Hall	7/10/2018 10:35			<1	62	16		<1	0.15
MPR-WP3	Whonnock Park & Rec. Hall	7/17/2018 10:50			<1	30	14		<1	0.18
MPR-WP3	Whonnock Park & Rec. Hall	7/24/2018 10:40			<1	110	16		<1	0.18
MPR-WP3	Whonnock Park & Rec. Hall	7/31/2018 10:30			<1	12	13		<1	0.14
MPR-WP3	Whonnock Park & Rec. Hall	8/7/2018 11:07			<1	78	18		<1	0.16
MPR-WP3	Whonnock Park & Rec. Hall	8/14/2018 10:40			<1	1600	19		<1	0.21
MPR-WP3	Whonnock Park & Rec. Hall	8/21/2018 10:45			<1	14	12		<1	0.26
MPR-WP3	Whonnock Park & Rec. Hall	8/28/2018 10:25			<1	6	12		<1	0.14
MPR-WP3	Whonnock Park & Rec. Hall	9/4/2018 10:40			<1	260	16		<1	0.19

Sample Name	Sample Description	Sample Date	Chlorine Free	Ecoli	Ecoli	HPC	Temperature	Total Coliform	Total Coliform	Turbidity
MPR-WP3	Whonnock Park & Rec. Hall	11/13/2018 10:30			<1	4	10		<1	0.35
MPR-WP3	Whonnock Park & Rec. Hall	11/20/2018 11:30			<1	20	12		<1	0.38
MPR-WP3	Whonnock Park & Rec. Hall	11/27/2018 11:25			<1	22	11		<1	0.49
MPR-WP3	Whonnock Park & Rec. Hall	12/4/2018 11:25			<1	2	12		<1	0.34
MPR-WP3	Whonnock Park & Rec. Hall	12/11/2018 10:55			<1	4	10		<1	0.38
MPR-WP3	Whonnock Park & Rec. Hall	12/18/2018 11:15			<1	NA	10		<1	0.17
MPR-WP3	Whonnock Park & Rec. Hall	12/27/2018 11:25			<1	NA	13		<1	0.16

DRINKING WATER SYSTEM ANNUAL REPORT

Reporting Period: January 1 January 1st to December 31st, 2018(year)

Water System Whonnock Lake Community Hall Well

Water System Owner City of Maple Ridge

Primary Contact Name (Operator or Manager) Michael Ahbrecht

Phone Number (Operator or Manager) 604-363-6671

E-mail (Operator or Manager) Mahbrecht@mapleridge.ca

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: Water Softner

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)

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)

Revised March 2016

COMPLIANCE WITH OPERATING PERMIT

List the conditions that have been placed on your Operating Permit *(if you have conditions, these will be stated on your permit):*

No Local Required

Are you in compliance with the conditions listed on your Operating Permit? ☑ Yes ☐ No ☐ N/A

BACTERIOLOGICAL TESTING AND DRINKING WATER PROTECTION REGULATION WATER QUALITY STANDARDS

How many bacteriological samples were collected during this reporting period? 54

What is the minimum required sampling frequency for this system? (#samples/month) 4

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 *Escherichia coli* per 100ml	☑ Yes	☐ No
Total Coliform Bacteria *(if only 1 sample collected in a 30 day period)*	No detectable total coliform bacteria per 100ml	☑ Yes	☐ 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	☑ Yes	☐ 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

Revised March 2016

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) June 12/2018 ☐ Don't Know ☐ Never

If yes, did all water samples meet the Guidelines for Canadian Drinking Water Quality?
☑ Yes ☐ No

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.

