Domestic Well Testing Data From Real Estate Transactions:

A Data Source for Arsenic, Nitrate and Coliform Contaminants in Private Well Water

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Domestic Well Safety Program

Domestic Well Testing Act

Contaminants and Results

Public Health Actions

Ongoing Projects
Mission

Promote domestic well safety to well users throughout the state.

DWSP encourages

regular testing and maintenance of private domestic wells.

DWSP is here to help

well users understand the quality of their drinking water and treatment options, if needed.

PURPOSE
Private Wells are NOT regulated by the Federal Safe Drinking Water Act

~23% of Oregonians are well dependent

350,000 active wells
3,800 new wells/year

Serves 1-3 households or fewer than 10 people

Image source: Allstate
http://blog.allstate.com/well-water-buying-a-home/
Domestic Well Safety Program


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In any transaction for the sale or exchange of real estate that includes a well that supplies ground water for domestic purposes, the seller of the real estate shall, upon accepting an offer to purchase that real estate, have the well tested for arsenic, nitrates and total coliform bacteria. The Oregon Health Authority also may, by rule, require additional tests for specific contaminants in specific areas of public health concern. The seller shall submit the results of the tests required under this section to the authority and to the buyer within 90 days of receiving the results of the tests.
What is the purpose of the DWTA?

• Potential buyers are informed of water quality and can negotiate any treatment costs with the seller.

• DWSP receives sample results and notifies well users of any exceedances, based on the MCL set for drinking water by the EPA.

• Public health agencies can identify individuals or communities exposed to high levels of drinking water contaminants and provide information on health-protective measures.
CONTAMINATION SOURCES & SETBACKS
CONTAMINATION SOURCES
- Domestic Well Safety Program
- Contaminants and Results
- Public Health Actions
- Ongoing Projects
Drinking water standard (MCL): 10 ppb; MCL Goal = 0 ppb

CA OEHHA Public Health Goal for As = 0.004 ppb. PHG is a contaminant concentration in drinking water that poses no significant health risk if consumed for a lifetime.

Health Effects: impaired cognitive development, cancer, skin lesions, cardiovascular disease, diabetes, IQ decrements in children with long-term exposure ≥5 ppb

Recommended testing: 1X or every 5 years if elevated

Arsenic Estimates for Domestic Well Users


https://www.usgs.gov/media/images/estimated-population-arsenic-greater-10-micrograms-liter

Range 0-850 ppb
Mean = 2.5 ppb
9.9% >10 ppb (MCL)
5.8% 5-10 ppb
24.1% 0.1 - <5 ppb
(11,596 tests)

Yellow represents the highest results, blue the lowest, zero values not shown.
Drinking water standard (MCL): 10 ppm

Health Effects: reproductive anomalies, cancer, blue baby syndrome (methemoglobinemia); N-nitroso compounds linked to colorectal cancers, thyroid disease and neural tube defects at <10 ppm [Ward et al 2018]

Recommended testing: annually

Range 0-118 ppm
Mean = 1.3 ppm
1.5% >10 ppm (MCL)
3.5% >7 ppm
(25,778 tests)

Yellow represents the highest results, blue the lowest, zero values not shown.
Groundwater Management Areas (GWMAs)
E. coli Bacteria *The presence of E. coli in a water sample indicates that the water has been contaminated by sewage or animal waste that may contain disease causing bacteria.*

- Health Effects: nausea, vomiting, diarrhea, jaundice, headache
- Recommended testing: annually
- **Total Coliform (TC) detected in 10.5% of samples (n=3,036)**
- **E Coli detected in 1.8% of TC samples (n=56)**
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ONGOING PROJECTS

- County and Census Tract level map update on DWSP web site
- Mini-grants to Lincoln and Josephine counties
- Cluster analysis for Arsenic and Nitrate
- Incorporate DEQ lab data
- Database updates
- Assessment Surveys
  - Well Users
  - Stakeholders
- Target outreach efforts to include hazard areas identified in data analysis
- Increased DWTA compliance through outreach efforts and partnerships
- Small grants to county health departments
- Add data to Oregon Tracking Portal

PUBLIC HEALTH ACTIONS
Available Webinar

What Realtors Need to Know about Homes with Well Water

http://privatewellclass.org/calendar

The Private Well Class is a collaboration between the Rural Community Assistance Partnership and the University of Illinois, through the Illinois State Water Survey and the Illinois Water Resources Center, and funded by the U. S. Environmental Protection Agency.
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Thank you!

Questions?

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