

Insuring a Healthy Household Environment is a Fundamental Responsibility of Every Household Resident

Is your household environment safe or is your household environment causing the health of your family to be at risk? My point in asking these rather intruding and maybe even offensive questions is only to make the point that unless we test the air and water quality of our household periodically, the households of some families could very well be compromising the health and well being of its residents. Foremost in concern here in Maine is radon and arsenic.

Radon is a natural element that exists as a colorless and odorless gas that originates from the everyday natural radioactive decay of uranium first to radium and then radium to radon. The health concern predominately attributable to radon exposure is lung cancer. The United States Environmental Protection Agency reports radon to be second to tobacco in regard to pollutants that cause lung cancer. Currently, Maine recommends that households consider taking actions to reduce household levels when radon air levels are measured to be between 2 to 4 picocuries per liter (pCi/L). Furthermore, Maine recommends that action be taken to reduce levels when measured radon air levels exceed 4 pCi/L. Incidence of radon exposure varies throughout the state, but statewide data suggest that one in three households have radon air levels concentrations that exceed 4 pCi/L. Radon levels in our household water are also a concern. The current Maine State advisory level in a home's water supply is 4,000 pCi/L or less. The State recommends that households experiencing levels greater than 4,000 pCi/L in the water supply consider performing a total household assessment of the exposure risk in regard to that household's water and air levels of radon. Installation of treatment is recommended in households experiencing radon water levels approximating or greater than 10, 000 pCi/L. All of us then need to test to rule out the existence of this health threat within our household.

Arsenic is another naturally occurring element deserving of equal concern here in Maine. Arsenic is widely distributed world wide and we are all exposed via the air we breathe, the food and water we consume and by means of exposure to the products themselves we have manufactured to include arsenic or by pollution as a consequence of those products or the manufacturing process. Inorganic arsenic has

been recognized as a poison since ancient times. However, the other health issues attributable to inorganic arsenic exposure include gastrointestinal illness/disease, blood disorders, nervous system disease, impaired development of children, skin disease and cancer. A recent United States Geological Society study conducted here in Maine reported that arsenic in some household wells to have exceeded the federal safety standard by 10 to 100 times and some cases more. The study found very large differences to exist in tests performed on wells within the same town. High arsenic levels were more common in drilled wells but high levels were also found in dug wells. It is reported that half of the population of the state of Maine gets its water supply from a private well. Here in Alfred, approximately seventy five percent of us get our water from a private well. The bottom line then is that all of us need to also test our water for water for arsenic. The current drinking water standard for arsenic is 0.01 milligrams per liter of water (0.01mg/L) or less.

More information in regard to both radon and arsenic can be found at the both the Maine Center for Disease Control and the United States Center for Disease Control web sites. Below is a table from the Maine CDC summarizing the tests and scheduling of tests currently recommended and a list of laboratories certified by the State of Maine to perform testing:

TESTS FOR PRIVATE WELLS

Half of Maine's population gets its drinking water from private wells. It is felt that very few of them are routinely tested. By contrast, public water supplies are tested between monthly and every year, depending on the numbers of customers they serve. Below are some routine tests that every private well owner should consider. Costs are determined according to the time and materials associated with the tests and most tests are provided by several labs in Maine. The following is a recommendation from the State of Maine Bureau of Health. **[NOTE: A recommendation for a new or untested water supply would be in this order of priority (1) Test BA for many metals (including arsenic and uranium), bacteria and other inorganics and (2) Test M for volatile organics (gasoline, MTBE etc.) and (3) Test S for Radon as an indicator of natural radioactivity]**

(see chart next page)

