ANNUAL
NEWMARKET
WATER QUALITY
REPORT
2021

Department of Environmental Services
Water Division
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PWS ID# 1731010

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.

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.

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.

SDWR: Secondary Drinking Water Regulations. Non-enforceable Federal guidelines regarding cosmetic effects

Taste Threshold: Concentration at which the majority of consumers do not notice an adverse taste.

Abbreviations:

ppm: parts per million **MFL**: million fibers per liter **pCi/L**: pico curies per liter

ppb: parts per billion **N/A**: Not Applicable

ppt: parts per trillion **ND**: not detectable at testing limits

ppq: parts per quadrillion **NTU**: Nephelometric Turbidity Unit

Radon is a radioactive gas that you can't see, taste, or smell, and is found all over the United States. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activates. Compared to radon entering the home through soil, radon entering the homes through tap water will, in most cases, be a small source of radon in indoor air. Radon is a known carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in the home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air or higher. There are simple ways to fix a radon problem that aren't costly. For additional information, call your State Radon Program or call the **EPA's Radon Hotline (1-800-SOS-RADON)**

Detected Water Quality Results

Contaminant **(Units)**	Level Detected*	**MCL**	**MCLG**	**Violation YES/NO**	Likely Source of **Contamination**	**Health Effects of Contaminant**
Microbiological Contaminants						
E. coli Bacteria	*Identify total # of positive samples.*	0	0	NO	Human and animal fecal waste	*E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems.

Contaminant (Units)	Level Detected	MCL	MCLG	Violation YES/NO	Likely Source of Contamination	Health Effects of Contaminant
Total Organic Carbon (ppm)	Range ND - .55	TT	N/A	NO	Naturally present in the environment	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.
Radioactive Contaminants						
Compliance Gross Alpha (pCi/L)	ND	15	0	NO	Erosion of natural deposits	Certain minerals are radioactive and may emit a form of radiation know as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Uranium (ug/L)	1	30	0	NO	Erosion of natural deposits	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.
Combined Radium 226 + 228 (pCi/L)	.3 - .7 Range .4 - .8 Range	5	0	NO	Erosion of natural deposits	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
Inorganic Contaminants						
Arsenic (ppb)	Range 1 - 1.5	10	0	NO	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes	(5 ppb through 10 ppb) 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. (above 10 ppm) Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

Inorganic Contaminants

Barium (ppm)	Range .0098 - .0196	2	2		Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Chlorine (ppm)	.24	MRDL = 4	MRDLG = 4		Water additive used to control microbes	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
Nitrite (as Nitrogen) (ppm)	Range 1.2 - 2.9	1	1		Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill, and if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.

Volatile Organic Contaminants

Haloacetic Acids (HAA) (ppb)	Range ND	60	NA		By-product of drinking water disinfection	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Total Trihalomethanes (TTHM) (Bromodichloromethane Bromoform Dibromochloromethane Chloroform) (ppb)	Range 3.1 - 5 0.6 - 1. Range 1.1 - 1.7 Range 1.2 - 2. Range ND	80	N/A		By-product of drinking water chlorination	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

SECONDARY CONTAMINANTS

Secondary MCLs (SMCL)	Level Detected	Date	Treatment technique (if any)	SMCL	Specific contaminant criteria and reason for monitoring
Chloride (ppm)	58 - 100	11/8/21	N/A	250	Wastewater, road salt, water softeners, corrosion
Iron (ppm)	.307	11/8/21	N/A	0.3	Geological
Manganese (ppm)	ND	11/8/21	N/A	0.05	Geological
pH	7.81 - 8.14	11/8/21	N/A	6.5-8.5	Precipitation and geology
Sodium (ppm)	27.8 - 60.6	11/8/21	N/A	250	We are required to regularly sample for sodium
Sulfate (ppm)	9.2 - 10	11/8/21	N/A	250	Naturally occurring
Zinc (ppm)	.04	11/8/21	N/A	5	Galvanized pipes

Per- and Poly-fluoroalkyl substances

Per- and Polyfluoroalkyl Substances (PFAS) are a group of synthetic chemicals that have been used for decades to manufacture household and commercial products that resist heat, oil, stains, grease, and water. PFAS have been used in many consumer products, including non-stick cookware, stain-resistant furniture and carpets, waterproof clothing, microwave popcorn bags, fast food wrappers, pizza boxes, shampoo and dental floss. They have also been used in certain firefighting foams and various industrial processes. Because of their widespread use, many PFAS, including perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), perfluorohexane sulfonic acid (PFHxS), and perfluorononanoic acid (PFNA), have been found in our environment.

