



Maple Ridge/Pitt Meadows Parks and Leisure Services

WATER QUALITY REPORT 2010

Fire Hall Number 2 Water System

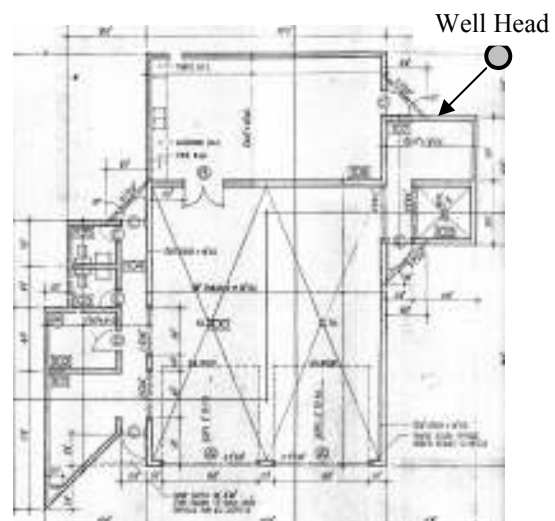


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Prepared by

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Facilities Maintenance Coordinator
June, 2011

INTRODUCTION

Maple Ridge/Pitt Meadows Parks and Leisure Services provide 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 Ridge Meadows Parks and Leisure Services' annual report on the Small Drinking Water systems that it operates on behalf of users at Firehall Number 2; 27501 – 112th Avenue, Whonnock.

This report is prepared for public information and its contents include an outline of the regulatory framework, and water quality monitoring data and results for the year 2009.

OUTLINE

Well identification number - 688

GPS location of well head - N49.20605° - W112.45865° accuracy 19'

Fire Hall Number 2 well is 120 ft. deep and provides fresh water to the Fire Hall building. The pump house is located immediately northwest of the building. The well head is contained within the pump house which also contains the pressure tank and switch; filter tank, head and medium; locking valve, circuits and removable fuse. The pump is located in the well shaft.

Equipment:

Well mate pressure tank: model WM0330 , production date March 25, 2008,
serial # 11207877

Canister filter : 5 micron non pleated

Pump : Grundfoss; Model # 55Q05A-180; Serial # 96080219; 240 w; Jan. 3, 2008
(piping and wiring).

Pressure switch : 60-40 115v

Clock head: Fleck 5600 valve serial # 3537231 manufactured Dec.95

Media filter : media unknown,

Well drilled - Dec. 1972

Well depth 120 ft., Pump at 110 ft; Static level 70 ft. Casing size 6"

Well yield 5 gpm at 50 psi

FACILITY MAINTENANCE

This well is maintained by the Ridge Meadows Parks and Leisure Services Department/Facilities Division and the District of Maple Ridge. Two qualified Small Water System Operators provide security, monitoring, maintenance, upgrades and emergency response to all of our customers' 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 GVWD laboratory in Burnaby. The GVWD lab sends the results to the Municipality and the FHA by e-mail and facsimile. The results are reported weekly unless an indicator is found in the sample. In this event, a communication from the GVRD lab is issued on the Wednesday (Thursday latest) to the Municipal Water Quality group.

It is important to note that this monitoring program provides a representative picture of drinking water quality in the well system to the tap. However, it does not provide a definite picture of drinking water quality once the user has obtained the water from the well.

ADVISORIES

In the event of a concern discovered upon analysis, the G.V.R.D. Water Dept. lab will persist in phoning Public Works and email until the report has been received by the District of Maple Ridge. Public Works will contact the first of the following personnel that is available to respond:

- | | | |
|---------------------|-------------------|--|
| 1. Andrew McAusland | 604 788 6543 cell | 604-467-7476 office
604-463-5491 home |
| 2. Michael Millward | 604-619-8314cell | 604-467-7385 office
604-460-9528 home |
| 3. David Boag | 604-619-8315 cell | 604-467-7344office
604-686-5795 pager |

All after-hours, weekends or statutory holiday calls will be made to the Public Works on-call staff member via Surrey Dispatch. The Public Works on-call staff member will call the first of the above personnel that is available to respond.

Fraser Health Authority contact info:

- | | |
|---|--------------|
| Lloyd Struck - Public Health Officer or alternate | 604-870-7909 |
| 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 about alternate sources of water.

EMERGENCY MEASURES

Response kits

Well water emergency response kits are located in the Facilities Maintenance Coordinator's work station, 2nd floor, Parks and Leisure Services at Office Tower, 11995 Haney Place, Maple Ridge; and in the Trades II – Plumber's work station, Facilities Shop at the Operations Center.

