

DISTRIBUTION SYSTEM WATER QUALITY

This report summarizes only those items detected during sampling - not all contaminants that are monitored

Microbial Results	Highest % Positive in a Month	Range Detected	MCL	MCLG	Violation	Possible Source of Contamination
Total Coliform Bacteria **	0.0%	0%	>5% Monthly Samples Positive	0	No	Naturally present in the environment
E.coli (in ground water source) **	1 Positive sample	ND-1	TT	N/A	No	Human and animal fecal waste

*Compliance with the Fecal Coliform / E.coli MCL is determined upon additional repeat testing.

**Total Coliform: We were notified on 10/04/2022 of an E.coli positive sample in the raw water sample from Maher well 2 (O2-G). You may remember receiving public notice of this violation on 10/04/2022. Because of this we took Maher Well 2 (O2-G) off-line on 10/04/2022 for one day till the results of the 5 samples were known. ** On 10/04/2022 We took 5 repeat samples at Maher Well 2 (O2-G) for E.coli on 10/04/2022. We were notified by the lab on 10/05/2022 that all 5 samples were absent for E.coli. We were in contact with MASS DEP and they permitted us to put Maher Well 2 (O2-G) back on-line.

Health Effects: Fecal coliform and E. coli are bacteria whose presence indicates that the water maybe contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a health risk for infants, young children, some elderly, and people with severely compromised immune systems.

Lead & Copper	Dates Collected	90th Percentile	Action Level	MCLG	# of Sites samples	# of Sites Above Action Level	Violation	Possible Source of Contamination
Lead (ppm)	4/07/2022-4/21/2022	0	0.015	0	30	0	No	Corrosion of household plumbing systems: Erosion of natural deposits
Copper (ppm)	4/07/2022-4/21/2022	0.63	1.3	1.3	30	0	No	Corrosion of household plumbing systems: Erosion of natural deposits

TESTING FOR LEAD - 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. Hyannis Water System 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>.

SUMMARY OF FINISHED WATER CHARACTERISTICS

Regulated Contaminants	Date(s) Collected	Highest Detect Value	Range Detected	MCL	MCLG	Violation	Possible Source of Contamination
Inorganic Contaminants:							
Barium (ppm)	4/13/22	0.03	N/A	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cadmium (ppm)	4/13/22	ND	N/A	0.004	0.005	No	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Sodium** (ppm)	4/13/22	76	N/A		20		Road salting; erosion of natural deposits
Arsenic (ppm)	4/13/22	ND	ND - 0.001	0.01	0.1	No	Run off from orchards; and from glass; electronics production wastes. Erosion of natural deposits.
Fluoride(ppm)	4/13/22	0.054	N/A	4	4	No	Discharge from fertilizer and aluminum factories; erosion of natural deposits.
Selenium (ppm)	4/13/22	ND	ND - 0.002	0.05	0.05	No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits
Nitrate* (ppm)	10/19/22	4.4	ND-4.4	10	10	No	Rocket propellants; fireworks, munitions, nukes, blasting agents (see note below)*
Perchlorate*** (ppb)	8/3/22	0.25	0.091-0.25	2	-	No	
*Nitrate							
Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.							
**Sodium							
Sodium is a naturally-occurring common element found in soil and water. It is necessary for the normal functioning of regulating fluids in human systems. Some people, however, have difficulty regulating fluid volume as a result of several diseases, including congestive heart 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.							
***Perchlorate (Various Chemical Abstract Service Registry Numbers (CASRN) for different chemical species)							
Perchlorate interferes with the normal function of the thyroid gland and thus has the potential to affect growth and development, causing brain damage and other adverse effects, particularly in fetuses and infants. Pregnant women, the fetus, infants, children up to the age of 12, and people with a hypothyroid condition are particularly susceptible to perchlorate toxicity. *J values are required when the results are above the MDL(0.012) and below the MRL(0.05)							
Organic Contaminants:							
Tetrachloroethylene (PCE) (ppb)	02/23/2022-7/19/2022	0.51	ND - 0.51	5	-	No	Discharge from factories and dry cleaners
Bromodichloromethane (ppb)	7/19/22	ND	NA	NA	NA	No	By-product of drinking water chlorination
Chlorodibromomethane ppb)	7/19/22	ND	NA	NA	NA	No	By-product of drinking water chlorination
Dibromochloromethane	7/19/22	ND	NA	NA	NA	No	By-product of drinking water chlorination
Bromoform (ppb)	7/19/22	ND	NA	NA	NA	No	By-product of drinking water chlorination
Chloroform (ppb)	7/19/22	ND	ND	ORSG 70	NA	No	By-product of drinking water chlorination
Stage 2 Disinfectants and Disinfection Byproducts							
Chlorine (ppm)	4th Quarter	0.91	0.76-0.91	4	4	No	Water additive used to control microbes
THMs (Stage 2)							
[Total Trihalomethanes] (ppb)	Quarterly	8.2	ND-8.2	80	-	No	By-product of drinking water chlorination
HAAs5 (Stage 2)							
Haloacetic Acids (HAAs) (ppb)	Quarterly	1.8	ND -1.8	60	-	No	By-product of drinking water chlorination (TT)

* Note highest detected value is highest Running Annual Average (RAA) **Local Running Annual Average

*Note: THM ,HAA and Chlorine minimum and maximum levels in the ranges of results are site specific.

