2008 Drinking Water Report

Town of Randolph, Massachusetts

2008 Drinking Water Quality Report

This report contains important information about your water system for calendar year 2008. It describes the quality of the Randolph-Holbrook Joint Water System's drinking water, the sources, and programs that protect the high quality of our water supply.

This publication complies with federal law that requires water utilities to provide water quality information to customers each year.

While most of the content of this report is required by regulation, we also include information that responds to typical questions our customers ask about our water system.

To learn more about the Randolph-Holbrook Joint Water System or water quality in the Town of Randolph please contact the Randolph DPW at 781-961-0940.

这份报告中有些重要的信息，讲到关于您所在社区的水的品质。请您找人翻译一下，或者请能看得懂这份报告的朋友给您解释一下。

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Town of Randolph
Department of Public Works
41 South Main Street
Randolph, MA 02368
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David Zecchini, Superintendent

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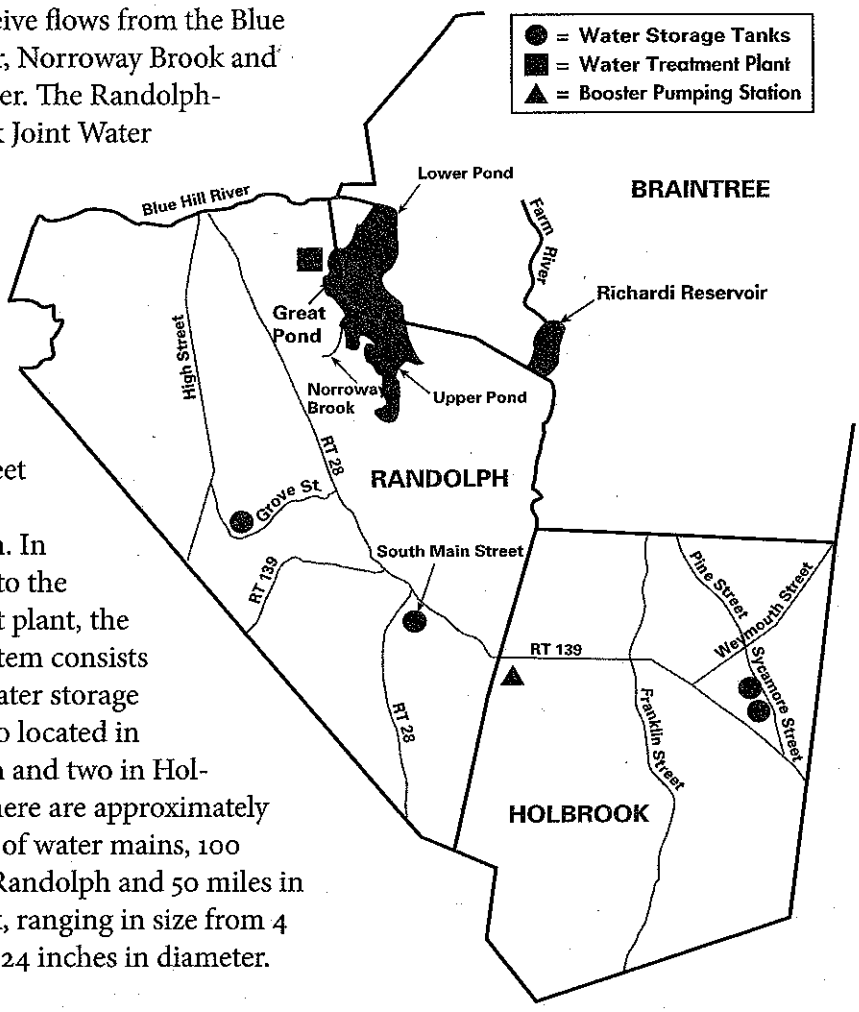
Joint System PWS ID# 4244001

Randolph-Holbrook Joint Water System's Water Meets Safety and Health Standards

The Randolph-Holbrook Joint Water System's water meets all federal and state standards. During the year 2008 we collected approximately 600 water samples in the system that were then tested for compliance with federal and state health standards. Federal and state regulators routinely monitor our compliance and testing protocols to assure that we deliver safe drinking water to our customers.

Randolph-Holbrook Joint Water System's Water Sources

The Towns of Randolph and Holbrook jointly manage and treat the water supply that each town utilizes for its drinking water. The source water supply is derived from the Great Pond Reservoir System. This system is comprised of three major reservoirs: Great Pond (Lower Pond), Upper Pond and the Richardi Reservoir. These reservoirs receive flows from the Blue Hill River, Norroway Brook and Farm River. The Randolph-Holbrook Joint Water System Treatment Plant is located at Great Pond off Pond Street in North Randolph. In addition to the treatment plant, the water system consists of four water storage tanks; two located in Randolph and two in Holbrook. There are approximately 150 miles of water mains, 100 miles in Randolph and 50 miles in Holbrook, ranging in size from 4 inches to 24 inches in diameter.



