More than half of well water is contaminated

Editor's note — This is the second in a two-part series on the water we drink.

When the well is dry, we learn the worth of water." — An observation offered by Benjamin Franklin in 1746.

By William H. Bradley
Staff Writer

The setting is pastoral. Creeks, flowing clean and clear, meander through the rolling hills that offer rustic backdrops to the many homes constructed along the rural road. On the surface, everything is tranquil. Beneath the surface, however, the scene often is more chaotic and frightening.

In Pennsylvania, according to the state Department of Environmental Resources, there are approximately 600,000 private water supplies. Of that number, the DER states, 360,000 are polluted.

"What that breaks down to is that roughly 60 percent of the well and spring water in the state is contaminated," explained Richard C. Stump, laboratory director at Suburban Water Testing Labs, 4600 Kutztown Road, Temple. "So, if you are driving down a country road, six out of 10 houses you see have contaminated water."

IN RECENT YEARS, Stump said, the number of residents who contacted his firm to have their water supplies tested has swelled.

"There has been an amazing increase," he said. "We probably have about 50 percent more business this year than we did last year. And it looks like that trend is going to continue."

Stump said Suburban analyzes samples from about 400 different households each month.

"A routine request is from people who say, 'I want my water tested for everything,' " Stump pointed out. "And we have to tell them that you just can't do that, that it's just not feasible.

"Water is called the universal solvent and for good reason. It dissolves everything in its path so almost anything can be in there."

THE LABORATORY director explained that water-testing firms generally target their sampling to the list of pollutants known to exist in an area.

"The most common pollutant in the Berks area is coliform bacteria," he said. "And that can come from surface infiltration or from waste water, say from a nearby septic tank."

The test for coliform costs $10 if the resident brings the sample to the lab and $16 if laboratory personnel collect the sample on-site.

"That's really the basic standard test and it should be done twice a year on wells," Stump explained. "Right now, we have a lot of people on six-month pickups where we'll call them and remind them that it's time for their water to be tested."

If high concentrations of the bac-

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DER says her well is unsafe

By Bruce R. Posten
Daily Spectrum Editor

For almost two years now, 75-year-old Evelyn Smith of Baumstown has been perfecting the habit of *not* walking to her kitchen sink to turn on the spigot and fill a tall glass with clear, crystal, thirst-quenching well water.

It seems like such a simple habit to break. But, as Smith has learned, it is not always easy to give up something in your own house that you've taken for granted, especially if you have been living in that house since 1947.

Nevertheless, she has managed to change her ways.

Her inspiration was a friendly warning from the Department of Environmental Resources which came after the agency tested the

"Alternatives until your water is considered bacteriologically safe," he continued, "would include: 1.) The use of bottled water 2.) Boiling vigorously for one full minute, or 3.) Disinfecting small quantities of water with a good quality household bleach — 5.25 percent chlorine ... add 2 drops of bleach for each quart of water or 1 teaspoon of bleach for each 5 gallons of water, mix, and let stand for 30 minutes."

IF THE LATTER recipe sounds a little unappetizing to most people, maybe they would imitate Smith and follow the first alternative.

Her summer porch is usually filled with jumbo five-gallon jugs and an assortment of smaller one-gallon containers. All of them contain water which she gets from a spring near St. Peter's Village in Chester County, five or six miles from her home.

"It's been an inconvenience, but we manage," Smith said. "We bring back about 25 gallons every five weeks or so."

Smith doesn't know exactly why her well is contaminated or how it got that way, but she considers herself lucky that she found out that her water is, indeed, unfit to drink.

"It all started when my daughter, Darlene, and her husband, Eugene Francis, went to church one Sunday and the minister told the congregation about some gasoline and cleaning fluid being found in some people's water. He said everyone should have their water checked," Smith said. "Before that, I just never bothered with it."

SMITH TOOK a sample of her well water to a firm in Pottstown in October 1983 and found that her water had a high bacteria count, she said.

More than a year later, DER also tested the water and subsequently issued the warning.

"I asked the DER fella where he thought the pollution was coming from," said Smith. "He thought it came from animal wastes, but he said he couldn't be sure.

"All I know is that I couldn't afford the $600 for the ultraviolet (sterilization) equipment for the well. I live on a low income and I can't put out that kind of money."

With the help of relatives, Smith picks up bottled water to

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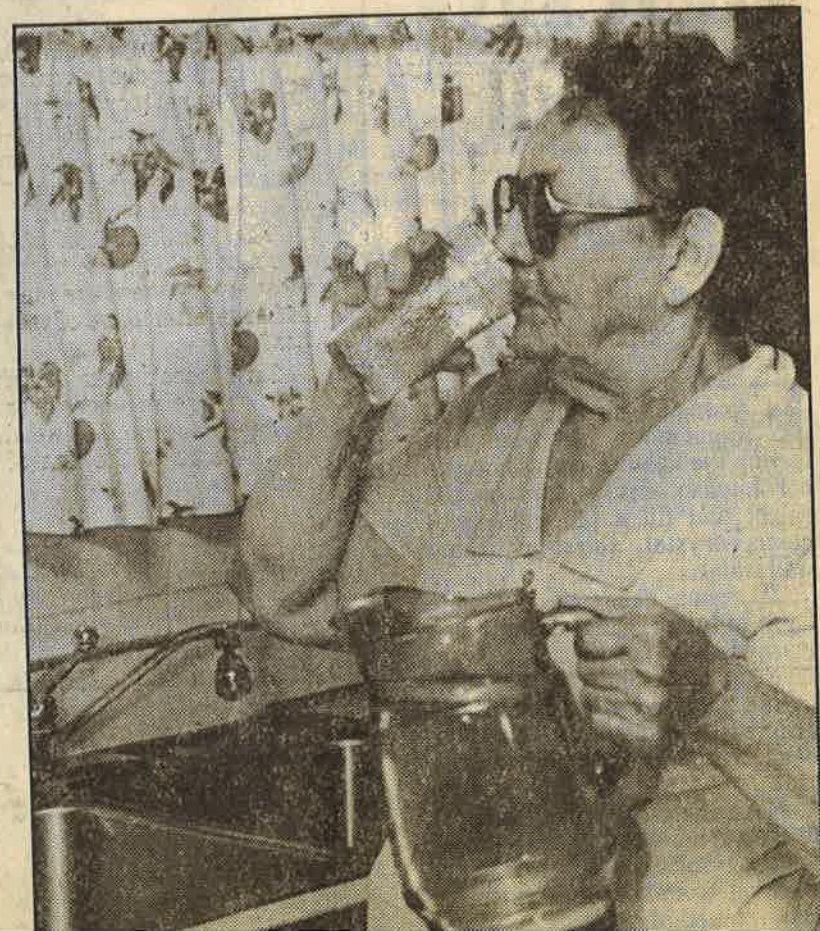
Staff photo by Richard T. Miller

