

Premier Water Case Study: Residential Iron Filtration System in Deephaven, MN

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Well water in Shorewood, MN is known for high levels of iron, hydrogen sulfide, and water hardness. In the last few years, a surprising number of wells have tested positive for arsenic levels 3-7 times the legal limit.

Our client had been renting a softener and an iron filter for over 10 years before we met them. Both systems were undersized and required constant service as they were not capable of handling the iron level in the water.

In late 2009, the homeowners heard rumors about high Arsenic in the Shorewood, MN area. After talking to local residents, they contacted Premier Water to see what could be done.

We collected a water sample and had the water tested at a state certified lab. The results came back with 34.1ppb - 3.4x the legal limit for Arsenic.

“For 10 years, we had been buying organic food, and cooking it in water full of Arsenic. We couldn’t believe it. We wanted to make sure our kids could have a safe drink of water anywhere in the home.”



Old System

Why the Previous Water System Failed:

- Iron Filter was too small and could not support the water flow rates this family required
- Softener frequently ran out of salt
- It had ZERO EFFECT on the Arsenic Levels!

Our client wanted to start from scratch and take advantage of the new technology we had to offer. We designed a system with guaranteed iron and arsenic removal, plus salt-free softening.

The system we designed uses a 13”x54” [Iron Filter](#) that processes water roughly 7x slower than their previous system. This results in superior iron removal and initial arsenic precipitation and reduction.

We followed the iron filter with a [Pureoflow Whole-House System](#) that uses a proprietary membrane designed by GE Water & Process Technology. This membrane is actually designed to soften hard water - something that would destroy a normal membrane. The Pureoflow was successful at softening the water, reducing the TDS level, and the Arsenic levels were reduced well below the EPA limit!



New System

Water Quality BEFORE	Water Quality AFTER
Hardness: 21gpg	Hardness: 0gpg
Total Iron: 4ppm	Total Iron: 0ppm
TDS: 261ppm	TDS: 21ppm
Arsenic: 34.1ppb	Arsenic: 1.15ppb
System Flow Rate: 5gpm	System Flow Rate: 22gpm

5gpg is the average national hardness
0.3ppm iron is the limit before staining begins
10ppb is the legal limit for Arsenic

“Our old rental equipment required constant service and used so much salt. We had ongoing problems with iron stains and were not confident the other company could handle Arsenic.

We love our new system - no rust, no salt, and NO ARSENIC!”



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