



ANNUAL
**WATER
QUALITY
REPORT**

Water testing performed in 2007



EAST LYME WATER AND
SEWER COMMISSION

PWS ID#: CT0450011

Meeting the Challenge

We once again present to you our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2007. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. In 2007, we refurbished the 1.3 million gallon water storage tank on Boston Post Road. This included the installation of a passive mixing system to better circulate the water in the tank and improve water quality. An investigation was also conducted to evaluate the feasibility of converting to system-wide chlorine disinfection. Investigations to obtain new water supply sources are also underway. We remain vigilant in meeting the challenges of source water protection, water conservation and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts about the information in this report. After all, well-informed customers are our best allies.

Source Water Assessment

The State of Connecticut Department of Public Health (DPH) in cooperation with the Department of Environmental Protection (DEP) completed source water assessments for all of the East Lyme Water Department's public water supply sources. The sources were rated based on their environmental sensitivity, potential risk factors, and source protection needs. The rating does not necessarily imply poor water quality but indicates susceptibility to potential sources of contamination.

The Bride Lake well field includes Well 2, Well 3, and Well 3A and received a low overall susceptibility rating. The remaining well fields, which include the Gorton Pond well field (Well 1A and Well 6), the Dodge Pond well field (Well 4A), and Well 5, received moderate overall susceptibility ratings. The source water assessments are available on the Connecticut Department of Public Health, Drinking Water Division's Web site at www.dph.state.ct.us/BRS/water/dwd.htm.

Important Health Information

Sources of lead in drinking water includes corrosion of household plumbing systems and erosion of natural deposits. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Sources of copper in drinking water includes corrosion of household plumbing systems, erosion of natural deposits and leaching from wood preservatives. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

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 transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

Source Water Protection

“Level A” aquifer mapping is being developed for all of our water supply sources. The mapping will more accurately identify the zone of influence for our water supply wells and will be used in the future to regulate land use activities that may affect water quality.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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 substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

MTBE in the News

MTBE (Methyl tert-Butyl Ether) belongs to a group of chemicals commonly known as fuel oxygenates. Oxygenates are added to gasoline to reduce carbon monoxide and ozone levels in the air caused by auto emissions.

MTBE contamination of drinking water sources may result from leaking fuel storage tanks, pipelines, refueling spills, consumer disposal of old gasoline, emissions from older marine engines, and to a lesser degree, stormwater runoff and precipitation mixed with MTBE in the air. Currently, the primary concern about MTBE in drinking water is that it causes taste and odor problems. There are no data showing significant health risks of MTBE at low-exposure levels in drinking water; however, it is a potential human carcinogen at high doses. In December 1997, the U.S. EPA issued a drinking water advisory stating that it is unlikely that MTBE in drinking water at concentrations of 20 to 40 ppb will cause adverse health effects. Continuing research by the U.S. EPA and others is expected to help determine more precisely the potential for adverse health effects from MTBE in drinking water.

In an effort to better balance the air-quality benefits and water-quality concerns associated with oxygenates in gasoline, the U.S. EPA now requires reducing or eliminating MTBE as a fuel oxygenate. Also, the agency is considering setting health standards for MTBE and is currently gathering information from utilities across the country on the occurrence of MTBE. For a more complete discussion, visit the U.S. EPA's MTBE Web site at www.epa.gov/mtbe/faq.htm.

Questions?

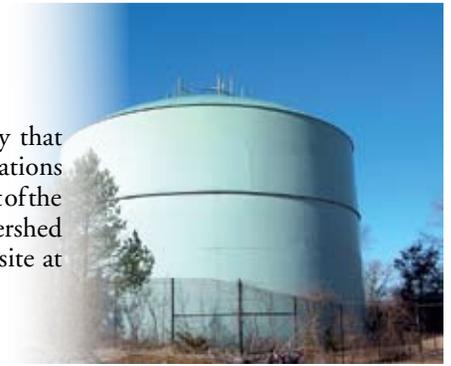
For more information about this report, or for any questions relating to your drinking water, please call Bradford C. Kargl, Municipal Utility Engineer, at (860) 739-6931.

Community Participation

You are invited to participate in our public forum and voice your concerns about your drinking water. We meet the fourth Tuesday of each month beginning at 7:00 p.m. at the East Lyme Town Hall, 108 Pennsylvania Avenue, Niantic, Connecticut.

Where Does My Water Come From?

The Town of East Lyme customers depend on a water supply that comes from seven groundwater sources. Wells are at various locations throughout the town in two separate aquifers. Our water supply is part of the Pattagansett and Bride Brook aquifers. To learn more about our watershed on the Internet, go to the U.S. EPA's Surf Your Watershed Web site at www.epa.gov/surf.



MONITORING AND REPORTING VIOLATION

Regulations of Connecticut State Agencies (RCSA) Section 19-13-B102 requires that suppliers of public water must conduct or have specific laboratory tests to monitor the water quality of their water supply to ensure that it meets with the current drinking water standards. Failure to conduct timely monitoring and/or report results of such monitoring to the State Department of Public Health Drinking Water Section constitutes a violation of the RCSA. As your public water supplier, we must formally notify customers of all monitoring violations, or face additional RCSA violations. Please share this information with all the other people who drink this water, especially those who may have not received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. Due to an administrative oversight, the

certified laboratory contracted to do our water quality testing did not complete testing for the parameter listed below:

Gross Beta Particle Activity (WSF ID: 00705; Monitoring Period: 7/1/07–9/30/07).

