

# Faulder Water System Update

November 2008

## Key Issues Facing Faulder Water System Users

On Thursday, September 4, 2008, the Regional District Okanagan Similkameen facilitated a public meeting for the users of the Faulder Water System. The purpose of the meeting was to explain the challenges and issues with the existing water system, present possible solutions and costs, ensure users had opportunities to ask questions and ensure the users were given information to make an informed decision on how to proceed.

Approximately 70 residents attended the meeting. The purpose of this newsletter is to provide a follow-up and overview of the information presented and the current status of the situation. Since that meeting, the Faulder Water Advisory Committee, RDOS staff and engineering consultants have continued to work on finding a more cost-effective solution to these issues.

### Faulder Water System Timeline

- **1993:** well was commissioned. Single well and a balancing reservoir feeds the distribution system. The system is powered by a single phase power line.
- **1993:** uranium in water tested at 0.0275 mg/L. Guideline for Canadian Drinking Water Quality (GCDWQ) was 0.10 mg/L.
- **2005:** study was done to determine the levels of water in the aquifer. Study found that the aquifer had sufficient water to accommodate 80 homes at current consumption levels.
- **2007 (Fall):** Expected recharge of the Meadow Valley aquifer did not occur at the well.
- **2007:** Guideline for Canadian Drinking Water Quality (GCDWQ) allowable uranium content in the water changes to 0.02 mg/L. Water from the well has been tested at 0.025, 0.0264 and 0.0272 mg/L.
- **2008:** Well rehabilitation, water level analyses and age dating were done by Golder and Associates. Low water levels were thought to be possibly due to the significantly low water levels at Thirsk Dam in 2003 and 2006-2007.
- **2008:** Associated Engineering retained by RDOS to explore water treatment solutions. Grant money was applied for and given to fund this study.

### Faulder Water Advisory Committee (FWAC)

The RDOS-appointed Faulder Water Advisory Committee members, Jeff Bendixsen, Ivan Haag, Cindy Boehm and Matthew Dykstra, have been working diligently with RDOS and engineering consultants to find the best solution to the current water quality and quantity issues in Faulder.

Currently, work is being done on additional options to those presented at the September meeting. Committee members and RDOS staff are working hard to find options that may result in lower costs for Faulder residents. These additional options will be presented as soon as they have been researched thoroughly and are determined to be feasible.

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#### Committee Members:

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## Water Quality Issues and Solutions

The Faulder Water well was commissioned in 1993. At that point, the Guideline for Canadian Drinking Water Quality (GCDWQ) allowable uranium concentration was not more than 0.10 mg/L. In 1993, water from the Faulder Well tested at 0.0275 mg/L. Since then, the GCDWQ allowable Uranium concentration changed to 0.020 mg/L.

As the water supplier for the residents of Faulder, the Regional District Okanagan Similkameen is required by Interior Health Authority (IHA) to supply potable drinking water for all water system users. Uranium in the Faulder well is no longer considered a safe concentration of uranium. It should be noted that Faulder water complies with GCDWQ for all other measured parameters except Uranium.

In 2007, the RDOS issued a Water Quality Advisory to inform residents of the issues and to advise them of potential health concerns. Research has shown that large amounts of uranium can react with the tissues in your body and damage your kidneys. Dr. Paul Hasselback, IHA Medical Health Officer, stated at the meeting that the levels found in the Faulder water were not at an acceptable level.

### Water Quality Solutions

Associated Engineering came up with several options for treatment of the uranium in the water. They recommended an Ion Exchange process which has been found to have good Uranium removal and lower capital and operating costs than other processes. RDOS has applied for grant funding for both water quality and water supply projects.

Ion Exchange uses proven technology which involves using a synthetic resin containing negatively charged ions which are exchanged with uranium ions. The well water would be pumped through ion exchange tanks to remove the uranium and then directed via a booster pump into the distribution system.

The RDOS Engineering Services Department is working with FWAC to research more cost effective options to deal with both water quality and supply issues. Associated Engineering is also working with the RDOS to determine costs.

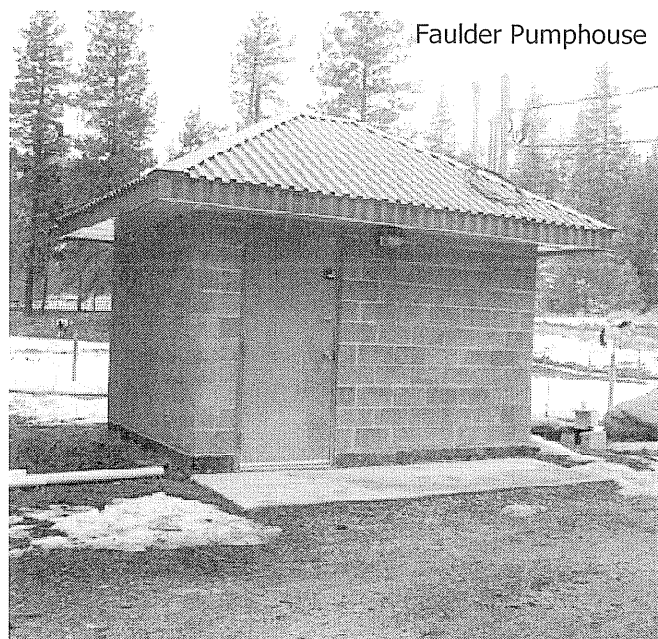
## Water Supply Issues and Solutions

The Faulder Water System consists of a single well and a balancing reservoir which feeds the distribution system. Aside from the public well, the Gibb's well and the Mearn's well are also important to understanding what is happening to the Meadow Valley Aquifer. The Faulder well hit bedrock at 60 meters whereas the Gibb's well is much deeper and did not hit bedrock.

In 2005, an investigation was conducted to determine how much water was being used and how much was needed to recharge the system. It was determined that Faulder residents were using about 20% of what the aquifer could provide at that time.

In 2008, Golder and Associates were retained to investigate an unexpected drop in water levels. An age dating process was used to provide information. Various reasons for the lack of recharging were explored, such as climate change and increased groundwater withdrawals. The most likely explanation seems to be a change in the recharge area, namely work on Thirsk Dam.

Golder and Associates recommended securing a back up water supply system by drilling a new well or acquiring an existing well.



Faulder Pumphouse

*Information for water quality and supply solutions that were presented at the September meeting can be found in greater detail at [www.rdos.bc.ca](http://www.rdos.bc.ca) under Faulder Water System—Associated Engineering Presentation and Golder Presentation.*