Secondary Contaminants	Date(s) Collected	Highest Detect Value	Range Detected	SMCL	ORSG	Possible Source of Contamination
Magnesium (ppm)	9/27/22	4.1	1.8-4.1	-	-	Natural Mineral and Organic Matter
Chloride (ppm)	9/27/22	82	ND-82	250	NA	Natural Mineral, Road Salt
Calcium (ppm)	9/27/22	13	2.1-13	-	-	Natural Mineral and Organic Matter
Copper (ppm)	9/27/22	0	ND	1	-	Naturally occurring element; corrosion of household plumbing
Iron (ppm)	9/27/22	0	ND	0.3	NA	Erosion of Natural Deposits, and oxidation of iron components
Manganese (ppm)*	9/27/22	0.04	0.01-0.04	0.05	0.3	Erosion of Natural Deposits
Potassium (ppm)	9/27/22	3.2	1.6-3.2	-	-	Natural Mineral and Organic Matter
Sulfate (ppm)	9/27/22	19	ND -19	250	250	Natural Sources
Alkalinity (ppm)	9/27/22	16	ND-16	-	-	Natural Sources
Odor (ton)	9/27/22	0	0	3	-	Naturally occurring organic materials that form ions when in water; seawater influence
Hardness (ppm)	9/27/22	49	12.6-49	-	-	Natural Sources
Total Dissolved solids (ppm)	9/27/22	320	220-320	500	-	Runoff and leaching from natural deposits; seawater influence
pH	9/27/22	7.3	7.2-7.3	6.5-8.5	-	Runoff and leaching from natural deposits; seawater influence
Turbidity (NTU)	9/27/22	ND	-	-	-	Soil runoff
Zinc (ppm)	9/27/22	0.11	0.09-0.11	5	NA	Erosion of Natural Deposits, and Industrial Discharge

*EPA has established a lifetime health advisory (HA) for manganese at 0.3ppm and an acute at 1ppm

UCMR3 EPA unregulated contaminants	Date(s) Collected	Highest Detect Value	Range Detected	Average Detected	ORSG	Possible Source of Contamination
1,4-Dioxane (ppb)	Quarterly(2022)	0.23	ND - 0.23	0.060	0.3 ppb	Solvent or stabilizer used in processing of paper, cosmetics, shampoos, coolant

Third Unregulated Contaminant Monitoring Rule (UCMR3)
IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER - Availability of Monitoring Data for Unregulated Contaminants for Hyannis Water System
As required by US Environmental Protection Agency (EPA), our water system has sampled for a series of unregulated contaminants. Unregulated contaminants are those that don't yet have a drinking water standard set by EPA. The purpose of monitoring for these contaminants is to help EPA decide whether the contaminants should have a public health protection standard. As our customers, you have a right to know that these data are available. If you are interested in examining the results, please contact Hans Keijser at (508) 775-0063 or 47 Old Yarmouth Road Hyannis, MA 02601. This notice is being sent to you by the Hyannis Water System. State Water System ID#: 4020004.

For more information visit the AWWA FAQ UCMR 3 link: <http://www.drinktap.org/home/water-information/water-quality/ucmr3.aspx>

CCR Regulated Chart for PFAS detects in 2022

Regulated Contaminant	Date(s) Collected	Range Detected ppt	Average Detected ppt	MCL ppt	Possible Source of Contamination	Health Effects
PFOS, PFOA, PFNA, PFHxS, PFHpA,PFDA	Quarterly	ND	0.23 *	20	Man-made chemicals. Used as surfactants to make products stain or water resistant, in fire-fighting foam, for industrial purposes, and as a pesticide. Used in fluoropolymers (such as teflon) cosmetics, greases and lubricants, paints, adhesives and photographic films. PFOS U.S. manufacturing phased out in 2002; PFOS may still be generated incidentally or in imported products.	Long-term exposure to PFOS and PFOA in drinking water may affect the liver, cholesterol and thyroid hormone levels. Some studies indicate that exposure to elevated levels of PFOS and PFOA could cause immunological effects, developmental effects and some types of cancer in laboratory animals. Scientists are working to better understand the degree of risk to people. Based on studies of laboratory animals and chemical similarity to PFOS and PFOA depending on the level and length of exposure, PFNA, PFHxS, PFHpA and PFDA in drinking water may affect the liver, cholesterol levels, thyroid and immune system and may cause developmental effects.
PerfluoroHexanoic (PFHxA)	Quarterly	ND-4.38	0.96	**	Man-made chemical; used in products to make them stain, grease, heat and water resistant.	Based on studies of laboratory animals, people exposed to elevated levels of PFHxA for several years could experience effects on the liver. It is less toxic and is cleared from the body much faster than PFOS, PFOA and other longer-chain PFAS.

On October 2, 2020, the Massachusetts Department of Environmental Protection (MassDEP) published final regulations establishing a drinking water standard, or a Maximum Contaminant Level (MCL), for the sum of six per- and polyfluoroalkyl substances (PFAS). The MCL is 20 parts per trillion (ppt) for what the regulations call PFAS6, or the sum of six PFAS compounds: perfluorooctanesulfonic acid (PFOS), perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFHxS), perfluorononanoic acid (PFNA), perfluorooctanoic acid (PFHpA), and perfluorodecanoic acid (PFDA). PFAS are a family of chemicals widely used since the 1950s to manufacture common consumer products. They have been linked to a variety of health risks, particularly in women who are pregnant or nursing, and in infants. In using the