

Emerald Lake Village District Water Quality Report – 2011

What is the source of my drinking water? The water supplied by the District is from groundwater sources. It is pumped from eight bedrock wells, all located within the District. The water is pumped from the wells to a 150,000 gallon atmospheric storage tank. The water from well 4 and well 11 is treated to remove fluoride and arsenic. The remaining wells are untreated.

How can I get involved? The Emerald Lake Village District Commissioners meet on the first Monday of every month. An annual election is held for officers. Warrant articles and budgets are voted on at the annual meeting. Meeting dates and times are posted on the bulletin board on the front of the former Meeting House. The District has contracted Water System Operators, Inc. to provide trained and certified professional operators. Water System Operators, Inc. can be reached at 428-3525.

Why are contaminants in my water? Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the US Environmental Protection Agency’s Safe Drinking Water Hotline (1-800-426-4791).

Violations and Other information: Fluoride levels in two of four samples collected during 2010 were higher than the Secondary Maximum Contaminant Level. While this is not a violation of the drinking water standards, it could be of concern to those with young children. See the data below for more information.

Do I need to take special precautions? Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ trans-plants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Definitions:

MCLG: Maximum Contaminant Level Goal, or the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MCL: Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. They are set as close to the MCLGs as feasible using the best available treatment technology.

SMCL: Secondary Maximum Contaminant Level: Levels of contaminants above the SMCL may cause cosmetic effects or aesthetic effects in drinking water.

AL: Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.

TT: Treatment Technique, or a required process intended to reduce the level of a contaminant in drinking water.

MRDLG: Maximum residual disinfectant level goal or the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG’s do not reflect the benefits of the use of disinfectants to control microbial contaminants (for water systems that use chlorine).

MRDL: Maximum Residual Disinfectant Level or the highest level of a disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for control of microbial contaminants.

RAA: Running Annual Average or the average of all samples taken during the twelve month period ending with the most recent sample.

Abbreviations: ppm: parts per million ppb: parts per billion ppt: parts per trillion ppq: parts per quadrillion pCi/L: pico curies per liter NTU: Nephelometric Turbidity Unit
NA – Not applicable nd: not detectable at testing limits AL: Action Level TT: Treatment Technique

Sample Dates: The results for detected contaminants listed below are from the most recent monitoring done in compliance with regulations ending with the year 2010. The State of New Hampshire allows water systems to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Thus some of the data present, though representative, may be more than one year old.

DETECTED WATER QUALITY RESULTS

Contaminant (Units)	Level Detected	MCL	MCLG	Violation YES/NO	Likely Source of Contamination	Health Effects of Contaminant
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Microbiological Contaminants

Total Coliform Bacteria	35 Absent 2 Present	No more than 1 Present per month	0	No	Naturally present in the environment	Coliforms are bacteria that are naturally present and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
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Radioactive Contaminants

Radon (pCi/L)	851 Sampled 2008	None	0	No	Erosion of natural deposits	Presently the US Environmental Protection Agency is reviewing the setting of a standard for radon in drinking water.
Compliance Gross Alpha (pCi/L)	Range Nd – 1.1 Average 0.5 Sampled 2005 - 2008	15	0	No	Erosion of natural deposits	
Uranium (ug/L)	Range nd – 7.6 Average 1.1 Sampled 2005 - 2008	30	0	No	Erosion of natural deposits	
Combined Radium 226 + 228 (pCi/L)	Range nd – 2.1 Average 0.4 Sampled 2005 - 2008	5	0	No	Erosion of natural deposits	

Inorganic Contaminants

Arsenic (ppb)	Range nd – 8 highest RAA 5 Sampled 2010	10	0	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes	While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.
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Barium (ppm)	Range 0.002 - 0.006 Average 0.003 Sampled 2008 & 2010	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	
Copper (ppm)	90 th percentile 0.39 Sampled 2009	AL=1.3	1.3	No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	
Fluoride (ppm)	Range 0.1 – 5.4 Average 1.7 Sampled 2008 & 2010	4	4	No MCL Yes SMCL	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories	This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than 2.0 milligrams per liter (mg/L) of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis). See additional information below.
Lead (ppb)	90 th percentile 1 Sampled 2009	AL=15	0	No	Corrosion of household plumbing systems, erosion of natural deposits	

Volatile Organic Contaminants

Chlorine (ppm)	Range 0.01 – 0.06 Average 0.03 Sampled 2010	MRDL = 4	MRDLG = 4	No	Water additive used to control microbes	
Methyl tertiary-butyl ether (MTBE) (ppb)	Range nd – 0.8 Average 0.2 Sampled 2009 & 2010	13	13	No	A gasoline additive	

Fluoride: Dental fluorosis in its moderate or severe forms may result in a brown staining and/or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums. Children under nine should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about the proper use by young children of fluoride-containing products. Older children and adults may safely drink the water. Fluoride contamination is rarely due to human activity. Fluoride occurs naturally in some areas and is found in elevated concentrations in the aquifer in our source water. We are continuing to monitor fluoride levels. We will inform you if levels exceed the limit of 4.0 mg/L. Please share this information with all the other people who have children who drink this water, especially those who may not have received this notice directly.

Description of Drinking Water Contaminants:

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.
- **Radioactive contaminants**, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The United States Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Radon: Radon is a radioactive gas that you can't see, taste or smell. It can move up through the ground and into a home through cracks and holes in the foundation. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. It is a known human carcinogen. Breathing radon can lead to lung cancer. Drinking water containing radon may cause an increased risk of stomach cancer. Presently the EPA is reviewing a standard for radon in water.

Source Water Assessment Summary:

The NH Department of Environmental Services has prepared a Source Water Assessment Report for the source(s) serving this community water system, assessing the sources' vulnerability to contamination. The results of the assessment, prepared during 2002, are as follows:

Well	High	Medium	Low
001	2	1	9
004	2	1	9
006	1	3	8
007	1	2	9
008	1	2	9
009	1	2	9
011	not rated		

The complete Assessment Report is available for review at Water System Operators, Inc. For more information call 603/428-3525 or visit NH Department of Environmental Services Drinking Water & Groundwater Bureau web site at <http://des.nh.gov/organization/divisions/water/dwgb/index.htm>.