Important Health Information

All sources of drinking water (both tap water and bottled water) including rivers, lakes, streams, ponds, reservoirs, springs and wells, contain some naturally occurring contaminants or substances. Because water is the universal solvent, 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.

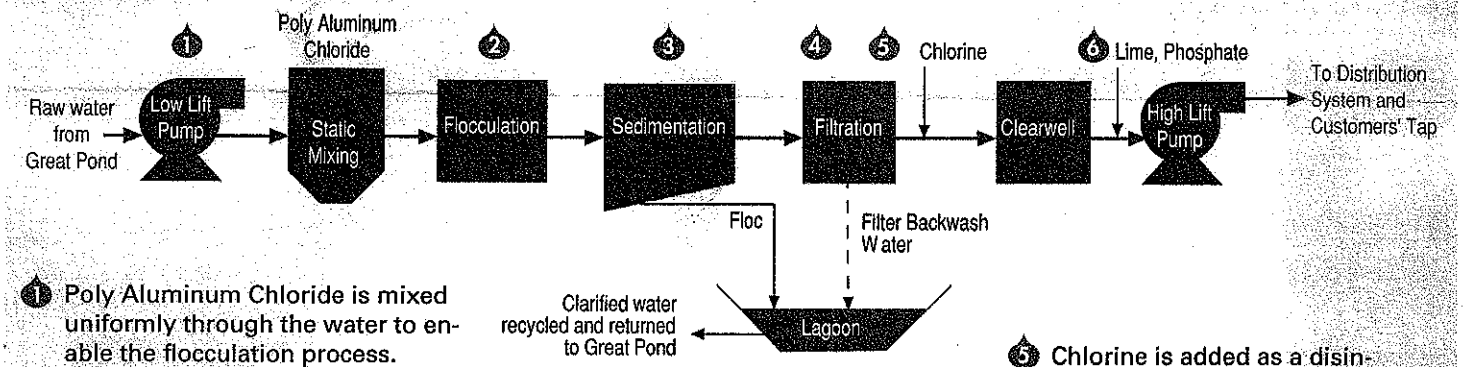
Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. Removing all contaminants would be extremely expensive and in nearly all cases would not provide greater protection of health.

More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791).

To ensure that your water is safe to drink, the Department of Environmental Protection (DEP) and the EPA regulates the allowable amount of certain contaminants in the water provided by public water systems. Food and Drug Administation (FDA) and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health. This report provides you with information about the contaminants found naturally in your drinking water, at levels a which they are found, and the likely source of each contaminant

- *Microbial contaminants*, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- *Inorganic contaminants*, such as salts and metals, which can be naturally occurring or result from urban storm water runoff or industrial/domestic wastewater discharges, oil and gas production, mining, or farming.
- *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*, that can be naturally-occurring or be the result of oil and gas production and mining activities.

Randolph-Holbrook Joint Water System's Drinking Water Process



1. Poly Aluminum Chloride is mixed uniformly through the water to enable the flocculation process.
2. Flocculation is a treatment process that uses gentle stirring to bring suspended particles together so that they will form larger, more settleable clumps called floc.
3. Sedimentation is a treatment process that involves reducing the velocity of water in basins so that the suspended material, or floc, can settle to the bottom of the basin by gravity.
4. Filtration, through the use of granular activated carbon/sand filters, removes remaining particles suspended in the water and clarifies the water.
5. Chlorine is added as a disinfectant to ensure that water is pathogen-free before it enters the distribution system.
6. Lime is mixed uniformly to the water to adjust pH. Phosphate is mixed uniformly to control corrosion of lead and copper from household plumbing fixtures.

2008 Treated Drinking Water Quality Data

Listed below are 8 substances detected in the Town of Randolph's drinking water during 2008.
Not listed are approximately 100 other substances for which we tested that were not detected during 2008.

