

The Network News

A Newsletter for SE MN Domestic Well Network Volunteers

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Monitoring Report

The Domestic Well Network was designed to better understand drinking water quality in Southeast Minnesota’s domestic wells. This is unprecedented work, and couldn’t be done without the long-term commitment of you as volunteers.

With your help, we continue to monitor all active wells in the network annually for nitrate and anions. In addition to the annual nitrate monitoring, a smaller number of wells have been tested over the past two years for more complex and expensive analytes, such as gross alpha radiation and tritium.

An unexpected result of recent monitoring was finding gross alpha radiation in wells where we didn’t expect to see it, or at higher than expected concentrations. Gross alpha radiation is a screen for natural background radiation. We tested for it because

Southeast Minnesota has higher naturally occurring levels than other areas of the state and country due to the type of bedrock our water tables sit at.

Sampling for this type of radiation allows researchers to determine which drinking water aquifers the radiation is in so we can better plan well construction in the future. In the meantime, all volunteers whose wells were above the health limit were counseled on further testing and treatment options they could do on their own.

Assessing this next round of data will be a step forward in developing useful tools for protecting domestic and public drinking water supplies from human-caused and natural contaminants.

Schedule at a Glance

- Nitrate and anion sampling will continue annually, with the next round planned for fall 2015. 2014 results have been sent out.
- The expanded monitoring was done on 87 wells this spring and results are not all back, some of these tests take months to complete the analysis. Look for results in the fall.

Volunteer Open Houses

If you haven’t had a chance to attend one yet, we are holding volunteer recognition events annually, at different sites throughout the region. We will send you an invitation when we hold one near you. Keep an eye out for your invitation and stop by to meet other volunteers, enjoy a snack, and learn about how results are being used.

Another Viewpoint: Making Clean Drinking Water Possible in Guatemala

Linda Dahl, SEMWRB Director

Brian and Heidi Crabtree are a Rochester couple who combined their skills to try to make clean drinking water possible for many in Guatemala. I learned about their work through Brian, who is the Olmsted County Water Lab Coordinator handling many of our nitrate and anion samples.

During a volunteer trip, The Crabtrees witnessed the way unsanitary water was affecting the health and livelihood of entire villages; from diarrheal diseases, esophageal damage from coffee drinking (a flyer states many villages only allow children to drink coffee as it prevents diarrhea), lung disease from excessive smoke inhalation from boiling water over indoor wood fires, and having to travel long distances to cut and haul firewood to boil water. They also noticed that many of the expensive household water filters donated by other organizations were no longer functioning.

The system they designed is low-cost, easy to maintain, solar powered, and works by automatically adding the right amount of household bleach to contaminated drinking water to make it safe.

When the two came home they decided to combine their strengths to try to do something about it. They have unique skills, Heidi has a doctorate in pediatric pharmacology, and Brian is a biomedical engineer.

They worked together to design what they call the Crab Agua Solar Chlorinator. Their web site states: “we had a list of requirements it had to meet: 1. It had to be compact enough we could get it to the most remote villages. 2. It had to be rugged so that it could take the punishment of a developing world, with little or no maintenance requirements. 3. The disinfecting agent needed to be readily available and safe to handle. 4. It must be self-powered, as most locations have no electricity. 5. The system needed to have low operational and production costs.”

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The couple started out using only their own money, but recognizing the need for assistance to continue to help villages, they began work on establishing a 501c(3) named Crabtree Foundation.

They say they are planning on returning in September and are hoping to install as many systems as possible, with a goal of 10-15 more systems. For more information, see their web site: www.crabsci.com.

There was also a great article about their work in the Post Bulletin:

http://www.postbulletin.com/news/local/rochester-couple-makes-clean-water-their-passion/article_efc6abfc-d6b5-5abe-bf24-006f41137f69.html

