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2016 Water Quality Report - 1701 Water & Sewer Department

Town of Exeter

RETURN ADDRESS:

Town of Exeter-DPW
13 Newfields Road
Exeter, NH 03833

2017

Consumer Confidence Report

For the 2016 year Data

Exeter Water Department

NH PWS ID# 0801010

What is a Consumer Confidence Report?

The Consumer Confidence Report (CCR) details the quality of your drinking water, where it comes from, and where you can get more information. This annual report documents all detected primary and secondary drinking water parameters, and compares them to their respective standards known as Maximum Contaminant Levels (MCLs).

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 can pick up substances resulting from the presence of animals or from human activity.

Contaminants 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, and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water 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 can also come from gas stations, urban storm water runoff, and septic systems.

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

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

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How can I get involved?

You are invited to voice your concerns at any of the Water / Sewer Advisory Committee Meetings, usually held on the second Wednesday of every other month at 6:30 pm in the Nowak Room at 10 Front Street, or check the Town's web page or Channel 22 for announcements.

For more information about your drinking water, please call the Primary Operator, Paul A. Roy, PE at 772 - 1346.

Violations and Other information:

The Violation for Total Trihalomethane (TTHM) level exceedence carried over from all 4 Quarters of 2016 into 2017. Several attempts, at reducing the contaminant, were unsuccessful. A Consultant has been hired to assist in making Surface Water Treatment Process evaluations and possible changes to the system. A report has been sent to the NHDES/DWGB and Bid Documents are being prepared for system improvements.

Definitions

Ambient Groundwater Quality Standard or AGQS: The maximum concentration levels for contaminants in groundwater that are established under RSA 485-C, the Groundwater Protection Act.

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

Level I Assessment: A study of the water system to identify potential problems and determine, if possible, why total coliform bacteria have been found in our water system.

Level II Assessment: A very detailed study of the water system to identify potential problems and determine, if possible, why an E.coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

Maximum Contaminant Level or 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.

Maximum Contaminant Level Goal or 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 Residual Disinfectant Level or MRDL: 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.

Maximum Residual Disinfectant Level Goal or MRDLG: 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.

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

<http://des.nh.gov/organization/divisions/water/dwgb/dwsp/dwsp.htm>

The complete Assessment Report is available for review at the Public Works Office at 13 Newfields Road. For more information, call Michael Jeffers, Water / Sewer Managing Engineer at 772 - 6157 or visit the DES Drinking Water Source Assessment website at

Note: This information is over five years old and includes information that was current at the time the report was completed. Therefore, some of the ratings might be different if updated to reflect current information. At the present time, DES has no plans to update this data.

- The Skinner Springs, two susceptibility factors were rated high, three were rated medium, and seven were rated low.
- The Lary Lane Well, two susceptibility factors were rated high, three were rated medium, and seven were rated low.
- The Exeter River, three susceptibility factors were rated high, five were rated medium, and four were rated low.
- The Dearborn Reservoir (Water Works Pond), three susceptibility factors were rated high, three were rated medium, and seven were rated low.

Source Water Assessment Summary

DES prepared drinking water source assessment reports for all public water systems between 2000 and 2003 in an effort to assess the vulnerability of each of the state's public water supply sources. Included in the report is a map of each source water protection area, a list of potential and known contamination sources, and a summary of available protection options. The results of the assessment, prepared on October 28, 2002 and updated on August 8, 2006, are noted below.

• The Exeter River, three susceptibility factors were rated high, five were rated medium, and four were rated low.
• The Dearborn Reservoir (Water Works Pond), three susceptibility factors were rated high, three were rated medium, and seven were rated low.
• The Skinner Springs, two susceptibility factors were rated high, three were rated medium, and seven were rated low.
• The Lary Lane Well, two susceptibility factors were rated high, three were rated medium, and seven were rated low.

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.

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.

What is the source of my drinking water? *The sources of drinking water for the Town of Exeter are the Exeter River and Dearborn Reservoir (both surface water supplies and treated at the Water Treatment Facility on Portsmouth Avenue), Skinner Springs (added to Clarified Water at the Treatment Plant and filtered), and the Lary Lane Well (a ground water source), and the new Ground Water Treatment Plant (GWTP).*

The water is treated for color, turbidity, iron, manganese, corrosivity, and is disinfected with Chlorine.

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.

Abbreviations

BDL: Below Detection Limit
mg/L: milligrams per Liter
NA: Not Applicable
ND: Not Detectable at testing limits
NTU: Nephelometric Turbidity Unit
pCi/L: picocurie per liter
ppb: parts per billion
ppm: parts per million
RAA: Running Annual Average
TTHM: Total Trihalomethanes
UCMR: Unregulated Contaminant Monitoring Rule
ug/L: micrograms per liter

Drinking Water Contaminants:

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. This water system is responsible for high quality drinking water but can not control the variety of materials used in your plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing cold water from your tap for at least 30 seconds before using water for drinking or cooking. Do not use hot water for drinking and 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://water.epa.gov/drink/info/lead/index.cfm>

Radon: Radon is a radioactive gas that you can't see, taste or smell. It can move up through the ground and into a home through cracks and holes in the foundation. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. It is a known human carcinogen. Breathing radon can lead to lung cancer. Drinking water containing radon may cause an increased risk of stomach cancer.