We have seven active water supply wells that are routinely tested. The well that was not tested for the parameter listed above was Well 4A.

Testing was completed by the next monitoring period and the results were found to meet the current drinking water standards. Steps have been taken to improve the internal tracking of scheduled testing for future monitoring periods.

At this time no precautions by our customers/residents are necessary. We returned to compliance by the next monitoring period, 10/01/2007–12/31/2007.

If you have any questions, please contact the Water Department at (860) 739-6931, Ext. 104 or Ext. 139, or the East Lyme Water and Sewer Commission by mail at PO Box 519, 108 Pennsylvania Avenue, Niantic, CT 06357.

Lead and Drinking Water

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 East Lyme Water and Sewer Commission 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 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 www.epa.gov/safewater/lead.

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows those contaminants that were detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES				Distribution		Well 1A		Well 2		Well 3			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE						
Combined Radium (pCi/L)	2007	5	0	NA	NA	1.53	NA	0.65	NA	0.46	NA	No	Erosion of natural deposits
Fluoride ¹ (ppm)	2007	4	4	NA	NA	1.04	0.70–1.04	1.03	0.72–1.03	1.22	0.90–1.22	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Gross Alpha Net (pCi/L)	2007	15	NA	NA	NA	ND	NA	ND	NA	ND	NA	No	Erosion of natural deposits
Gross Beta Particle Activity ² (pCi/L)	2007	50	NA	NA	NA	NA	NA	NA	NA	NA	NA	No	Decay of natural and man-made deposits
Nickel (ppm)	2005	0.1	NA	NA	NA	ND	NA	ND	NA	ND	NA	No	Naturally occurring
Nitrate (ppm)	2007	10	10	NA	NA	0.59	NA	0.95	NA	0.54	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Tetrachloroethylene (ppb)	2007	5	0	NA	NA	0.8	ND–0.8	ND	NA	ND	NA	No	Discharge from factories and dry cleaners
Turbidity ³ (NTU)	2007	5	NA	0.7	ND–0.7	1.1	ND–1.1	0.2	ND–0.2	0.2	ND–0.2	No	Soil runoff

REGULATED SUBSTANCES				Well 3A		Well 4A		Well 5		Well 6			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE						
Combined Radium (pCi/L)	2007	5	0	0.46	NA	ND	NA	0.92	NA	0.33	NA	No	Erosion of natural deposits
Fluoride ¹ (ppm)	2007	4	4	1.08	0.77–1.08	1.15	0.81–1.15	1.71	0.93–1.71	1.25	0.72–1.25	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Gross Alpha Net (pCi/L)	2007	15	NA	ND	NA	3.3	ND–3.3	ND	NA	ND	NA	No	Erosion of natural deposits
Gross Beta Particle Activity ² (pCi/L)	2007	50	NA	NA	NA	31.6	31.5–31.6	NA	NA	NA	NA	No	Decay of natural and man-made deposits
Nickel (ppm)	2005	0.1	NA	0.02	NA	ND	NA	ND	NA	ND	NA	No	Naturally occurring
Nitrate (ppm)	2007	10	10	0.54	NA	3.89	NA	1.44	NA	1.05	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Tetrachloroethylene (ppb)	2007	5	0	ND	NA	ND	NA	ND	NA	1.3	1.0–1.3	No	Discharge from factories and dry cleaners
Turbidity ³ (NTU)	2007	5	NA	0.4	ND–0.4	0.3	ND–0.3	1.2	ND–1.2	0.2	ND–0.2	No	Soil runoff

Tap water samples were collected from 30 sample sites throughout the community (Lead was not detected at the 90th percentile)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	ACTION LEVEL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE ACTION LEVEL	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2005	1.3	1.3	0.55	1	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

UNREGULATED SUBSTANCES ⁴										
		Distribution		Well 1A		Well 2		Well 3		
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE						
Dieldrin (ppb)	2007	NA	NA	ND	NA	0.007	ND-0.007	0.003	0.002-0.003	Runoff from agricultural activity
MTBE (methyl t-butyl ether) (ppb)	2007	NA	NA	11.7	3.1-11.7	ND	NA	ND	NA	Petroleum tanks above and below ground
Sodium (ppm)	2007	24	14-24	21	15-21	23	20-23	20	18-20	Naturally occurring; Road salt
Sulfate (ppm)	2005	NA	NA	10	NA	1	NA	9	NA	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED SUBSTANCES ⁴										
		Well 3A		Well 4A		Well 5		Well 6		
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE						
Dieldrin (ppb)	2007	0.003	0.002-0.003	0.005	0.002-0.005	ND	NA	0.002	0.002-0.002	Runoff from agricultural activity
MTBE (methyl t-butyl ether) (ppb)	2007	ND	NA	ND	NA	ND	NA	11.0	4.5-11.0	Petroleum tanks above and below ground
Sodium (ppm)	2007	20	19-20	30	18-30	11	10-11	18	17-18	Naturally occurring; Road salt
Sulfate (ppm)	2005	1	NA	11	NA	10	NA	21	NA	Runoff/leaching from natural deposits; Industrial wastes

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which 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 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 below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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

¹ The values reported under Amount Detected are the highest monthly averages for the twelve-month period.

² The MCL for beta particles is 4 mrem/yr. The U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

³ Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of water quality and the effectiveness of disinfectants.

⁴ Unregulated contaminant monitoring helps the U.S. EPA to determine where certain contaminants occur and whether the agency should consider regulating these contaminants in the future.