The kit contains:

- keys for Whonnock Lake Park and Fire Hall #2 pump houses and Thornhill Hall
- locking devices, high security padlocks & signage
- thumb tacks, pens, etc. as may be required.

The padlocks are of high quality, with keys available only to those on the list above. Signs worded to advise the public that the water is shut off until further notice will be stored in the kit. Each shutoff location is fitted with a locking valve. By turning the valve closed, then a padlock can be placed. There is no need to turn off electrical controls. Every effort must be made to ensure against vandalism or re-tampering and the padlock key must be turned over to those involved in the remedial work.

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.

Contacts:

Mark Smitton
Peter Grootendorst

604-467-7358
604-463-7397

- Lloyd Struck (Public Health Inspector) is to be notified at 1-604-870-7909 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.
- Municipal Water Works (604-467-7393) must be contacted to arrange an immediate sample taken for re-test as required by the Safe Drinking Water Act.

A full written report must be made and forwarded to all of the above Managers immediately within the same day of the incident. All inquiries from the media and public must be referred to the Parks and Facilities Director (604) 467-7344.

CORRECTIVE MEASURES

1. Andrew McAusland – Facilities Operation Coordinator and Small Water System Operators for Parks and Leisure Services, will be called to the site to implement the remedial process. In his absence Westcoast Groundwater; Patrick Price 604-309-6281 or Southridge Mechanical; Don Spindor 604-8803581 will be called
2. Inspect the integrity of the system (ensuring that nothing was tampered with or changed).
3. Check the operation of the ultra-violet disinfection, filtration or any other mechanical components.
4. Check the work history of the site (recently completed work that may have dislodged sediment, foreign substances or conditions that may contribute to contamination).
5. Once the defective condition has been located and resolved or repaired (see ANSI/AWWA A100-97), the Public Works Water Department will collect three separate samples on the following Monday, Tuesday and Wednesday to be sent to the GVRD Water Dept. lab for analysis. If all three analyses return within acceptable limits, the system can be reactivated and the warning signs removed with the approval of the Public Health Officer. Firehall contacts must be kept informed at all times.
6. If any of the lab results continue to read as unacceptable, and no remedial measures are effective, the Fraser Health Authority must be informed. Calls must be made to the Public Health Inspector (**Lloyd Struck at 604-870-7909**) so that a regional environmental assessment can be done.
7. When an isolated report outside of routine water testing occurs (i.e. Firehall reports that someone got sick from drinking the well water), the above protocol will be immediately activated. Public Works Water Department will collect a sample to be sent to the GVRD Water Dept. lab for analysis.
8. The above protocol will also come into effect in the event of a local contamination (i.e. oil or fuel spill, pesticides, toxic/noxious chemicals or biohazards and waste, etc.). A full report must be made within the same day and forwarded to the Parks and Facilities Director (604) 467-7344.
9. Alternate arrangements for the provision of drinking water will be made in the interim by Ridge Meadows Parks and Leisure Services.
10. Maple Ridge/Pitt Meadows Parks and Leisure Services will prepare an annual report for all its water systems users as required by section 15 of the British Columbia Drinking Water Protection Act.

In addition, Parks and Leisure Services will require the following in the management of its small water systems:

1. Contractors working on any small water systems in the care of Ridge Meadows Parks and Leisure Services must be in possession of a valid and active Small Water System Operator’s qualification. These are available under the direction of the Environmental Operators Certification Program. Contractors must have access to all areas of expertise relating to water well development, trouble shooting and service.
2. All work performed by any contractor must be according to the American Water Works Association Standards (ANSI/AWWA A100-97) for water wells. Copies are available from the Water Works Superintendent or Facilities Maintenance Coordinator.
3. The Regional Health Engineer must approve changes made to any of the small water systems in the care of Ridge Meadows Parks and Leisure Services, in advance (Tin Tun 604-870-7900). A proper drawing of the complete system showing the change must accompany the proper form. A copy of this standard is available from the Facilities Maintenance Coordinator.
4. The contractor must in possession of a minimum liability insurance certificate of \$5 million dollars.

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



Drinking Water and Those with Weakened Immune Systems

Some people with very weak immune systems may be at higher risk of water-borne infections. This file provides information about how to help prevent water-borne infections.

People who have significantly weakened immune systems and who are at higher risk of certain water-borne diseases include:

- People with HIV infection who have a CD4+ count of < 100 cells/mm³.
- People with hematological malignancies (lymphoma or leukemia) who are being actively treated or have been in remission and off treatment for less than 1 year.
- Hematopoietic stem cell transplant recipients.
- People born with diseases that severely affect their immune systems.

Some people with weakened immune systems, such as those with certain types of cancers or taking certain medications, may not be at higher risk of severe water-borne diseases. These people do not need to take extra precautions with their drinking water.