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

Revised March 2016

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
-Replace Water Softner with a new Softner System	May 2019

DATE COMPLETED:	COMPLETED BY:
January 3 /2019	Michael A. Albrecht

Revised March 2016

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V3S 8P8, Canada

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W: www.exova.com

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Report Transmission Cover Page

Bill To:	City of Maple Ridge 11995 Haney Place Maple Ridge, BC, Canada V2X 6A9	Project ID:		Lot ID:	**1276390**
		Project Name:	Whonnock Community Hall Well	Control Number:	
		Project Location:		Date Received:	Jun 8, 2018
Attn:	Accounts Payable	LSD:		Date Reported:	Jun 12, 2018
Sampled By:		P.O.:		Report Number:	2294120
Company:		Proj. Acct. code:			

Contact	Company	Address
Mike Albrecht	**City of Maple Ridge**	Maple Ridge, BC V3S 8P8 Phone: (604) 363-6671 Fax: Email: malbrecht@mapleridge.ca

Delivery	Format	Deliverables
Email - Single Report	PDF	COA
Email - Single Report	PDF	Invoice
Email - Single Report	PDF	Test Report

Notes To Clients:

- Jun 12, 2018 - The analysis of water sample 1276390-1 is below Maximum Acceptable Concentrations for the chemical and bacteriological health related guidelines specified by the February 2017 Guidelines for Canadian Drinking Water Quality for the parameters tested.

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Analytical Report

Bill To: City of Maple Ridge
11995 Haney Place
Maple Ridge, BC, Canada
V2X 6A9
Attn: Accounts Payable
Sampled By:
Company:

Project ID:
Project Name: Whonnock Community Hall Well
Project Location:
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1276390**
Control Number:
Date Received: Jun 8, 2018
Date Reported: Jun 12, 2018
Report Number: 2294120

Reference Number	1276390-1
Sample Date	June 08, 2018
Sample Time	10:40
Sample Location	
Sample Description	Whonnock Community Hall Well / 8.0 °C
Sample Matrix	Drinking Water

Analyte		Units	Result	Nominal Detection Limit	Guideline Limit	Guideline Comments
Metals Extractable						
Aluminum	Extractable	mg/L	0.001	0.001	0.1	Below OG
Antimony	Extractable	mg/L	<0.00002	0.00002	0.006	Below MAC
Arsenic	Extractable	mg/L	0.0012	0.0001	0.010	Below MAC
Barium	Extractable	mg/L	<0.0001	0.0001	1	Below MAC
Boron	Extractable	mg/L	0.009	0.002	5	Below MAC
Cadmium	Extractable	mg/L	<0.00001	0.00001	0.005	Below MAC
Chromium	Extractable	mg/L	0.00009	0.00005	0.05	Below MAC
Copper	Extractable	mg/L	0.0036	0.0005	1.0	Below AO
Lead	Extractable	mg/L	0.00044	0.00001	0.01	Below MAC
Selenium	Extractable	mg/L	<0.0002	0.0002	0.05	Below MAC
Uranium	Extractable	mg/L	0.00029	0.00001	0.02	Below MAC
Vanadium	Extractable	mg/L	0.00030	0.00005		
Zinc	Extractable	mg/L	0.0039	0.0005	5.0	Below AO
Microbiological Analysis						
Total Coliforms	Enzyme Substrate Test	MPN/100 mL	<1.0	1.0	0 per 100 mL	Below MAC
Escherichia coli	Enzyme Substrate Test	MPN/100 mL	<1.0	1.0	0 per 100 mL	Below MAC
Physical and Aggregate Properties						
Colour	True	Colour units	<5	5		
Turbidity		NTU	0.10	0.05		
Routine Water						
pH - Holding Time			Exceeded			
pH	at 25 °C		7.73	0.01	7.0-10.5	Within Range
Electrical Conductivity		µS/cm at 25 °C	188	1		
Calcium	Extractable	mg/L	<0.01	0.01		
Iron	Extractable	mg/L	0.008	0.004	0.3	Below AO
Magnesium	Extractable	mg/L	<0.02	0.02		
Manganese	Extractable	mg/L	<0.001	0.001	0.05	Below AO
Potassium	Extractable	mg/L	0.05	0.04		
Silicon	Extractable	mg/L	7.5	0.005		
Sodium	Extractable	mg/L	46	0.1	200	Below AO
T-Alkalinity	as CaCO3	mg/L	88	5		
Chloride	Dissolved	mg/L	6.79	0.05	250	Below AO
Fluoride	Dissolved	mg/L	0.09	0.01	1.5	Below MAC
Nitrate - N	Dissolved	mg/L	<0.01	0.01	10	Below MAC
Nitrite - N	Dissolved	mg/L	<0.01	0.01	1	Below MAC
Sulfate (SO4)	Dissolved	mg/L	0.9	0.1	500	Below AO
Hardness	as CaCO3	mg/L	<1.00	1		

