

# Corrales Well Water: What Every Homeowner Should Know

David P. Boaz

©2010, HydraTech of New Mexico 505•898•4343 www.hydratechnm.org

## Odor, Staining and Hardness: Which Technology is Right?

Because Corrales well water is rated by the EPA as “Extremely Hard”—14 to 30 grains per gallon or higher—and contains manganese that exceeds the EPA Lifetime Health Advisory limit (LHA), as well as sulfur odor, a specialized softener is required. *Contrary to some sales claims*, an ordinary softener is not designed to abate high manganese and iron, corrosion, odor, chlorine, nitrate, industrial chemicals, pharmaceuticals, arsenic or radon. However, a *light commercial* system that utilizes an iron/manganese removal media, whole house carbon filtration and a 5 stage reverse osmosis will remove the following contaminants at all points of use throughout your home: hardness minerals, manganese, bacteria and viruses, iron and iron bacteria, sulfur odor, rust and sediment, hydrogen sulfide, arsenic, radiological contaminants including radon, pesticides and industrial chemicals.<sup>2,3,4,6</sup> *With such equipment you will not need an expensive iron filter. Buyer Beware!* Softeners designed for municipal water are not designed for complex well water problems. Light commercial equipment is priced at or below ordinary equipment, and has a better warranty. “No-salt” “softeners” do not work on Corrales well water.

**Debunking the Myths:** An irresolute EPA has finally spoken! *Softener effluent is not detrimental to groundwater or to septic systems.*<sup>4,7,9</sup> Softening does not promote bacteria or corrosion, remove trace minerals, harm plants, lawns or fish or add salt to your drinking water.<sup>4,5,8,9</sup>

**The good news:** According to the US Department of Interior “The savings resulting from softening in decreased soap consumption, smaller plumbing repair bills, and longer life of the water heater often more than pays for such equipment.”<sup>10</sup> Hard water is hard to live with. It scales the skin and hair, forms skin irritating soap curd in clothing, bedding and linens, and stains showers, tubs, sinks and dishes.<sup>4,9,10</sup>

## Is My Drinking Water Safe?

Central New Mexico well water is subject to microbial contaminants (coliform, e.coli, cysts), pesticides, herbicides and industrial chemicals. Arsenic and water borne radon often exist at levels higher than the new EPA Maximum Contaminant Levels (MCL).<sup>4,6,8,9</sup> Moreover, EPA TCLP pipe leaching toxicity limits are often exceeded. For these reasons the EPA recommends that you test your private well water annually. Hall Labs (345-3975) is state certified and offers basic testing from \$75 to \$200. Ask your water treatment specialist for **free testing**.

**Reverse Osmosis (RO)** at point of use (in the kitchen) is the EPA “best available technology” for removal of all of the above primary (health related) contaminants<sup>4,8,9</sup> Five Stage RO is much more effective than three- or four-stage RO. *Buyer beware!* Cheap ROs are not designed for the high TDS of Corrales well water, severely limiting their life and their efficacy. Cheap ROs waste huge amounts of water. *Insist on a WQA Gold Seal Certified RO.*

## References

1. Myers, James, “Pitting Corrosion of Copper,” in *Materials Selection and Design*, October, 1995, p.60.
2. Boaz, David P. “Mitigation of Copper Plumbing Corrosion in Residential Well Water Systems,” HydraTech Journal, October, 2005.
3. Rambow, C.A., *Journal of the American Water Works Assn.* 66 (1974), p.479.
4. Harrison, Joseph F., *Water Treatment Fundamentals*, 7th Edition, Water Quality Assn., 2001
5. Goldreich, Edwin E., American Water Works Assn., *Water Quality and Treatment, A Hand Book*, Chap.17,18, 4th Ed., 1990.
6. EPA Website: www.epa.gov/safewater . EPA Hotline 800-426-4791. New Mexico Drinking Water Bureau 505-222-9532.
7. EPA Fact Sheet 3, *Water Softeners*, EPA 625/R-00/08
8. EPA Fact Sheet 815-F-00-015, *Drinking Water and Arsenic Treatment*.
9. Water Quality Association, www.wqa.org; also www.wellcarehotline.org, www.watertech.online.com; corrosion-doctors.org
10. Many studies by U.S. Dept. Of Commerce, U.S. Dept. Of Labor, U.S. Bureau of Labor Standards, Univ. Ill., UNM Studies, US Dept. of Interior Water Supply Paper 1299.