Ask your doctor or specialist how weak your immune system is, and whether you need to take extra precautions.

Diseases from drinking water

Drinking water can contain different organisms, including bacteria, viruses and parasites, which can cause disease. These organisms can exist in the source water such as lake water and survive through treatment, or they can enter the water supply in the distribution system. Well water can be contaminated if the well is not built properly or if it draws on water from the surface of the

ground, such as shallow wells or wells drilled in fractured rock. Surface water, such as rivers, lakes and streams, can also contain disease-causing organisms from animal feces.

If you have a weak immune system, you should not drink water from surface sources or wells potentially contaminated by surface water (for example, dug wells), unless the water has been treated to remove or inactivate at least 99.9% of parasites (protozoa), 99.99% of viruses and 100% of harmful bacteria.

Most community water systems in B.C. have effective treatment, such as disinfection or chlorination, against bacteria and viruses. However, in many cases, treatment may not provide a 99.9% reduction in infectious parasites. Furthermore, some water systems and many private supplies have no treatment at all. If the water you drink has not been disinfected, please refer to HealthLink BC File #49b [How to Disinfect Drinking Water](#).

To further treat drinking water that has been disinfected, consider the methods listed below.

Options for water treatment

Boiling: If your water supply is disinfected you need only bring the water to a full boil to inactivate any *Cryptosporidium* parasites - a major concern for immunocompromised people, as there is no medical treatment for this parasite.

If the water is not yet disinfected, it's recommended you bring water to a full boil for at least one minute as the best way to kill or inactivate bacteria, viruses and parasites.

Sample Range Report

Fraser Health Authority

Facility Name: District of Maple Ridge - Firehall #2 Water System

Date Range: Jan 1 2010 to Dec 31 2010

Operator

<u>Sampling Site</u>	<u>Date Collected</u>	<u>Total Coliform</u>	<u>E. Coli</u>	<u>Fecal Coliform</u>
<u>DmMPR WP4, Fire</u>				
<u>Hall #2</u>				
	1/5/2010	L1	L1	
	1/12/2010	L1	L1	
	1/19/2010	L1	L1	
	1/26/2010	L1	L1	
	2/2/2010	L1	L1	
	2/9/2010	L1	L1	
	2/16/2010	L1	L1	
	2/23/2010	L1	L1	
	3/2/2010	L1	L1	
	3/9/2010	L1	L1	
	3/16/2010	L1	L1	
	3/23/2010	L1	L1	
	3/30/2010	L1	L1	
	4/6/2010	L1	L1	
	4/13/2010	L1	L1	
	4/20/2010	L1	L1	
	4/27/2010	L1	L1	
	5/4/2010	L1	L1	
	5/11/2010	L1	L1	
	5/18/2010	L1	L1	
	5/25/2010	L1	L1	
	6/1/2010	L1	L1	
	6/8/2010	L1	L1	
	6/15/2010	L1	L1	
	6/22/2010	L1	L1	
	6/29/2010	L1	L1	
	7/6/2010	L1	L1	
	7/13/2010	L1	L1	
	7/20/2010	L1	L1	
	7/27/2010	L1	L1	
	8/3/2010	L1	L1	
	8/10/2010	L1	L1	
	8/17/2010	L1	L1	
	8/24/2010	L1	L1	
	8/31/2010	L1	L1	
	9/7/2010	L1	L1	
	9/14/2010	L1	L1	
	9/21/2010	L1	L1	
	9/28/2010	1	L1	

9/30/2010	L1	L1	
10/5/2010	L1	L1	
10/12/2010	L1	L1	
10/19/2010	L1	L1	
10/26/2010	L1	L1	
11/2/2010	L1	L1	
11/9/2010	L1	L1	
11/16/2010	L1	L1	
11/23/2010	L1	L1	
11/30/2010	L1	L1	
12/7/2010	L1	L1	
12/14/2010	L1	L1	
12/21/2010	L1	L1	
12/29/2010	<u>L1</u>	<u>L1</u>	
Total Positive:	1	0	0

AUDIT - Tap 2
27501 112 Ave

1/12/2010	L1	L1	
2/24/2010	L1	L1	
4/28/2010	L1	L1	
6/22/2010	L1	L1	
8/18/2010	L1	L1	
10/13/2010	<u>L1</u>	<u>L1</u>	
Total Positive:	0	0	0

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

Samples that contain total coliform:	1		1.69% 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:	0/4		
Total number of samples:	59		

Comments:

Environmental Health Officer
Jun 30 2011

FOR FURTHER INFORMATION PLEASE CALL: Lloyd Struck (604) 870-7900