In 2009, the U.S. Geological Survey (USGS) released a report on private water well sampling results from across the United States. Private water wells, defined here as those constructed from 1991-2004 in 30 of the nation’s 62 principal aquifers used for water supply. Important findings were that one out of every five private water wells sampled in the U.S. contained one or more contaminants at concentrations exceeding EPA or human health benchmarks. Approximately half of all wells had at least one problem, and a third of all wells indicated microbial contamination. A number of private water wells sampled in Louisiana potentially contained levels of arsenic, low levels of organic compounds (VOCs) and pesticides, as well as secondary contaminants in standard system tests for pH, hardness, alkalinity, dissolved solids and manganese.


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Recommended Tests: Nitrates/Nitrates and Metals

Most private wells are located in rural areas, so a test for nitrates is important. inorganic nitrates are an indicator of surface water or other wastewater intrusion into your well. This nutrient originates mainly in agricultural areas where they are carried in runoff from fields, livestock manure or other sources of livestock or poultry that can also be introduced by poorly-managed septic tanks. Excessive levels of nitrates/nitrites in drinking water can be a serious health risk for newborns under 6 months of age. Positive sample results may warrant further testing for pesticides as well. General tests for metals, including arsenic, lead, and cadmium (see the following chart) are also recommended. Heavy metals, such as arsenic, have been detected in private wells in some Louisiana aquifer areas.

Other tests for consideration:

The following chart provides a quick reference for a number of primary, 1991–2004 contaminants, and provides an indication of tests that are routinely tested in public water systems due to their set health limits. These should be tested for by private wells, although other contaminants may also be present in your well. This chart also includes some secondary contaminants, and other contaminants which well owners may have encountered. These may be observed by noticing by color, taste or smell, and by their level of concentration for health risks.

Please refer to the CDC and EPA public health information listed sites in this brochure for detailed information on exposure (dose, frequency, length of exposure, toxicity, and route), susceptibility and health effects of these contaminants.

For information on chemicals & their health effects:

U.S. Centers for Disease Control and Prevention (CDC) Water related Diseases and Contaminants in Private Wells cdc.gov/healthywater/drinking/private/wells/diseases.html (800) 232-4636 or visit: cdcinfo@cdc.gov

U.S. Environmental Protection Agency (USEPA) Safe Drinking Water Hotline: (800) 426-4791 or visit: water.epa.gov

Louisiana Ground Water Association (LGWA): (225) 229-0666
to submit notification and register your private water well:
Louisiana Department of Environmental Quality (LDEQ), Business Community Outreach and Inclusion Division: (225) 219-3510, (866) 896-9328 (LDEQ) or visit: deq.louisiana.gov
Louisiana Department of Agriculture and Forestry (LDAF), 24-hour hotline: (225) 925-3763 or visit: ldaf.louisiana.gov

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Additional information on private well water and health safety: National Ground Water Association (NGWA): (901) 511-7379

Louisiana Ground Water Association (LGWA): (225) 229-0666

LSU Ag Center Food & Water Safety, Private Wells Water Safety for Water la.agrilink.com

What You Need to Know to Protect Your Water

Private Water Well Testing in Louisiana

For more information on aquifer monitoring and water quality:

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NEARLY one out of every eight people in Louisiana get their drinking water from privately-owned domestic water wells. Most private wells in Louisiana are supplied by aquifers. An aquifer, which is a natural underground water supply, requires little—if any—treatment and is generally safe. However, some aquifers in Louisiana have high concentrations of naturally-occurring elements. In addition, nearby activities have the potential to impact water quality. Pollutants such as harmful bacteria, chemicals and heavy metals can enter the water supply from above or below ground. Sources can range from natural mineral deposits and naturally-occurring bacteria, to smaller or unmonitored pollution sources such as leaking underground storage tanks, abandoned wells or waste pits. Hurricanes, major rain storms, floods, and damaged wells can also introduce contamination.

It is recommended that owners of domestic water wells have their systems routinely inspected and tested for biological and chemical contaminants each year.

REFERENCES
3. LEDQ-ASSET Sampling Program. Report:Aquifer Summaries. November 2007-2009. No primary MCLs were established for field or conventional parameters in any of the currently monitored wells/aquifer systems under this program, with the exception of elevated arsenic in the Mississippi River Aquifer System. Some secondary MCLs were also established.

