

CALENDAR YEAR 2022 WATER SUPPLY # 3092000

TOWN OF ESSEX WATER DEPARTMENT

44 CENTENNIAL GROVE ROAD, ESSEX, MA 01929

FOR MORE INFORMATION CONTACT DAVID FRITHSEN, CHIEF OPERATOR
PHONE (978)-768-6431

E-MAIL dfrithsen@essexma.org ONLINE: <http://www.essexma.org>

THE DEPARTMENT OF PUBLIC WORKS COMMISSIONERS MEET AT THE ESSEX WATER
FILTRATION PLANT ON THE FIRST AND THIRD MONDAYS OF EACH MONTH AT 7:00 PM

THIS REPORT IS A REQUIREMENT OF THE EPA/DEP

Sources of Drinking Water:

Sources of drinking water (both tap 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 human activity.

Contaminants in Source Water

Microbial Contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

Inorganic Contaminants, such as salts and metals can be naturally-occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining and farming.

Pesticides and Herbicides, may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic Chemical Contaminants, include synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

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

Contact EPA's Safe Drinking Water Hotline for more information about contaminants and potential health effects; and EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants: (800) 426-4791

EPA and FDA Regulations:

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Backflow/Cross Connections

If you have any questions refer to web site: <http://www.essexma.org/water-department>

The Town of Essex' water is supplied by three gravel packed wells, one on Centennial Grove Road and two on Harry Homans Drive. All of the water is treated at the Essex Water Filtration Plant at 44 Centennial Grove Road.

Essex' water supply is protected by an Overlay Protection Zone which is enforced by the Essex Board of Health.

The Town of Essex has been granted monitoring waivers for Synthetic Organic Compounds (SOC's) and Inorganic Compounds (IOC's) due to the consistent quality of the results of our sampling. No detects have been found in previous monitoring.

The Essex Water Department was not in violation of DEP/EPA requirements for this time period.

Definitions:

Maximum Contamination Level Goal (MCLG): 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.

Maximum Contamination Level (MCL): 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.

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

90th Percentile: Out of every 10 homes, 9 were below this level.

Secondary Maximum Contaminant Level (SMCL) These standards are developed to protect the aesthetic qualities of drinking water and are not health based. .

EPA: United States Environmental Protection Agency

DEP: Massachusetts Department of Environmental Protection

Health information:

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. However, 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 can be particularly at risk from infections. These people should seek advice about drinking water from their healthcare 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 (800) 426-4791

Lead and Copper

"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 Town of Essex Water Department 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 <http://www.epa.gov/safewater/lead>."

Sodium

Is a naturally occurring common element found in soil and water. It is necessary for the normal functioning of regulating fluids in the human systems. Some people, however, have difficulty regulating fluid volume as a result of several diseases, including congestive heart failure, kidney failure and hypertension. The guideline of 20mg/L for sodium represents a level in water that physicians and sodium sensitive individuals should be aware of in cases where sodium exposures are being carefully controlled. For additional information, contact your health care provider, your local board of health or the Massachusetts Department of Public Health, Bureau of Environmental Health Assessment at (617) 624-5757

For level of detected contaminants see attached Appendix A

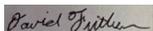
Treatment information:

The Town of Essex has been fluoridating its drinking water since the early 1950's and continues this practice following EPA/DEP/DPH guidelines. From 1985 to present, the Essex Water Department has received numerous awards from the Massachusetts Dental Society for outstanding efforts in providing Community Water Fluoridation.

In 1982, the Essex Water Filtration Plant went online to mitigate iron, manganese, taste and odor problems. These items are controlled, the water is then disinfected with chlorine, and the PH adjusted to prevent corrosion in the system. The pH adjustment has helped to control lead and copper leaching from plumbing systems.

Certification:

I David Frithsen, hereby certify and attest that the information contained in this annual Consumer Confidence Report is accurate and correct to the best of my knowledge. I further certify that I have either made this Consumer Confidence Report available for public inspection or have distributed copies to all users of the Essex Water system in accordance with 40 CFR.141-142. Any intentional deception or misinformation represented in this report may be cited as a violation of State and U.S. EPA National Primary Drinking Water Rules.