Test For What	Name of the Test	What Does this Test Include	Cost	When Should I Test
Basic Safety Test	A	screening test for bacteria and some other substances – nitrate/nitrite	\$30	Every Year
New Well Evaluation	BA*	A test plus Fluoride, Chloride, Hardness, Copper, Iron, pH, Manganese, Uranium and Arsenic	\$70	Before Initial Use and every 3-5 years. Most Common Complete Inorganic Test Requested.
New Well Test	New Well Test	BA with bacteria count	\$70	New Well
Federal Government Recommendation	BF*	BA test with Color, Turbidity, Odor, Sodium, Uranium, and Lead, but without Arsenic	\$77	Before Initial Use and every 3-5 years.
More Complete Tests	FHA	BF test with Arsenic	\$84	Instead of Test BF, Before Initial Use and every 3-5 years
Most Complete Private Test when Leachate is not suspected	C*	BA test with Color, Turbidity, Odor, Sodium, Detergents, Cadmium, and Zinc	\$110	Instead of Test B's before Initial Use and every 3-5 years
Healthy Home Kit		New Well Test, Radon Water & Short Term Radon Air Tests	\$120	Every 5 years
Radon	S	Naturally Occurring Radioactive Radon gas in Water	\$30	Every 5-10 Years, Most Common Radioactivity Test Requested
Lead-First Draw (Second Draw is also available to rule out ground water-Test H-Lead)	PB1	Because the source of Lead is usually NOT the ground water, but the plumbing, a unique sample is required for a First Draw Lead	\$20	Every 10 Years for homes built before 1990 (lead soldering was banned)
Single Test	H	Individual metal (arsenic, etc.)	\$20	
Gross Alpha	U	Naturally occurring radioactivity	\$60	Every 5-10 Years
Gasoline or MTBE	GROW	Gasoline and MTBE	\$65	Most Common Organic Test Requested

*** NOTES: Lead can be present in the water source or in the plumbing or both. To test for lead in the plumbing, a Lead-First Draw-"PB1" should be requested as a separate test. Arsenic was added several years ago because of growing concern for natural arsenic in Maine; Uranium is now also being offered as a "free" added test because this element is a good indicator of the presence of natural radiation.**

Maine In-state Commercial Drinking Water Labs – upd. 2/13/12

A & L Laboratory <http://www.allaboratory.com/>
3100 Hotel Road Auburn ME 04210 (207) 784-5354

ClearWater Laboratory (A Division of Acheron Engineering)
<http://www.acheronengineering.com/>
153 Main Street Newport ME 04953 (207) 368-5786

Maine Water Company
<https://www.mainewater.com/>
855 Rockland Street Rockport ME 04865 (207) 236-8428

Maine Health and Environmental Testing Laboratory
<http://www.maine.gov/dhhs/mecdc/public-health-systems/health-and-environmental-testing/>
221 State Street Augusta ME 04330 (207) 287-2727

Katahdin Analytical Services
<http://www.katahdinlab.com>
600 Technology Way Scarborough ME 04074 (207) 874-2400

Maine Environmental Laboratory
<http://maineenvironmentallaboratory.com/>
1 Main Street Yarmouth ME 04096 (207) 846-6569

Micmac Environmental Laboratory
<http://www.micmacenvironmental.com>
8 Northern Road Presque Isle ME 04769 (207) 764-7219

Nelson Analytical Lab
<http://www.nelsonanalytical.com/>
120 York Street Kennebunk ME 04043 (207) 467-3478

Northeast Laboratory Services – Portlandwww.nelabservices.com

999 Forest Avenue Portland ME 04103 (207) 878-6481

Northeast Laboratory Serviceswww.nelabservices.com

227 China Road Winslow ME 04901 (207) 873-7711

Paris Utility District Laboratory

7 C.N. Brown Way South Paris ME 04281 (207) 743-5134

Wright-Pierce Engineers<http://www.wright-pierce.com/>

99 Main Street Topsham ME 04086 (207) 725-8721

*Laboratories are certified by test so it is necessary to check with a laboratory to find out exactly what they test for. The tests which laboratories are able to do, can change regularly. You may confirm what tests are done by a laboratory or ask any other questions regarding laboratory quality by calling The State of Maine Drinking Water Program and at **207-287-2070** and ask for the Laboratory Certification Officer.*