ADDITIONAL TESTING

Additional Tests & Secondary MCLs (SMCL)	Results	Date	Treatment technique (if any)	Specific contaminant criteria and reason for monitoring
UCMR	<i>Average & range</i>			<i>Explain federal monitoring requirement</i>
Giardia	0.18 to 0 cysts/L	Nov. & Dec 2016		Detected in Raw Surface Water – None detected in Finished Waters
Cryptosporidium	0.09 to 0 cysts/L	Oct 2016		Detected in Raw Surface Water – None detected in Finished Waters
Sodium (ppm)	20	Q1 2016		We are required to regularly sample for sodium

If a drinking water public notice, MCL, Monitoring/Reporting, or treatment technique violation has occurred, the following table should be used to explain the violation and health effects:

VIOLATIONS

VIOLATIONS	Date of violation	Explain violation	Length of violation	Action taken to resolve	Health Effects (Env-Dw 804-810)
MCL	Q1,Q2,Q3,Q4	TTHM exceedance	4 Quarters	Hired Consultants	See Inorganic Contaminants Health Effects explanations for TTHM's

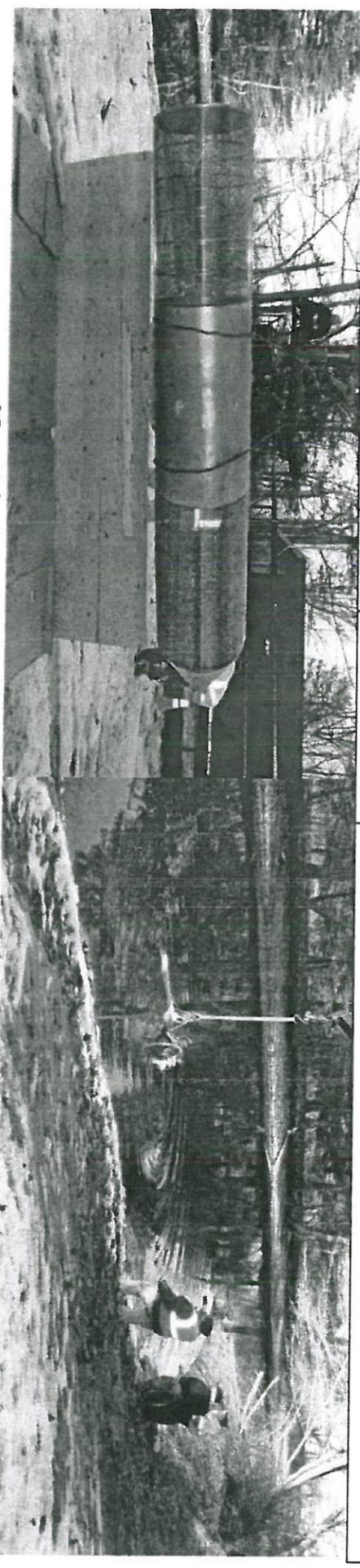
LEAD AND COPPER

Contaminant (Units)	Ac-tion Level	90 th percentile sample value *	Date	# of sites above AL	Violation Yes/No	Likely Source of Contamination	Health Effects of Contaminant
Copper (ppm)	1.3	0.25 / 0.23	2016	1 of 130	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	2	2016	4 of 130	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.

DETECTED WATER QUALITY RESULTS

Contaminant (Units)	Level Detected*	MCL	MCLG	Violation YES/NO	Likely Source of Contamination	Health Effects of Contaminant
Microbiological Contaminants						
Total Organic Carbon (ppm)	1.4 to 3.4	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.
Turbidity (NTU)	<i>highest avg. monthly value 0.062 highest monthly value 0.286 100% annual limit</i>	TT	N/A	NO	Soil runoff	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
Radioactive Contaminants						
Compliance Gross Alpha (pCi/L)	0.0 to 3.4	15	0	NO	Erosion of natural deposits	Certain minerals are radioactive and may emit a form of radiation known 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)	0.2 to 0.3	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)	0.6 to 1.6	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)	3 to 4	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.
Asbestos (MFL)	None Detected (2013)	7	7	NO	Decay of asbestos; cement water mains; erosion of natural deposits	Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.
Barium (ppm)	0.012	2	2	NO	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)		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.
Fluoride (ppm)	0.11 to 0.13	4	4	NO	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.
cis-1,2-Dichloro-Ethylene (ppb)	0.8 to 0.6	70	70	NO	Discharge from industrial chemical factories	Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
Haloacetic Acids (HAA)(ppb)	20.7 to 76.3	60	NA	NO	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 (TTIM)(ppb)	46.6 to 128.9	80	YES	YES	N/A	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.



New Inlet Screen being installed at the River Station...