



Testing to Help Ensure Safe Drinking Water

Public water supplies are tested regularly and customers are notified of violations. Thus, users can rely on the water utility and regulators to assure safe drinking water. On the other hand, people who have a private water supply are responsible for all quality and safety aspects of their water. If a well or spring location, construction, maintenance (with water tests), or protection is deficient, safe drinking water is not guaranteed.

Ensuring Safe Drinking Water

Wells and springs are often contaminated because of poor location, inadequate construction, delayed or no maintenance, accidents, and lack of protection. Surveys of private wells have shown about 80 percent are deficient in construction or location. The most common health concern contaminants are coliform bacteria, especially *E.coli* or fecal coliform, and nitrate. Others include salts (often sodium chloride), petrochemicals, and pesticides. Safe water is supplied by a safe well. This requires action by the owner or water user.

First, check the well and water system:

1. Evaluate well location and construction against standards (MF-970) and make needed improvements.

Second, maintain, evaluate, and protect the water source:

2. Do preventive maintenance (MF-2396) including shock chlorination of the well and water system (MF-911).
3. Test water; evaluate results, keep reports for reference, and track trends to detect changes or problems.
4. Develop a plan and follow it to protect your well and groundwater from contamination (MF-2396).

What Tests Are Necessary?

There is no single test for drinking water safety. Tests measure specific contaminants including bacteria, nitrate, lead, arsenic, pesticides, etc. Surveys show about 60 percent of private wells are polluted by bacteria or nitrate, both have serious health risks.

Test with a purpose (see MF-871). Reasons to test include: assuring safety, detecting changes over time (contamination), and documenting good quality. Annually test for bacteria (coliform and *E.coli* or fecal), nitrate, total dissolved solids, and pH as part of well maintenance. Much more testing is required to assure safe, bacteria-free water, especially when a well has location or construction deficiencies. Always test for total coliform and *E.coli* (or fecal) bacteria after maintenance or repair of the water source or system.

Before using a water supply for drinking, livestock, or irrigation, test its suitability for those purposes. Do these tests every 3 to 5 years to detect any changes. Consider testing for specific chemicals that have been stored, used, or spilled near the well.

Which Labs Are Qualified?

The only way to judge the quality of a laboratory's service is through independent evaluation. Kansas Department of Health and Environment (KDHE) certifies laboratories following National Environmental Laboratory Accreditation standards. We recommend using laboratories on this list that are certified for the drinking water tests you need or want. For detailed information about specific chemical certification, contact KDHE, Laboratory Improvement Program office (785) 296-1639 or www.kdheks.gov/envlab/. All states have a laboratory certification program. See the table on the back for contacts in adjacent states.

Selecting the Laboratory

Because any certified laboratory should be capable of doing tests accurately – within standards, price is not a good gauge of quality. Costs for nitrate and bacteria tests may range from \$20 to more than \$40. We recommend selecting a laboratory within overnight shipping for the carrier you would use. The trade association, American Council of Independent Laboratories www.acil.org, may help in choosing a laboratory.

Collecting and Transporting the Sample

Contact the laboratory to get a sample container. Follow instructions to collect the sample, either from the laboratory or in *Taking a Water Sample*, MF-963. After collecting, refrigerate but do not freeze the sample. Protect it from sunlight. For accurate results, the bacteria test must be started within 24 hours of sample collection. Ask the lab about sample delivery, days and times that they begin water tests, and plan accordingly.

Related K-State Water Quality Information

An Action Program for Safe Drinking Water, MF-1050
*Kansas Home*A*Syst—Environmental Risk Mgmt for Homes*
Kansas Water Well Web site <www.kswaterwell.org>
Organic Chemicals and Radionuclides in Drnkg. Water, MF-1142
Private Water Well—Owner/Operator Manual, MF-2409
Private Well Maintenance and Protection, MF-2396
Private Wells—Safe Location and Construction, MF-970
Recommended Water Tests for Private Wells, MF-871
Restoring a Flooded Well to Service, MF-2733
Safe Water from Wells (video), SV-386
Shock Chlorination for Private Water Systems, MF-911
Taking a Water Sample, MF-963
Understanding Your Water Test Report, MF-912

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KDHE Certified Laboratories in Kansas and Nearby States for Drinking Water Testing – May 4, 2007

Coliform/*E. coli* Bacteria (B), Lead (L), Metals/Minerals (M), Nitrate (N), Organic (O), Radiochemistry (R), Trihalomethane (T), and Unregulated Organics (U)