Evelyn Smith of Baumstown fills her summer porch and her basement with jugs of spring water ever since test results showed that her well is contaminated. The test results didn't reveal the source of the pollution, but a warning from the Department of Environmental Resources was enough to prompt her to change her drinking habits. She still uses her well water, however, for cleaning and bathing.

Not a drop to drink



Pouring water into her pitcher from jumbo jugs, Evelyn Smith, at left, keeps water to drink in her refrigerator. Smith, above, who is not a big water drinker, quenches her thirst with spring water..

Baumstown well deemed unsafe, according to DER

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meet her drinking needs and that of a son, who lives with her.

"It takes longer to go and come back with the water than it does to actually fill up the jugs, but I'm not going to move and I'm not going to give up my house — I'm too old," she said. "Take my advice, old age is no disgrace, but it's unhandy."

BASICALLY, SMITH has accepted the fact that she must rely on bottled water for drinking, but she still uses her well water for bathing, scrubbing and cleaning the house, and washing dishes.

She has conditioned most people who visit her to open the refrigerator for a pitcher of water rather than turn on the tap at the sink.

Although never a big water drinker, Smith is drinking it a lot less often these days. She said some of her neighbors also had their wells checked, and a few have opted for bottled water or purification systems.

"What surprises me is that I never really noticed any difference in taste or odor in our water over the past 30 years," she said. "We raised our own kids, had foster children, and when my husband and I were here we had our share of sickness, but we never really thought it could be the water. We just didn't think in those terms.

"After two years of this, even if they tell me I can drink my well water — I won't. I just couldn't drink it now."

When it comes to water, Evelyn Smith is one person who learned that even new habits, once formed, are hard to break.

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teria are detected, Stump said, residents should not panic.

"THE FIRST THING we recommend is that they check the well itself," he said. "We had one case recently where someone ran over the well cap with a lawn mower and surface water was getting into the water."

Stump stressed that a case of coliform-bacteria contamination is relatively easy to remedy.

"You can disinfect the well with regular, household chlorine bleach," he said. "We give them guidance on how to do it, but bascially all they have to do is pour the chlorine into the well water and make certain that it circulates throughout all the pipes in the house.

"A week or two later, we'll run another test to make certain the water is potable."

NITRATE INFILTRATION, Stump said, ranks second on the list of common pollutants lacing water in the Berks area.

"At this point," the laboratory director continued, "I'd say nitrates are getting to be more and more of a problem."

Stump said nitrate infiltration usually is caused by excessive use of fertilizers by farmers.

"Plants like nitrogen and the farmers naturally put the nitrates on the soil," he explained. "Unfortunately, nitrates are water soluable and cannot be filtered out of the water."

Suburban charges $18.50 to test water for nitrates.

While coliform bacteria and nitrates rank first and second as the most common pollutants, Stump recommended that homeowners take advantage of a package developed by the firm.

"WE CALL IT our primary package and it costs $76," he said. "We test for coliform bacteria, nitrates, detergents, scan for 23 different industrial solvents, and test the hardness, the acidic levels, and iron in the water."

The package, Stump stressed, is not designed to reveal exact levels of contaminants.

"We go out and take the sample using a Zero-Head Space Sampler which keeps the material we want to look at in the water and not in the air.

"We go more for the presence or absence of the substances and, if we find any, than we run another test to determine the extent of the contamination."

Stump said the initial in-depth test costs an additional $40, the second analysis costs $15, and each additional test costs the homeowner $10.

"If we find anything else to be a common pollutant in the area," he said, "we'll just add it to the package."

STUMP POINTED out that, unlike other businesses, there really is not much competition in the water-analysis field.

"The thing that we run into is that each laboratory specializes in a specific area," he said. "We specialize in doing private water supplies while most of the other laboratories in this area deal with industrial or municipal water supplies."

Problems with tainted water often seem unsolvable to residents, Stump said. He stressed, however, that the majority of water pollutants can be removed safely.

"In most cases," he emphasized, "there is a way of treating water.

"Last year in Baumstown, for example, they found several private water supplies were contaminated by high concentrations of industrial chemicals.

"But several of the families have installed activated carbon filters and now they are using their water again."

THE LABORATORY DIRECTOR said people should get into the habit of having their water tested periodically.

"Who is to say the water you get out of your well in Pennsylvania isn't really coming from Ohio?" he said. "And ironically, the water that smells and tastes bad oftentimes isn't bad.

"We trust our taste and our smell a little too much when it comes to water. The only way you can know for certain that your water is safe is to have it tested.

"It would be foolish not to."