Substance	Highest Detected Levels	Range of Detected Levels	Highest Level Allowed (MCL)	Ideal Goal (MCLG)	Source of Contamination
Regulated for Source Water or After Treatment					
Total Organic Carbon[1] (TOC)	—	0.5 – 1.4	TT	NA	Naturally present in the environment
Turbidity[2, V]	**1.3 NTU (97.7% of monthly results < 0.349 NTU)**	**0.07 – 1.3**	**95% of monthly results < 0.349 NTU**	**NA**	**Soil Runoff**
Regulated in the Town's Distribution System					
Chlorine (total)	0.91 ppm[3]	0.06 – 5.25 ppm[4]	4 ppm (MRDL)	4 ppm (MRDLG)	Water additive used to control microbes
Haleoacetic Acid	38.8 ppb[3]	9.0 – 45.9 ppb[4]	60 ppb[5]	N/A	By-product of drinking water chlorination
Total Trihalomethanes	36.9 ppb[3]	9.8 – 78.5 ppb[4]	80 ppb[5]	N/A	By-product of drinking water chlorination
Regulated at the Customer's Tap					
Copper[6]	0.38 ppm[7]	0.08 – 0.5 ppm (0 results > AL)	1.3 ppm (Action Level)	1.3 ppb	Corrosion of household plumbing systems
Lead[6]	3 ppb[7]	ND – 5 ppb (0 results > AL)	15 ppb (Action Level)	0 ppm	Corrosion of household plumbing systems
Unregulated Contaminants					
Sodium[8]	52.9 ppm	46.8 – 52.9 ppm	not regulated	not regulated	Naturally present in the environment

Definitions

AL (Action Level) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

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

MCLG (Maximum Contaminant Level Goal) – 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.

MRDL (Maximum Residual Disinfectant Level) – The highest level of a disinfectant (chlorine) allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal) – The level of a drinking water disinfectant (chlorine) below which there is no known of expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

TT (Treatment Technique) – A required process intended to reduce the level of a contaminant in drinking water.

90th Percentile – out of every 10 homes, 9 were at or below this level.

Abbreviations

N/A – Not applicable,

ND – Not detected

NTU – Nephelometric Turbidity Units

ppb (Part Per Billion) – One part per billion is the equivalent of $1 in $1,000,000,000

ppm (Part Per Million) – One part per million is the equivalent of $1 in $1,000,000

V – Violation

< – Less than, > – Greater than

Footnotes

1. Compliance is determined as a ratio of percent removal of TOC to required percent removal of TOC. A removal ratio of 1.0 is under regulatory review.

2. Turbidity is a measure of the cloudiness of water. It is measured because it is a good indicator of water quality and the effectiveness of filtration. Approximately 2,200 turbidity measurements were taken during 2008 and only four exceeded the Max Daily NTU Limit of 0.349 NTU.

3. Highest detected level is based on a running annual average of data from the last three quarters of 2007 and the four quarters of 2008.

4. This range or value is based on the individual samples detected in 2008.

5. The highest level allowed (MCL) for total trihalomethanes and haloacetic acids is based on the average of four quarterly samples.

6. No sampling was required for 2008. The results presented here are from 2005.

7. The level shown is the 90th percentile value which is used to determine compliance with the Lead and Copper Rule and must be below the AL.

8. The Massachusetts DEP Office of Research and Standards has set a guideline concentration of 20 ppm for sodium. Sodium-sensitive individuals, such as experiencing hypertension, kidney failure, or congestive heart disease, should be aware of the sodium levels where exposures are being carefully controlled.

Source Water Assessment and Protection (SWAP) Program

The Source Water Assessment and Protection (SWAP) program assesses the susceptibility of public water supplies to contamination due to land uses and activities within the recharge area of the water supply. Randolph and Holbrook, as part of the Randolph-Holbrook Joint Water Board, together own five inactive water supply sources: South Street Wells #1, 2, 3 (Source ID #s 4244001-01G, -02G, -03G); the Donna Road Tubular Wells (Source ID # 4244001-04G); and the Donna Road Wellfield (Source ID # 4244001-0AG). The South Street Wells and the Donna Road Tubular Wells have been inactive since the early 1980s because of the proximity to the contaminated site. Consequently, Holbrook uses the Great Pond Reservoir System as their water supply. This system is explained on the first page.

A susceptibility ranking of high was assigned to the five inactive wells using the information collected during the assessment by the DEP. A high ranking is given to any water supply that has at least one high threat land use within the water supply protection area. Since Randolph and Holbrook have ten high threat land uses within the protection area of these wells including gas stations, Superfund sites, and metal plating facilities, these wells must be assigned a high susceptibility ranking.

If you would like more information, the complete SWAP report is available at the DEP's website at http://www.mass.gov/dep/water/drinking/ 3133000.pdf. You can also call Thomas Cummings, Superintendent of the Randolph-Holbrook Joint Water Board , at 781-767-1800.

Vulnerability

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, 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/Centers for Disease Control and Prevention (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 (800-426-4791).

Lead Information

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Randolph-Holbrook Joint Water Board is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your drinking water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at http://www.epa.gov/safewater/lead.

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