Laboratory Name, Location Address and City	Mail Address	Telephone	B	L	M	N	O	R	T	U	Renew
Accurate Labs Inc, ⁴ 505 Lowry, Stillwater, OK 74074	505 South Lowry, Stillwater, OK 74074	405-372-5300	B	L	M	N	O	-	-	-	8/07
Accurate Labs Inc, ⁴ 6558 East 40 th St, Tulsa, OK 74145	6558 East 40 th St, Tulsa, OK 74145	918-663-5400	B	-	-	-	-	-	-	-	8/07
Continental Analytical Serv Inc, 525 N. 8 th St, Salina, KS 67401	POBox 3737, Salina67401-3737 800-535-3076	785-827-1273	B	L	M	N	O	-	T	U	7/07
Dean's Water Lab Inc, 1710 Cottonwood Dr, El Dorado, KS 67042	PO Box 610, Andover, KS 67002-9780	316-733-2682	B	-	-	-	-	-	-	-	10/07
Environmental Labs Inc, 821 N. Washington St, Auburn, KS 66402	PO Box 120, Auburn, KS 66402-0120	785-256-7330	B	-	-	-	-	-	-	-	4/08
Hazen Research Inc, Golden, CO 80403-1895	4601 Indiana Street	303-279-4501	-	-	-	-	-	R	-	-	10/07
Keystone Laboratories Inc, Kansas City, KS 66103-1359	1304 Adams Street	913-321-7856	B	-	-	-	-	-	-	-	4/08
Keystone Laboratories Inc, 600 E 17 th St S, Ste B, Newton, IA 50208	600 E 17 th St S, Ste B, Newton, IA 50208-1100	641-792-8451	-	-	-	N	-	-	-	-	7/07
Olsen's Agricultural Laboratory Inc, ² McCook, NE 69001-0370	210 East First Street / PO Box 370	308-345-3670	B	-	-	N	-	-	-	-	12/08
Pace Analytical Services Inc, Lenexa, KS 66219-2406	9608 L'oiret Boulevard	913-599-5665	B	-	M	N	-	-	-	-	4/08
SDK Laboratories Inc, 1000 Corey Road (877-464-0623)	PO Box 886, Hutchinson, KS 67504-0886	620-665-5661	B	-	-	N	-	-	-	-	10/07
Servi-Tech Laboratories Inc, 1816 E Wyatt Earp Blvd 800-557-7509	PO Box 1397, Dodge City, KS 67801-1397	620-227-7123	B	-	M	N	-	-	-	-	10/07
Servi-Tech Laboratories Inc, ² 1602 Park West Drive, Hastings	PO Box 169, Hastings, NE 68902-0169	402-463-3522	B	-	M	-	-	-	-	-	12/10
STL – Denver, 4955 Yarrow Street, Arvada, CO 80002-4517	4955 Yarrow Street, Arvada, CO 80002-4517	303-726-0100	B	L	M	N	O	-	-	U	4/08
STL – St Louis, 13715 Rider Trail North, Earth City, MO 63045	Earth City, MO 63045-1205	314-298-8566	-	-	-	-	-	R	-	-	10/07
Underwriters Laboratories Inc, South Bend, IN 46617-2702	110 South Hill Street, South Bend, IN 46617	219-233-4777	B	L	M	N	O	R	T	U	7/07
University (State) Hygienic Laboratory, Iowa City, IA 52242-5002	102 Oakdale Campus Univ of IA, Iowa City	319-335-4500	B	L	M	N	O	R	T	U	1/08
Water Analysis Inc, ¹ Joplin, MO 64804	111 West 17 th Street, Joplin, MO 64804	417-623-2626	B	-	-	-	-	-	-	-	3/10

Certified by: ¹ MO Dept of Natural Resources; Nebraska Health and Human Services ² Public Water Systems or ³ Private Wells Only); ⁴ OK Department of Environmental Quality

The NELAC Institute (TNI) develops standards and administers the Laboratory Accreditation System and National Environmental Laboratory Accreditation, Web site: www.nelac-institute.org; National EPA Web site: www.epa.gov/safewater/labs/index.html; Adjacent states: Colorado (303)692-3291 Web site: www.cdphe.state.co.us/hr/certification/schools.pdf; Missouri (573) 526-3832 Web site: www.dnr.mo.gov/env/wpp/labs; Nebraska (402) 471-2122 option 7, Web site: www.iampubs.unl.edu/sendll/g1614.pdf; and Oklahoma (405)702-1024, Web site: www.deq.state.ok.us/csdnew/labelcert.htm

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