MAJOR LOUISIANA AQUIFERS

Unsuitability of Alluvial Aquifer Systems for Private Well Water Use

Unconsolidated (sand and gravel) alluvial aquifer systems in Louisiana which may be suitable for domestic well water use.

~ A pregnant woman, infants or young children, elderly, or people with chronic disease or conditions that impair their immune system reside in the home; or
~ if there have been unexplained illnesses in the household, such as recurring gastrointestinal problems or skin irritants; or
~ if there has been a chemical or hazardous incident or spill near your home or well; or
~ if you live in an area that is prone to a specific type of water contamination, OR if you live near areas of extensive land development, construction (including highway expansion or repair), agriculture, animal operations, mining, oil or gas drilling, industrial or waste operations, or abandoned waste sites or wells.

Well Inspection and Maintenance—was my well properly constructed? Is it functioning properly?

Who is responsible for monitoring privately-owned domestic water wells?

In Louisiana, the individual well owner is responsible for testing their private well. DHHS enforces regulations such as the Safe Drinking Water Act for public water systems, and the Louisiana Department of Environmental Quality (LEDQ) Department of Agriculture and Forestry (LDAF), USGS, and USEPA conduct monitoring of aquifer systems and wells for pesticides and other potential contaminants. However, private wells in Louisiana are not currently required by any agency or law to be regularly tested to federal or state health standards. Individual well owners must take the necessary steps to ensure their well water is safe.

How often should I inspect and test my well?

Annual well inspection and testing for biological and chemical contaminants is the best way to monitor your well water for any problems. It is also important to have your well inspected and water tested:
~ any time you notice a change in your water quality, especially if you notice a strange color, odor, or taste;
~ if there are any agency or law to be regularly tested to federal or state health standards; or
~ if contaminants have been found in a neighbor’s well or reported to the local community (contact your parish sanitary for reported or known problems in your area);
~ if you live in an area that is prone to a specific type of water contamination, OR if you live near areas of extensive land development, construction (including highway expansion or repair), agriculture, animal operations, mining, oil or gas drilling, industrial or waste operations, or abandoned waste sites or wells.

The construction of water wells in Louisiana is addressed by the regulations of LAC 56:I Chapter 3. In addition, the state sanitary code outlines how private water wells in Louisiana should be constructed to ensure water quality while maintaining the integrity of the underground water supply. Safe distances must be maintained between wells and possible contaminants sources. To properly prevent flooding, you must ensure flood waters drain away from the well (Title 51 Public Health Sanitary Code, Part XII. Water Supplies, §327 Cesspool and Septic Tank Support. Preventive features, such as impermeable well casings installed to the correct depth, and watertight well covers over preventing, vent, water well contamination by waste water or water wells. However, underground contamination sources will only be detectable with annual water sampling. Routine inspection and maintenance of your well by a licensed contractor is the best way to ensure important features are in use, intact and functioning properly. You can locate a Louisiana licensed contractor in your local area through the Louisiana State Health Office for Contractors; in the yellow pages under “Environmental Services,” or by contacting a local water well drilling company. Other contacts include the NGWA wellowner.org website and your local AgCenter or cooperative extension office.

He sure to manage the activities near the water source. This includes keeping all chemicals, gasoline, paint, pesticides, and solvents away from the well-head, and preventing backflow or cross-connections when using hoses with household, gardening, agricultural or automotive chemicals.

Well disinfection following a flood

Major rainfall events and hurricanes are common in Louisiana and they can impact the health and safety of your private water well. Storm damage and flooding often introduce pollution into the water system by overtopping well-heads and compromising containment systems. After a storm or flood, it is important to have your well and pump cleaned and inspected at LDAF, DHHS, and USEPA. Local water well associations and state sanitation agencies usually work very quickly to develop and implement standard protocols for emergency disinfection of private water wells following a storm. As a resourceful Louisiana well owner you may be able to “take care of yourself,” but to ensure health and safety it is best to have a professional, licensed contractor disinfect and test the well.

How do I test my water?

Water well owners can contact their parish sanitarian, usually located at the parish health unit, to get the latest information on private water well testing. He or she will advise you of any contaminants that are known problems in your area. Working closely with parish sanitarians and engineers through the Safe Drinking Water Program, state-certified labs may be available to perform some bacteriological or chemical tests on your private well water for a fee. A listing of state-certified labs is available at www.dhh.la.gov. Using the search feature type in “Laboratory Certification” to get listing. In other cases, parish sanitarians can refer well owners to local or national testing laboratories.