GROUNDWATER CONTAMINATION

What You Need to Know

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What is groundwater?

Groundwater, which accounts for 30 percent of the world's fresh water, occurs below the ground (where it is filtered naturally as it passes through layers of the earth). Groundwater is stored in aquifers – layers of soil, sand, and rocks. We get groundwater by drilling wells and pumping it to the surface. More than 13 million U.S. households depend on individual wells for drinking water.

How does groundwater become contaminated?

Groundwater contamination can come from natural sources, but typically is the result of human activity. Contaminants may reach the groundwater from activities on the surface (such as spills, releases, and agriculture operations), or from below the surface but above the water table (such as septic systems or leaking petroleum storage systems). Contaminated groundwater results in poor water quality and can cause potential health problems. Substances that occur naturally in rocks or soil can pose a threat to health if consumed in excessive quantities, such as iron, manganese, arsenic, chlorides, fluorides, sulfates, or radionuclides. Water quality monitoring has an important role in identifying breaches in the water system that may threaten the safety and health of the consumers.

Regulating groundwater contamination

State and local regulations require specific isolation distances to sources of contamination. An isolation distance can vary depending on well type; public wells have greater isolation requirements than private wells. If you suspect your well could be impacted by contamination sources, please contact a Public Health Sanitarian at 248-858-1312 to discuss sources in your area.

Sampling groundwater

A private well should be sampled annually for bacteria and nitrates, and sampled every few years for arsenic. Public wells are tested more often and for many other potential contaminants and must follow their specific regulatory schedule. The Oakland County Health Division lab offers testing for bacteria, partial chemistry (nitrate, nitrite, chloride, fluoride, sulfate), arsenic, lead, and copper. Additional tests can be found at the State Drinking Water Lab (https://www.michigan.gov/egle/about/organization/remediation-and-redevelopment/laboratory).To find a private lab, please visit https://www.michigan.gov/egle/about/organization/remediation-and-redevelopment/laboratory/certifications or https://www.ehso.com/drinkingwaterstatec.php.

For more information

Your licensed well contractor, health department, cooperative extension service, and state environmental or natural resources agency can provide you with more information about groundwater in your area.

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The Oakland County Health Division will not deny participation in its programs based on race, sex, religion, national origin,age or disability. State and federal eligibility requirements apply for certain programs.