

A Growing Focus on Groundwater



In recent days, groundwater has been gaining attention. Increased hydraulic fracturing operations have caused controversy over potential methane gas contamination. Reports indicate that groundwater aquifers, especially in the drought-prone southwestern U.S., are being depleted more quickly than they can be recharged. Surveys, like the one recently released by the U.S. Geological Survey (USGS), reveal that contaminants such as arsenic are widespread in the nation's water wells.

News stories like these are a reminder of the importance of groundwater monitoring, testing and treatment, especially for those who rely on private wells for drinking water. While the mental image of clean water flowing right from the earth may seem idyllic, the reality is that pathogens and contaminants, whether naturally occurring or human-introduced, are a danger.

Recently the Centers for Disease Control and Prevention released a report on water-related disease outbreaks for 2007 and 2008, the most recent years for which data has been compiled and evaluated. During the two-year span, 36 drinking water-related outbreaks occurred, causing 4,128 cases of illness and three deaths.

Many of these outbreaks were associated with untreated or undertreated groundwater. While most of them involved public water systems under the jurisdiction of U.S. Environmental Protection Agency regulations, a portion involved private systems with untreated groundwater.

In some cases, deficiencies in the treatment or distribution systems were to blame. A few incidences, however, prove contamination can occur even when all system components are built to code. In one outbreak in Wisconsin that involved multiple pathogens, it was discovered that the water wells and septic systems were built to code, but the area's geology allowed for cross-contamination. Now, that system disinfects its well water with ultraviolet and chlorine.

While the incidence of disease may seem small, the key is that many outbreaks could have been avoided with proper monitoring and treatment. Additionally, it is not only pathogens we have to worry about—a recent USGS study found that 20% of public and private U.S. drinking water wells contain levels of contaminants like arsenic, manganese and uranium that exceed human health benchmarks. (See "The Word on Wells," page 34, for an interview with Joe Ayotte, lead author of the study.)

Water treatment professionals know of the dangers that could be present in untreated groundwater. It is important that the public—especially the portion that uses private wells for drinking water—also learns the significance of proper treatment and regular testing and maintenance for any well water source. With the resources and technologies available for treatment today and the knowledge and skills of water treatment professionals, the incidence of diseases related to contaminated groundwater has nowhere to go but down.

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coming up next month

The December Reference Guide issue of *Water Quality Products* will feature the 2011 State of the Industry Report, winners of the 2011 Top Projects awards, case studies from various sectors of the water treatment industry and the 2011 product guide.

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