Environmental & Open Space Commission

What's in your well water?

What's that Lassie? Timmy fell into the well?
Those of us of a certain age remember Lassie, a magnificent Collie, who helped her hapless child cohort, Timmy, get out of scrapes. Timmy never fell into the well. That is a story perpetuated by fans of the TV show, but we should indeed be concerned about what's in our wells. Your dog won't help you, but there is help available to learn to identify issues and remedy the problems.

In Lebanon Township we are blessed with an abundant water supply. We are bordered by three rivers. Our township contains numerous creeks, or *Runs*, as we know them locally, and many natural springs. We also have several water conservation organizations taking an interest in our water supply. Every May Raritan Headwaters Association [RHA] helps us test and analyze data regarding our home wells. Samantha LaRocca, well test program manager for RHA, interprets the results of the well tests. Over 80 wells were tested this past May.

"Many common water contaminants lack any smell, taste, or visible characteristics, so the only way to ensure the quality of your water supply is to have it tested," emphasizes Samantha. Once problems have been identified, RHA can suggest treatment and remediation for each one. The origins of various contaminants are from three sources; naturally occurring, manmade and in home. Examples of all three have been found in Lebanon Township homes. The naturally occurring well issue particularly prevalent here is Radon. The manmade one is PFAS and in home one is Lead. We will briefly discuss each.

What is radon?

Radon is a gas that has no color, odor, or taste and comes from the natural radioactive breakdown of uranium in the ground. You can be

exposed to radon by two main sources: radon in the air in your home and radon in drinking water. Radon can get into the air your breathe and into the water you drink. Radon is also found in small amounts in outdoor air.

Most of the radon in indoor air comes from soil underneath the home. As uranium breaks down, radon gas forms and seeps into the house. Radon from soil can get into any type of building – homes, offices, and schools – and build up to high levels in the air inside the building. [EPA 815-F-99-007, 10/99] So, how does radon in water affect us? Few luxuries of modern life are as delightful as a hot, steamy shower, however, as you shower you breathe the water vapor and ingest the radon into your lungs. This has been proven to cause lung cancer. Drinking radon in water can cause stomach cancer, but to a lesser extent. The existence of radon does not change much over time, so test your well once and remediate it if you discover a positive reading. New Jersey currently has no standard rule, so we rely on the federal government's standard of 4000 pCi/L [picoCuries per liter]. NJ is considering 800 pCi/L to 4000 pCi/L as a standard, as shown in the chart attached.

PFAS: Per- and Polyfluoroalkyl Substances

PFAS are a large group of manmade chemicals which repel water and oil and are resistant to heat and chemical reactions. Because of these properties, they have important industrial and commercial uses. PFAS are used in the production of some non-stick cookware, in waterproof and stain proof coatings, in "leak-proof" coatings on food packaging materials , in fire-fighting forms, and other applications.

PFAS can enter drinking water through industrial release to water, air, or soil; discharges from sewage treatment plants; land application of contaminated sludge; leaching from landfills and fire-fighting foams. [NJDEP 7/20] [Please note our firefighting foams don't currently contain this.]

The result of exposure can cause various cancers and tumors. Fortunately, we are not finding high reading for this in our township.

Lead in drinking water

There is no safe level of lead in the body. Sources of lead exposure include ingestion of lead-based paint chips and dust, inhalation of lead dust in the air, and ingestion of lead in drinking water. Imported candies, cosmetics, toys, and other products may also contain lead. Lead is a soft gray metal. Until it was banned by federal law in 1986 and by New Jersey law in 1987, lead was used in the solder that connects pipes, in pipes used in household plumbing, and in service lines (Lead Service Lines (LSL)) that connect houses to the public water mains in the street. Some of these lead pipes may still be found in parts of New Jersey where housing is more than 50 years old. Lead in water has no taste, odor or color. [NJDEP 10/22]

Lead has a nasty little trick. Boiling water, often used to kill bacteria and make your morning coffee or tea, actually concentrates the toxin. As noted in the chart, Lead is a problem in our township.

Children and fetuses are the most sensitive to the harmful effects of lead. Even low levels of lead in blood may affect the ability to pay attention and cause poor academic achievement and behavioral problems. Most children with elevated blood lead levels do not exhibit any symptoms, however effects may appear later in age. Other health effects may include kidney damage, anemia, and reductions in birth weight. Symptoms of severely elevated blood lead levels (lead poisoning) may include stomach aches, vomiting, poor appetite, or nausea. [NJDEP 10/22]

So, closing, please do yourself and your family a service and get your well tested to find out what really is in your water. You may contact Samantha LaRocca at RHA: welltesting@raritanheadwaters.org and order a test, or participate in the Township Well Test Program next May. I would like to thank Samantha for allowing me to interview her for this article and gathering this data. Drink [water] to your heath!

Kathryn L. Koch EOSC member & well test coordinator

Reference links: http://www.epa.gov/safewater http://www.epa.gov/iaq/radon

http:www.nj/gov/health/ceohs/sanitation-safety/drinking-water-public-health/index.shtml

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