MARION COUNTY PUBLIC HEALTH DEPARTMENT

Prevent. Promote. Protect.

Water Quality & Hazardous Materials Management

PRIVATE WELL WATER
INFO SHEET

Seventeen percent of drinking water in Indiana comes from private wells. It is recommended that homeowners with private wells have the water tested regularly and, if necessary, treated to ensure that the water is safe to drink. The Marion County Public Health Department (MCPHD) offers well water testing for bacteria and chemical contamination. The following fact sheet contains information on common groundwater characteristics, common contaminants found in Marion County, and recommendations for owners of private wells.

COMMON WELL WATER CHARACTERISTICS

WHITE SCALE? Hard water contains calcium and magnesium salts, which do not pose a health threat, but can form a scale on dishes and appliances. Groundwater in Marion County is considered very hard (>180 parts per million Calcium Carbonate). Water softeners address hardness, but do not remove harmful bacteria or chemical contamination.

RUSTY WATER OR FIXTURES? Groundwater is naturally high in iron, which can cause an orange or brown discoloration. High levels of iron are not health risks, but can create an objectionable taste and odor. The recommended limit for iron in drinking water is 300 parts per billion, though levels up to 3000 ppb are not uncommon.

ROTTEN EGG SMELL? Hydrogen sulfide (H_2S) causes the rotten-egg or sulfur smell that can also be found in well water. H_2S is a poisonous gas, but at levels dissolved in water, is not a health hazard. The distinct odor can sometimes be linked to the hot water heater if it is only coming from the hot water side.

BLACK FLAKES/SLIME? Manganese can also be commonly found above the recommended level of 50 ppb – typical ranges in Indiana are 20-1000 ppb. Manganese is not a health risk, but can cause black flakes in the water and black slime in the toilet tank, much like iron.

COMMON CONTAMINANTS IN MARION COUNTY

COLIFORM BACTERIA: Coliform bacteria are found in just under half (45%) of well samples taken (based on MCPHD data from 2010-2013). The commonly-found bacteria are not a specific health threat, but used as an indicator. This means if coliform bacteria are present, there could be other potentially harmful disease organisms also in the water. If coliform bacteria are present, it is recommended that the well and pipes be disinfected, or chlorinated, to kill all microorganisms in the water.

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COMMON CONTAMINANTS IN MARION COUNTY (cont.)

ARSENIC: In parts of the county, arsenic is commonly elevated, or above the level considered safe to drink and cook with. This arsenic is naturally-occurring and comes from the shale in the bedrock. Treatment systems must be installed to reduce the amount of arsenic in the water. Examples include reverse osmosis units, often located under the kitchen sink, and ion exchange systems.

NITRATES: Nitrates can also be found in area well water. High levels of nitrates can pose serious health problems for pregnant women and infants under 6 months old. Nitrates are mainly used as fertilizers, but sources also include leaking septic tanks (sewage), animal feed lots, and erosion of natural deposits.

RECOMMENDATIONS FOR PRIVATE WELLS

ROUTINE TESTING for bacteria (coliform and *E.coli*) and chemicals (anions, metals, volatile organics) is recommended. Annual sampling can be coordinated with MCPHD staff. See contact information below.

WELL DISINFECTION (CHLORINATION) involves using household bleach or pool chlorine to disinfect the well and plumbing system. The well should be chlorinated if tests indicate the presence of bacteria. Step-by-step instructions are available from MCPHD.

MAINTAIN TREATMENT SYSTEMS per the manufacturer's recommendations. This includes changing out filters and membranes as needed.

BEST PRACTICES include making sure that the well head is never submerged under flood water and that fertilizers and pesticides are not applied near the well. If the home is on a septic system, also make sure it is working properly and not impacting the well.

ADDITIONAL RESOURCES

WEB SITES WITH MORE INFORMATION:

US Environmental Protection Agency
water.epa.gov/drink/info/well/

IN Department of Natural Resources
www.in.gov/dnr/water/2457.htm

National Ground Water Association
www.ngwa.org

Water Quality Association
www.wqa.org

MCPHD FACT SHEETS AVAILABLE:

- Arsenic in Drinking Water
- Hydrogen Sulfide in Drinking Water
- Hydrogen Sulfide in Hot Water Only
- Nitrates in Drinking Water
- Fluoride in Drinking Water
- Sodium in Drinking Water
- Well Disinfection Instructions
- Water Treatment Solutions
- EPA's List of Drinking Water Standards

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2/2014