

Tackling the East's Highest Sulfur-Tainted Well

Hudson Valley Water Resources' customer commitment and talents stand strong.

Revised and reprinted from the National article in Water Technology Magazine by Annette Keen.

One hundred and twenty-five feet below the beguilingly placid grounds of the Farley home in rural High Falls, NY, a gaseous monster is churning out incredible levels of hydrogen sulfide gas. For 12 years Pat Farley has lived with deep well water whose hydrogen sulfide levels vary from an estimated 50 to 90 parts-per-million—estimated because such levels defy current testing capacity.

By the time Russ Chapman, owner and operator of Hudson Valley Water Resources Inc. came to her aid, Farley had gone through several well drillers and water treatment dealers, none could successfully treat the problem.

When Russ Chapman sized up the situation in the summer of 1989, he, his service manager David Arnold, and Arnold's assistant, Greg Havlin, knew they faced a daunting challenge.

Charting New Territory

"It went on for nine months and took over 150 hours of expensive research and development," recalls Chapman. "We just put our whole heart and soul into it." The hydrogen sulfide problem, which most industry experts maintained could not be effectively treated, was eventually reduced to zero, where it has remained for over five months now.

Success was neither quick nor easy. Not only did it challenge the combined knowledge, creativity and grit of the dealership, it strained the accumulated wisdom of the industry.

"It seemed like no one in the whole country had experience with such high H₂S levels," says Arnold. "When we started running into problems, people in the industry said, 'We have no idea what to suggest because we've never dealt with levels over 15 or 18 ppm.'" Chapman, Arnold and Havlin were embarking on uncharted waters.

Scoping the Problem

A rotten egg odor permeated the air. "When the water was running," recalls Havlin, "I found it hard to even breathe in there, and Ms. Farley told us that some house guests became physically ill."

Chapman relates how the polished silverware and brass two floors away from any water would only last a couple of days, before turning pitch-black with tarnish. Anything cooked with the house water was inedible. Year-round, Farley toted jugs of water from a local spring for all drinking and cooking. She even used outside water for brushing her teeth. Sulfur water had taken a toll on her appliances. Her dishwasher was totally useless from corrosion and she had gone through two clothes washers and three hot water heaters in 10 years.

Turning to Ozone

The decision to go with a residential ozonation system was based on extensive research, and taken on with some trepidation.

Two main sources for help in designing and redesigning the system for the Farley home were Dennis

Tharan of Water Resources International in Phoenix, AZ, and Carl Schleicher of Applied Ozone Technology in Sarasota, FL. Says Havlin, "Dennis, Carl and I basically designed the system through trial and error."

"This system has been in and working effectively for about five and a half months," Chapman reports. "It provides water with zero sulfur."

The team at Hudson Valley Water Resources says it has learned much from designing this particular system and its subsequent modifications. Aside from the gained experience, Chapman says he chose to see the project through because he felt a strong customer commitment to Ms. Farley.

"When our initial system failed," he says, "we could have returned the money—the ozone company had guaranteed its equipment. But we agreed to stay with it and give it our best."

Havlin doesn't prescribe ozonation for just any problem, explaining, "There are places where it's needed and places where it's not. We don't sell ozone to a customer who has one ppm sulfur. There, a much less expensive system will work."

"You guys are the greatest and you run one of the finest companies I've ever dealt with... Your service, your system and your people are absolutely the finest."

— Pat Farley

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