Contaminant (Units)	**Level Detected**	**MCL**	**MCLG**	**Violation YES/NO**	**Likely Source of Contamination**	**Health Effects of Contaminant**
Perfluorohexane sulfonic acid (PFHxS) (ppt)	ND	18	0	NO	Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/ leachate from landfills and septic systems	Some people who drink water containing perfluorohexane sulfonic acid (PFHxS) in excess of the MCL over many years could experience problems with their liver, endocrine system, or immune system, or may experience increased cholesterol levels. It may also lower a women's chance of getting pregnant.
Perfluorononanoic acid (PFNA) (ppt)	ND	11	0	*NO*	Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/ leachate from landfills and septic systems	Some people who drink water containing perfluorononanoic acid (PFNA) in excess of the MCL over many years could experience problems with their liver, endocrine system, or immune system, or may experience increased cholesterol levels.
Perfluorooctane sulfonic acid (PFOS) (ppt)	ND	15	0	NO	Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/ leachate from landfills and septic systems	Some people who drink water containing perfluorooctane sulfonic acid (PFOS) in excess of the MCL over many years could experience problems with their liver, endocrine system, or immune system, may experience increased cholesterol levels, and may have an increased risk of getting certain types of cancer. It may also lower a women's chance of getting pregnant.
Perfluorooctanoic acid (PFOA) (ppt)	ND	12	0	NO	Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/ leachate from landfills and septic systems	Some people who drink water containing perfluorooctanoic acid (PFOA) in excess of the MCL over many years could experience problems with their liver, endocrine system, or immune system, may experience increased cholesterol levels, and may have an increased risk of getting certain types of cancer. It may also lower a women's chance of getting pregnant.

Lead and Copper

Contaminant (Units)	Action Level	90th percentile sample value *	Date	# of sites above AL	Violation Yes/No	Likely Source of Contamination	Health Effects of Contaminant
Copper (ppm)	1.3	.066	9/8/21	0	No	Corrosion of household plumbing systems; erosion of natural deposits; 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.
Lead (ppb)	15	.001	9/8/21	0	No	Corrosion of household plumbing systems, erosion of natural deposits	(15 ppb in more than 5%) Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791). (above 15 ppb) 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.

Polyphosphates. What you need to know

The Water Department began adding polyphosphate to the water beginning October 3, 2016. The following information is provided to you as is relates to the use of polyphosphates in drinking water.

What are phosphates?

Phosphates are water treatment chemicals used to solve specific water quality problems resulting from inorganic contaminants (iron, manganese, calcium, etc.) in ground water supplies and also to maintain water quality (inhibit corrosion, scale, biofilm, reduce lead and copper levels) in the distribution system. Orthophosphate and polyphosphate are two general types used in water treatment along with many different phosphate compounds that exist for use in the water treatment process. Ortho and polyphosphates work together, stabilizing water quality and minimizing color, scale, deposits, corrosion, and chlorine demand in drinking water systems.

What are the problems that phosphates help to solve?

Phosphates are used in municipal water systems to perform three broad functions: inhibit corrosion of water mains/plumbing (iron, steel, galvanized, asbestos/cement, lead, copper), sequester nuisance metals in the water supply (iron, manganese, calcium, magnesium). They can also improve the quality of water in the distribution system by removing scale deposits & tuberculation, discourage microbial film formation/regrowth, and stabilizing free chlorine disinfectant residuals.

Are phosphates safe and approved for water systems?

Various forms and purity grades of phosphates exist. Most dry powders and liquid concentrates are safe to handle and store, except for the standard precautions required for orthophosphate acids and zinc orthophosphate solutions. All phosphate additives are either food quality grade or certified to ANSI/NSF Standard #60 Drinking Water Treatment Chemicals as approved for use in potable drinking water.

Where does my water come from?

Newmarket has three ground water wells. The ground water source consist of two sand gravel wells And one Bedrock Well. Sewall Well and Bennett Well are situated on the Newmarket Plains Aquifer off of RTE 152 And the Macintosh Well is located Off of Ash swamp Road. Macintosh Well is was being blended with the Bennett and Sewall wells in the blending facility on Durrell Drive. Macintosh Well has not been in use as of 6/29/20. The blending facility on Durrell Drive is upgrading to a treatment facility and will be back online by the end of 2021.

Macintosh Well

The Town of Newmarket introduced the Macintosh Well to the distribution system in October of 2016. The Macintosh Well is a bedrock production well, with a production rate of 432,000 gallons per day, or 300 gallons per minute over a 24-hour period. The well is located approximately 1.5 miles southwest of Newmarket's center near Ash swamp Rd. The purpose of the well is to: 1) provide additional water supply capacity to meet average and maximum day demand, 2) provide source diversity and redundancy for the system, and 3) accommodate potential increases in water demand based on historic water use trends and projected future growth in areas served by the system. The water from the Macintosh Well is pumped to the blending facility were it is blended with the existing distribution water from the Bennett and Sewall wells to meet safe drinking water standards.

