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Beneath the Pink Underwear

Water pollution is more serious than the WASD plan would have you believe

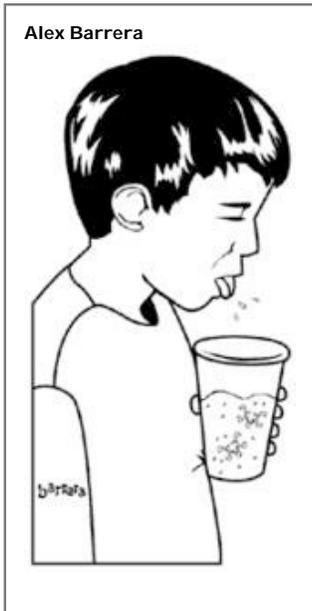
By Steven Dudley
published: June 05, 2003

If you didn't know better, you'd have thought the news had it covered. It was April 23, and red dye was streaming through faucets and showerheads in northern Miami-Dade. Some underwear turned pink in the washing machines. On TV, there were live pictures of red water along the edges of the Miami River and in the Northwest Wellfield. The county reacted quickly and calmed the storm. The dye was harmless, the Water and Sewer Department (WASD) said. "Residents need not boil their water," NBC 6 told viewers. But beneath the pink underwear lay another story, which though less sexy, is much



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more important. It involves a complicated test by WASD, the Department of Environmental Resources Management (DERM), and the United States Geological Survey (USGS) to find out how quickly water moves through limestone near the Northwest Wellfield. The preliminary results of this test provoked nothing less than shock in the scientists who performed it. Their reactions had more to do with drinking water, taxes, and the multimillion-dollar limestone mining industry than with the color of folks' unmentionables.



For years, state and county officials as well as environmental agencies have expressed concern over the Northwest Wellfield. It is located in an area that services just over a million residents in North Dade, and is surrounded by rock quarries. Nearly half the state's limestone comes from these mines; the stone is used for road construction and concrete. But the mines are also a danger to the water supply. "Quarry lakes have the potential to contain substantially more disease-causing organisms than groundwater," former County Manager Merrett Stierheim wrote in July 2000 to the Army Corps of Engineers, which issues permits for the mining area. "One such organism,

cryptosporidium, may survive up to one year in the surface water and had been detected in canals in Miami-Dade County."

Cryptosporidium is a single-celled parasite. Once infected, humans and animals carry it in their intestines. It's passed through contact with infected feces. While it causes watery diarrhea and drowsiness in most, it can also kill. In 1993 several people died from a massive infection in Milwaukee.

Another 400,000 people were infected. In 1987 13,000 people caught it in a small town in Georgia.

Stierheim's concerns about protozoa were echoed by the Florida Department of Health and the Environmental Protection Agency. So worried were Stierheim and the EPA that they recommended denying miners work permits to expand until more studies were done. The Army Corps of Engineers issued some of the permits anyway in 2002. At the heart of the issue is whether these protozoa can survive long trips from the mines through the limestone to our drinking water. Initial results of the red dye test seemed to indicate they can.

On the morning of April 22, one day before people noticed their underwear was stained, USGS scientists drilled a test well about 100 meters from the Northwest Wellfield and injected what is indeed a harmless dye known as rhodamine into the limestone. Based on previous DERM water models for North Miami-Dade, they expected the dye would take two to three days to appear. The first traces showed up in about four hours.

Understandably, DERM and WASD don't want to talk much about the test. After all, these are preliminary results. Several more will follow, as well as lab analyses. In all, the study, which is being conducted by USGS, will take until 2005 to complete. Then the county can issue its three-year review on the rock-mining permits. In the meantime, DERM and WASD continue to rigorously test the wellfields for protozoa. "This is not a two-dimensional issue," says Jim Ferro, special projects administrator for DERM. "This could be multidimensional."

Which means the issue is complicated, but beneath the jargon are a myriad of straightforward issues the county may be loath to face. The most troublesome are the models DERM has been using to protect drinking water for over one million residents in North Miami-Dade; they're not simply wrong, they're way wrong. The county has what are called "cones of influence" around the wellfields; these boundaries are determined by how quickly water can reach the well, calculated in days. County ordinance requires that there be a minimum 30-day travel time between the mines and the Northwest Wellfield. Such a long time would theoretically kill off protozoa like *cryptosporidium* that might enter the wells. But these travel times are based on old models. If two days' travel time now means four hours, where does that leave us?

"Miami-Dade County seems to be at best sticking its head in the sand," says Brad Sewell of the Natural Resources Defense Council, based in New York City, "at worst, handing over the safety of the water supply to the mining industry."

Sewell's council and two other environmental groups filed suit against the Fish and Wildlife Service and the Army Corps of Engineers last year for issuing rock-mining permits near federally protected wetlands in the Everglades. He insists the initial results of the red dye test illustrate a serious point: "Regardless of this particular test, it's absolutely clear to everyone involved that allowing [a large] amount of mining is not compatible with protecting the wellfield."

Ironically Stierheim could see this coming years ago. He also saw the possible repercussions. In his 2000 letter to the Army Corps of Engineers, the then-county manager noted that granting licenses to the mining companies "has the potential to increase the risk of water quality contamination at the wellheads and result in the necessity for upgrading the water treatment plants to treat for disease."

The unexpected results of the red dye test could not have come at a worse time for the county. It's still struggling with its most basic problem: water supply. On June 10 WASD will present its master plan to the county commission's operations and environmental committee, and in July, WASD will show the

plan to the commission. Its 250-plus pages are designed to reassure the commission that the water supply is in good shape until 2020. But among environmentalists, there are already rumblings that the plan is littered with half-truths and suspicious calculations. Its most noticeable weakness is that it relies on unproven technology like the aquifer storage and recovery (ASR) system, designed to capture water in the wet season, inject it into the ground, then recover it for use during the dry season. ASR may seem like a Spielberg film, but it's how the county hopes to make up for an expected water shortfall in the coming years. What's more, as in the case of red dye, environmentalists are feeling left out of the process. "Short of litigation," says Alan Farago of the Sierra Club Florida Chapter, "I don't see how we can get any input on this."