

Article 3 of 5 in a series of interesting and informative articles from Alberta's Working Well program providing well owners with the knowledge and tools they need to care for their water wells.



## **An Unseen Threat**

*Old Unused Wells are a Significant Threat to Groundwater Users*

Some rural Albertans may be living with a health hazard on their property and they don't even know it. Surface contamination poses one of the biggest threats to the purity of groundwater supplies and old unused wells that are not properly decommissioned can serve as a conduit for bacteria and chemicals to seep into an aquifer. Once there, it is often very difficult and very costly to restore an aquifer and make well water safe for drinking.

Perhaps the best known incident of this type of water contamination occurred in 2000 in Walkerton, Ontario when surface runoff made its way into an adjacent well that had been known for years to be vulnerable to contamination. About half the population of the small rural community became ill and several people died when the groundwater became contaminated with deadly E. coli O157:H7 bacteria. The entire incident might have been prevented if steps had been taken to avoid contamination in the first place.

"Having an old unused well on your property is a little like having an open wound on your arm," says Chris Gerritsen president of the Alberta Water Well Drilling Association and an advocate for the Working Well Program. "Old open wells are a place where contaminants can gather and get into the aquifer. Sometimes an old well can contaminate a new one, so it's the first question I ask when someone is having trouble with the water quality of a well."

There are regulations in place that require landowners to plug old unused wells, but there are still many properties around Alberta with abandoned wells on them that pose a physical safety threat and provide an avenue for groundwater contamination. "It costs money to properly plug a well and people don't always understand why it's necessary to do it," says Jennifer Macpherson with Alberta Environment and Sustainable Resource Development and the Working Well Program. "It's in the regulations and it's in the landowner's interest to plug an old well. Properly plugging an old unused well prevents it from contaminating groundwater and potentially affecting any new wells. The time to plug an old well is when you are drilling a new well."

Properly plugging an old well is best done by a licensed driller or at least supervised or advised by an industry expert. Putting a cap over the top of an old well may eliminate the physical risk it poses, but it doesn't prevent entry of contaminants, and an unused well creates the perfect breeding ground for bacteria to grow and infect the aquifer below. Private well owners are responsible to make sure the groundwater is protected from contamination and remains clean and pure for their own use and for generations to come.

### **Understand the Risks of Old Unused Wells**

Online resources and free community-based workshops offered by the Working Well program provide well owners with the information and tools they need to properly care for their wells. For more information, visit the Working Well website at: [www.workingwell.alberta.ca](http://www.workingwell.alberta.ca)