Source Water Assessment Summary

The NH department of Environmental services has prepared a Source Water Assessment Report for the sources

serving this community water system, assessing the sources' vulnerability to contamination. The results of the Assessment, prepared on Dates , are as follows:

002 Follett's Brook Raw/S 10/25/2001, received (0) high susceptibility ratings, (3) medium susceptibility ratings, and (8) low susceptibility ratings.

003 Lamprey River Raw/S 10/25/2001, received (2) high susceptibility ratings, (6) medium susceptibility ratings, and (3) low susceptibility ratings.

004 Piscassic River Raw/S 10/25/2001, received (2) high susceptibility ratings, (6) medium susceptibility ratings, and (3) low susceptibility ratings

006 Bennett Well/ G 6/9/2000, received (4) high susceptibility ratings, (3) medium susceptibility ratings, and (5) low susceptibility ratings.

007 Sewall Well/ G 2/25/2000, received (4) high susceptibility ratings, (2) medium susceptibility ratings, and (6) low susceptibility ratings.

The complete Assessment Report is available for review at the Water Treatment Plant. For more information call Sean Greig (603) 659-8810 or visit NH department of Environmental Services Drinking Water & Groundwater Bureau web site at http://des.nh.gov/organization/divisions/water/dwgb/dwspp/dwsap.htm

Why are contaminants in my water?

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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Do I need to take special precautions?

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/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 at 1-800-426-4791.

How can you improve the taste and odor in your water?

(1)) Try flushing out your hot water tank of any sedimentation that might have built up in the bottom of your hot water tank.

(2) Fill a container of cold water and place it in your refrigerator, this should help dissipate the chlorine and odor problem.

(3) If you choose to add filters to your faucets, it is important that you change them on a regular basis. **You could grow bacteria in your filter if not changed regularly**

How can I get involved?

For more information about your drinking water, please call *Newmarket Water Works at (603) 659 – 8810* . Although we do not have specific dates for public participation events or meetings, feel free to contact us with any questions you may have.

TOWN OF NEWMARKET
WATER MANAGEMENT PROGRAM

STAGE 1

Voluntary Water Conservation

The public is requested to refrain voluntarily from watering lawns and encouraged to conserve water in all practical ways.

STAGE 2

Mandatory Odd/Even Outside Watering

The public is required to restrict lawn watering to every other day based on address and calendar day.

EXAMPLE

Even address Even calendar day

Odd address Odd calendar day

STAGE 3

Mandatory Two-Day Restrictions on Lawn Watering by Address.

Each address is restricted to two (2) days per week between the hours of

5-8 am and 6-9 pm on the following schedule.

Allowed Days	Street Address
Mon., Wed.	Odd Number
Tues., Thurs.	Even Number

No washing driveways, sidewalks, autos., or boats.

STAGE 4

Mandatory Outside Water Ban.

The public is required to restrict the following.

NO OUTSIDE WATER USE

Water Conservation Ordinance

No. 2002-05 at Town Office

NOTICE

Hand held hoses may be used for flower and vegetable gardens plus shrubbery without hour and day restrictions. **(STAGE 2 and 3 ONLY)**

For additional information on water saving ideas check these web sites.

www.awwa.org

www.epa.gov

www.des.state.nh.org

How will you know what Stage is in affect?

Stage in effect will be posted at locations entering town, Channel 13, and the Town web site https://www.newmarketnh.gov/

THANK YOU FOR YOUR COOPERATION

Why Do We Need Stages?

To ensure adequate pressure and fire protection, storage tank must be 3/4 full. If this amount cannot be replenished during non-watering times, more restrictive measures will go into effect.

WATER SAVING TIPS

1. Check your toilet.
2. Install water-saver shower heads or restrictors.
3. Check faucets and pipes for leaks.
4. Use your dishwasher only when full.
5. Use washing machine with full loads only.
6. Keep a bottle of drinking water in the refrigerator.
7. Water your lawn only when it needs it.
8. Water during cool parts of the day.
9. Don't wash down driveways or gutters.
10. Plant drought– resistant trees and plants.
11. Use mulch around trees and plants.
12. Cover swimming pools to reduce evaporation

Town of Newmarket

Department of Environmental Services

8 Young Lane

Newmarket, NH 03857

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U.S. POSTAGE