Signed David Frithsen:  Dated: 5/13/2023

APPENDIX A

	MCLG	MCL	Highest Level Detected	Date Tested	Violation	Likely Source of Contamination
Copper 90th percentile	1.3ppm	1.3ppm	1.29ppm 1.62ppm	27/07/20	No	Corrosion of household plumbing systems. Erosion of natural deposits. Leaching from wood preservatives. No site exceeded the action level.
Lead 90th percentile	0	15ppb	0.0023ppb 0.0025ppb	25/07/20	No	Corrosion of household plumbing systems. Erosion of natural deposits. No site exceeded the action level.

Tap water samples were collected from 10 sample sites throughout the community

Regulated Contaminant

Total						
Trihalomethanes [TTHM'S]	0	80ppb	33.82ppb	01/08/22	No	By-product of drinking water chlorination Site Location # 002
	0	80ppb	41.90ppb	01/08/22	No	By-product of drinking water chlorination Site Location # 140
Haloacetic Acids [HAA5'S]	0	60ppb	5.8ppb	01/08/22	No	By-product of drinking water chlorination Site Location # 002
	0	60ppb	4.3ppb	01/08/22	No	By-product of drinking water chlorination Site Location # 140
Chlorine (Total) Fluoride	4ppm	4ppm	1.54ppm	10/09/22	No	Water additive used to control microbes
Fluoride	4ppm	4ppm	.9ppm	06/09/22	No	Water additive which promotes strong teeth. Erosion of natural deposits.
						Discharge from fertilizer and aluminum factories.
Nitrate	10ppm	10ppm	0.22mg/L	04/04/22	No	Runoff from fertilizer use. Leaching from septic tanks, sewage. Erosion of natural deposits.
Radionuclide	5pCi/L	5pCi/L	0.35 pCi/L	22/07/14	No	Erosion of natural deposits.
Radium - 228						
Turbidity (NTU)	NA	TT	0.46ppm	22/02/22	No	Soil runoff
Perchlorate	NA	2.0	<0.5ppb	28/07/20	No	Rocket propellents, fireworks, munitions, flares and blasting agents
PFAS	20ppt	20ppt	2ppt	12/07/22	No	Are a group of man-made chemicals that have been manufactured and used by a variety of industries since 1940

Secondary

Sodium	NA	NA	26.3ppm	20/07/21	NA	Erosion of natural deposits and road salt.
Iron (Total)	NA	0.3ppm	0.059ppm	10/03/22	NA	Natural sources, road salt, by product of treatment process. No exceedance
*Manganese (Total)	NA	0.05ppm	0.059ppm	26/08/22	NA	Leaching from natural deposits. Yes exceedance

* EPA has established a lifetime health advisory (HA) of 300 ppb for manganese to protect against concerns of potential neurological effects, and a one-day and 10-day HA of 1000 ppb for acute exposure.

Unregulated Contaminant	No high/low range					
Chloroform	NA	NA	2.4ppb	04/04/22	NA	Sample annually - By-product of drinking water disinfection
Bromodichloromethane	NA	NA	4.4ppb	04/04/22	NA	Sample annually - By-product of drinking water disinfection
Chlorodibromomethane	NA	NA	3.5ppb	04/04/22	NA	Sample annually - By-product of drinking water disinfection
ppm= parts per million or milligrams per liter (mg/L)						Qtr Testing 100' tap at water plant:
ppb= parts per billion or micrograms per liter (ug/L)						Manganese
pCi/L= picocuries per liter (measure of radioactivity)						(Waiver) 0.035ppm 8/26/2022
TT= treatment technique - A required process intended to reduce the level of a contaminant in drinking water						
ND= no detection						
NTU= (nephelometric turbidity units) measurement of clarity, or turbidity of water						
NA= not applicable						
ppt = parts per trillion						
PFAS = per -and polyfluoroalkyl substances						