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Analytical Report

Bill To:	City of Maple Ridge 11995 Haney Place Maple Ridge, BC, Canada V2X 6A9	Project ID: Project Name:	Whonnock Community Hall Well	Lot ID:	**1276390**
Attn:	Accounts Payable	Project Location:		Control Number:	
Sampled By:		LSD:		Date Received:	Jun 8, 2018
Company:		P.O.:		Date Reported:	Jun 12, 2018
		Proj. Acct. code:		Report Number:	2294120

Reference Number	1276390-1
Sample Date	June 08, 2018
Sample Time	10:40
Sample Location	
Sample Description	Whonnock Community Hall Well / 8.0 °C
Sample Matrix	Drinking Water

Analyte		Units	Result	Nominal Detection Limit	Guideline Limit	Guideline Comments
Routine Water - Continued						
	(extractable)					
Total Dissolved Solids	Extractable	mg/L	127	1		

Approved by:

Mathieu Simoneau
Operations Manager

Data have been validated by Analytical Quality Control and Exova's Integrated Data Validation System (IDVS).
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Methodology and Notes

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Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Alk, pH, EC, Turb in water (BC)	APHA	*	Alkalinity - Titration Method, 2320 B	Jun 9, 2018	Exova Surrey
Alk, pH, EC, Turb in water (BC)	APHA	*	Conductivity, 2510 B	Jun 9, 2018	Exova Surrey
Alk, pH, EC, Turb in water (BC)	APHA	*	pH - Electrometric Method, 4500-H+ B	Jun 9, 2018	Exova Surrey
Anions by IEC in water (Surrey)	APHA	*	Ion Chromatography with Chemical Suppression of Eluent Cond., 4110 B	Jun 8, 2018	Exova Surrey
Metals SemiTrace (Extractable) in water (Surrey)	US EPA	*	Metals & Trace Elements by ICP-AES, 6010C	Jun 8, 2018	Exova Surrey
Total and E-Coli - Colilert - DW (Surrey)	APHA		Enzyme Substrate Test, APHA 9223 B	Jun 8, 2018	Exova Surrey
Trace Metals (extractable) in Water (Surrey)	US EPA	*	Determination of Trace Elements in Waters and Wastes by ICP-MS, 200.8	Jun 8, 2018	Exova Surrey
True Color in water (Surrey)	APHA	*	Spectrophotometric - Single Wavelength Method, 2120 C	Jun 9, 2018	Exova Surrey
Turbidity - Water (Surrey)	APHA	*	Turbidity - Nephelometric Method, 2130 B	Jun 8, 2018	Exova Surrey

** Reference Method Modified*

References

APHA	Standard Methods for the Examination of Water and Wastewater
US EPA	US Environmental Protection Agency Test Methods

Guidelines

Guideline Description	Health Canada GCDWQ
Guideline Source	Guidelines for Canadian Drinking Water Quality, Health Canada, February 2017
Guideline Comments	MAC = Maximum Acceptable Concentration AO = Aesthetic Objective OG = Operational Guideline for Water Treatment Plants (does not apply to private groundwater wells). Refer to Health Canada for complete guidelines at www.hc-sc.gc.ca

Comments:

- Jun 12, 2018 - The analysis of water sample 1276390-1 is below Maximum Acceptable Concentrations for the chemical and bacteriological health related guidelines specified by the February 2017 Guidelines for Canadian Drinking Water Quality for the parameters tested.