



Environmental Management Systems (EMS) Guide To:



Domestic Drinking Water Testing

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ENVIRONMENTAL
MANAGEMENT
SYSTEMS, INC.

OR: 503-353-9691

FAX: 503-353-9695

WA: 360-735-1109

www.envmgtsys.com

4080 SE International Way

Suite B-112

Milwaukie, OR 97222

WELL WATER TESTING FOR REAL ESTATE TRANSACTIONS:

Oregon law requires that in any real estate transaction involving a property that derives its water supply from a well, the well water must be tested, results must be shared with both parties, and submitted to the Oregon Health Authority (OHA). It is required to test for arsenic, nitrate and coliform bacteria; EMS recommends testing for lead in addition to these constituents, which are detailed below. EMS and the OHA recommend annual testing for bacteria, nitrate and arsenic.

Arsenic

Arsenic occurs naturally at varying levels in much of the geology of Oregon. Because of its ubiquity in drinking water wells, the best solution to arsenic contamination is filtration to continually remove arsenic from the water supply.

Bacteria and Nitrate

Bacteria and nitrate contamination are typically the result of surface contamination reaching the well, such as from a septic system, or cross-contamination from user-error or poor plumbing configuration. If nitrate or bacteria is detected, EMS recommends a full sanitary survey be performed in order to identify the most likely sources of contamination. This involves a thorough site investigation, reviewing well logs, onsite wastewater treatment system documents, potential cross contamination sources, and any other pertinent environmental records. Once the source is identified, remedial action can be taken.

Sampling for Arsenic, Nitrate, and Coliform Bacteria

Oregon rules require that samples for arsenic, nitrate and coliform bacteria be taken at a point in the water system that is before any form of treatment. The most accurate sampling location is at the well head itself, however this is not always practical due to the variability of well construction. When a sample cannot be taken from the well head, the pump station is often a good alternative. ***It is important that EMS personnel has access to a valve that is located prior to any form of treatment to avoid a false negative result.***

In addition to sampling at or near the well head, EMS recommends sampling at interior plumbing fixtures to ensure no cross-contamination has occurred. Older homes may have plumbing configurations that allow for potential cross-contamination. In the event of a positive test result for arsenic, nitrate or coliform bacteria, EMS recommends an additional round of sampling to confirm that the results are not a false positive.

Lead Contamination

Lead contamination in drinking water is a very problematic issue for homeowners. Dissolved lead is colorless and odorless, so its presence in water cannot be confirmed without sampling and laboratory testing. The US Environmental Protection Agency does not consider any level of lead concentration to be safe. EMS recommends lead sampling accompany the OHA mandated water well testing during real estate transactions, and as part of annual water supply sampling. By the mid-1980s, lead had mostly been phased out of use for water supply piping, however it often still remained in use for components that contact drinking water like soldering and plumbing fixtures.



Example of leaded water pipes

Lead contamination typically occurs within the home's plumbing, or within the service line from the well or water meter. It can be found in the service line itself, interior piping, the solder, or certain faucets. A quick and easy way to check your pipes for lead is to visually inspect them and scrape the surface with a screwdriver. Lead pipes are typically dark gray in color and when scraped will reveal a bright, shiny surface beneath. If any leaded components are discovered in a home's plumbing network, EMS recommends lead sampling be performed.



Example of a scratched lead pipes showing shiny surface underneath.²



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Lead Sampling and Remediation

Fortunately, testing for lead is a relatively quick procedure that can be done without any disturbance to the home. EMS personnel can perform a site visit to your property, sample the water supply, and report testing results in as little as a week following sampling.

If lead is detected in a home's water supply, it is critical to identify and remove all sources of lead plumbing. Following the replacement of plumbing components, EMS recommends an additional round of lead testing to verify the success of the mitigation.



Just because you had some pipe replaced, doesn't mean that all your pipe is safe.

EMS has the knowledge and experience to guide you through the domestic well testing and mitigation process. If you have any questions or if you would like to schedule water sampling with EMS, please contact me, Robert Goodwin, or Emma Eichhorn at 503-353-9691.

Sincerely,

Robert Sweeney, MS, REHS

President

ENVIRONMENTAL MANAGEMENT SYSTEMS, Inc.