



## INDIVIDUAL WATER SUPPLY WELLS - FACT SHEET #3

### RECOMMENDED RESIDENTIAL WATER QUALITY TESTING

Water quality testing is important for new drinking water wells in addition to periodic evaluation of existing wells. The table below lists the recommended testing parameters for new individual residential water supply wells. These tests should be performed following proper well installation and development, and prior to homeowner use. Beyond these initial tests it is recommended to test for coliform bacteria every year and to periodically re-test water quality for other well-specific constituents of concern.

All samples should be analyzed by a laboratory certified by the NYSDOH Environmental Laboratory Approval Program (ELAP) for testing potable water. A current listing of ELAP laboratories may be accessed at <http://www.wadsworth.org/labcert/elap/elap.html> or by contacting your Local Health Department (LHD).

Analysis	MCL (1)(2)	Concerns
Arsenic (3)	0.01 mg/l	Cancer of the skin, bladder, lungs, kidneys and liver
Chloride	250 mg/l	Salty taste
Coliform Bacteria	Any positive result	Indicator of possible disease-causing contamination, e.g. Gastro-intestinal illness
Lead	0.015 mg/l	Brain, nerve and kidney damage (especially in children)
Nitrate	10 mg/l as N	Methemoglobinemia (“blue baby syndrome”)
Nitrite	1 mg/l as N	Methemoglobinemia (“blue baby syndrome”)
Iron	0.3 mg/l	Rust-colored staining of fixtures or clothes
Manganese	0.3 mg/l	Black staining of fixtures or clothes; potential nervous system damage
Iron plus Manganese	0.5 mg/l	Rusty or black staining of fixtures or clothes
Turbidity	5 NTU	Cloudy, “piggybacking” of contaminants, interferes with chlorine and UV-light disinfection
Sulfate	250 mg/l	Laxative effect
pH	No designated limit	Pipe corrosion (lead and copper), metallic-bitter taste
Hardness	No designated limit	Mineral and soap deposits, detergents are less effective
Alkalinity	No designated limit	Inhibits chlorine effectiveness, metallic-bitter taste
Sodium	No designated limit (4)	Effects on individuals with high blood pressure

- (1) MCL means maximum contaminant level. The MCLs listed are based upon requirements for Public Water Supply systems and are also recommended for use on individual residential systems.
- (2) mg/l means milligram per liter (parts per million); NTU means Nephelometric Turbidity Units.
- (3) Contact your Local Health Department to determine if arsenic has been detected in local groundwater.
- (4) Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used by people on moderately restricted sodium diets.

Additional tests are recommended for naturally occurring constituents that appear on a regional basis such as: barium, fluoride, methane, radium, radon, and uranium. Additional tests may also be appropriate for contaminants associated with potential sources such as: oil storage facilities, junkyards, gasoline stations, landfills, industry, and active or historic agricultural use. Water samples from older existing residences or residences with corrosive water (i.e., pH less than 6.5) should be tested for lead and copper. In addition, you may wish to contact your LHD to check if any emerging contaminants have been detected in your area.

Some LHDs may have their own residential water quality testing requirements. Contact the LHD to determine their required analyses and procedures, and to inquire about any local water quality concerns.

The table below is based upon the United States Environmental Protection Agency’s publication: “Drinking Water From Household Wells”, January 2002, and may be used as a reference for determining additional testing.

<b>Conditions or Nearby Activities:</b>	<b>Test for:</b>
Recurring gastro-intestinal illness <sup>1</sup>	Coliform bacteria, e-coli
Household plumbing contains lead (older homes)	pH, lead, copper
Radon in indoor air or region is radon rich	Radon
Corrosion of pipes, plumbing	pH, lead, copper
Nearby areas of intensive agriculture	Nitrate, pesticides, arsenic, coliform bacteria
Coal or other mining operations nearby	Metals, pH, total dissolved solids
Gas drilling operations nearby	Sodium, chloride, barium, strontium
Dump, junkyard, landfill, factory, gas station, or dry-cleaning operation nearby	Volatile organic compounds, total dissolved solids, pH, sulfate, chloride, metals
Odor of gasoline or fuel oil, and near gas station or buried fuel tanks	Volatile organic compounds
Objectionable taste or smell	Hydrogen sulfide, pH, metals
Stained plumbing fixtures, toilet tanks or laundry	Iron, copper, manganese, hardness
Salty taste and seawater, or a heavily salted roadway nearby	Sodium, chloride, total dissolved solids
Scaly residues, soaps don't lather	Hardness, chloride, sodium
Rapid wear of water treatment equipment	pH, iron, manganese, hardness
Water softener needed to treat hardness	Hardness, manganese, iron
Water appears cloudy, frothy, or colored	Color, detergents, turbidity, total dissolved solids
Reddish-brown films on fixtures or toilet tanks	Iron bacteria, iron, manganese

<sup>1</sup> Individuals with symptoms of gastro-intestinal illness should seek the attention of a medical physician.

### Sampling and Treatment

1. Sampling for lead and coliform may give false results if sampling is not done properly. Please contact your LHD for guidance on sampling and interpreting results.
2. If testing shows any level above the recommended MCL, a new water source and/or treatment may be necessary. Please contact your Local Health Department for guidance.

### Other sources of information that may be helpful:

<b>NYS DOH</b> , <a href="http://www.health.ny.gov/PrivateWells">www.health.ny.gov/PrivateWells</a>	<b>Water Systems Council</b> , <a href="http://www.watersystemscouncil.org">www.watersystemscouncil.org</a>
<b>Wellowner</b> , <a href="http://www.wellowner.org">www.wellowner.org</a>	<b>US Environmental Protection Agency</b> , <a href="http://www.epa.gov">www.epa.gov</a>
<b>CDC Private Water Systems</b> , <a href="https://www.cdc.gov/healthywater/drinking/private/wells/index.html">https://www.cdc.gov/healthywater/drinking/private/wells/index.html</a>	
<b>Appendix 5-B</b> , <a href="http://www.health.ny.gov/regulations/nycrr/title_10/part_5/appendix_5b.htm">http://www.health.ny.gov/regulations/nycrr/title_10/part_5/appendix_5b.htm</a>	
<b>Well Disinfection Procedure</b> , <a href="https://www.health.ny.gov/environmental/water/drinking/restoring_testing_well.htm">https://www.health.ny.gov/environmental/water/drinking/restoring_testing_well.htm</a>	

### For questions concerning this Fact Sheet or a copy of Appendix 5-B:

Contact your Local Health Department or Residential Sanitation Section  
 Bureau of Water Supply Protection  
 New York State Department of Health  
 (518) 402-7650 or FAX (518) 402-7599  
 E-mail: [bpwsp@health.ny.gov](mailto:bpwsp@health.ny.gov)