New Castle Water System

WATER TESTING PERFORMED IN 2018

PWSID 1661010

INTRODUCTION

On behalf of the Town of New Castle, the Water Division of the City of Portsmouth is pleased to present the 2019 Annual Water Quality Report. This report summarizes the results of drinking water testing performed from 01/01/2018 to 12/31/2018 and is provided to keep you informed about the quality of the water you rely on every day. This report pertains to customers that receive water from the New Castle water system (USEPA PWSID# 1661010), which is served by the Portsmouth water system (USEPA PWSID# 1951010), separate from the Pease system that serves the Pease Tradeport and a portion of Newington. An extensive amount of information is provided in this report. Please contact us if you would like help understanding the information provided or have suggestions for future reports.

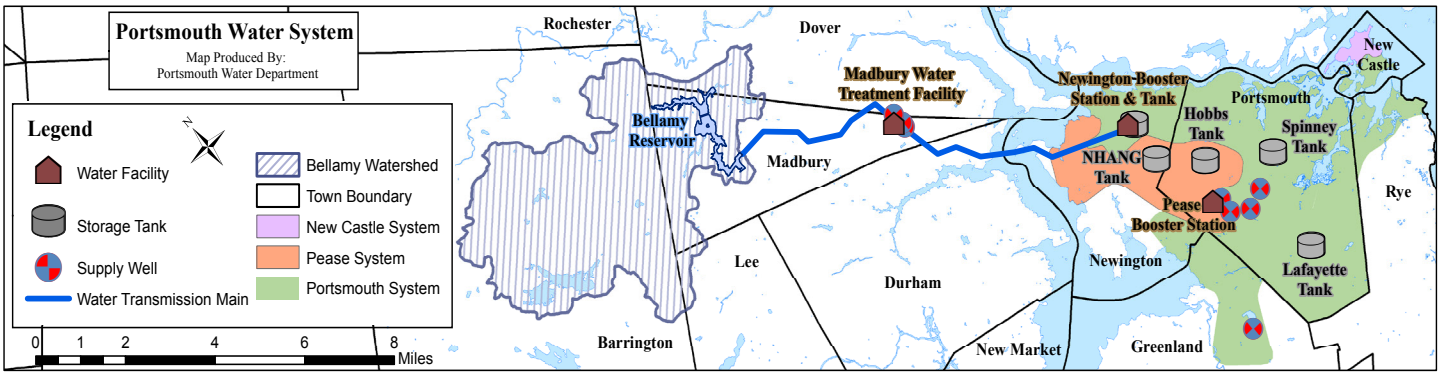
Our mission is to provide the community with drinking water that meets all current federal and State drinking water standards. The Portsmouth Water Division is constantly monitoring and routinely testing the drinking water according to these requirements to ensure the quality of water delivered to our customers consistently meets these water quality standards. Potential contaminants and impacts from changing weather cause new challenges. We remain vigilant in meeting the goals of water treatment, source water protection, water efficiency, system improvements, fire service capability and community education, while continuing to serve the needs of all our water users.

Water is supplied to the New Castle water system from the Portsmouth water system. It comes from a combination of surface water and groundwater sources. The surface water supply is the Bellamy Reservoir, which is located in Madbury and Dover. Water flows from the reservoir to the Water Treatment Facility (WTF) in Madbury, where it is treated using a coagulation, dissolved air floatation and dual media filtration process. The treated water is chlorinated with sodium hypochlorite prior to distribution into the system. Sodium hydroxide (used to adjust the final pH and alkalinity), fluoride as hydrofluorosilicic acid (used to prevent tooth decay) and poly/ortho-phosphate (a sequestering chemical to reduce precipitation of iron and manganese, and inhibit corrosion is used to protect distribution system pipes) are also added before distribution to our regionally served water customers.

BELLAMY RESERVOIR IN THE AUTUMN

There are currently three groundwater wells in Madbury (Madbury Wells #2, #3 and #4) that are pumped with the treated surface water through a transmission main to the Booster Pumping Station in Newington. Water is pumped from the Newington Booster Pumping Station to customers through the Portsmouth distribution system into New Castle. On occasion, New Castle may also receive water from three groundwater wells, two of which, Portsmouth Well #1 and Collins Well, are located off Route 33 (Greenland Road). The third well, the Greenland Well, is located off Post Road in Greenland.

The City also manages the Pease Tradeport drinking water system, which is independent from the Portsmouth water system. Detailed information about the Pease water system can be found in a separate annual water quality report on the City's website.



SOURCE WATER

The Portsmouth Water Division routinely updates inventories of potential contaminant threats and is actively pursuing opportunities to increase the protection of our groundwater supplies and the Bellamy Reservoir through property and easement acquisitions.

New Hampshire Department of Environmental Services (NHDES) 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 in 2002, are provided in a table at the bottom of page 6. Risk factors, such as proximity of highways and proximity of known contamination, are ranked and summarized in the summary of susceptibility ratings section in terms of the number of factors per risk category. The complete Assessment Report is available for review at the DPW office and online: www.des.nh.gov/organization/divisions/water/dwgb/dwspp/dwsap.htm.

Sustainability through the Capital Improvement Plan (CIP)

Many capital improvement projects that will increase the resiliency and quality of the water system are currently underway or have been recently completed. These include the following: upgrades to the Booster Pumping Station in Newington that we rely on to transfer water from the WTF in Madbury into the City, a new groundwater well and well improvements in Madbury to allow for better aquifer management, a backwash tank at the WTF for operational improvements and replacement of aging water mains at various locations throughout the City.

Water supply projects that have been completed in recent years to improve the water delivered to the New Castle water system include new water lines on Little Harbor Road in Portsmouth and under the bay to Campbell's Island in New Castle, the upgrade of a portion of the Peirce Island water main that serves the northern portion of New Castle and the lining of a water line near Wild Rose Lane. Additionally, water system staff periodically perform leak detection in New Castle to identify and fix hard-to-locate leaks.

Contaminants that may be present in source water

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may contain small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects are available by calling the EPA's Safe Drinking Water Hotline at 800-426-4791.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over land or through the ground, it dissolves naturally occurring minerals, and in some cases, radioactive material. It can pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water are listed below.

- Microbial Contaminants, such as viruses and bacteria, which may come from wastewater 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.

SELT views
NEWS FROM THE SOUTHEAST LAND TRUST OF NH

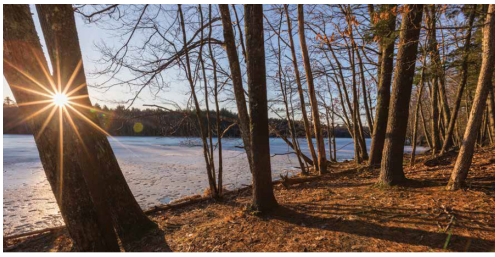


Photo by Jerry Monkman, Ecophotography

The City of Portsmouth's Water Division is pleased to announce the acquisition of a conservation easement on 72 acres of property adjacent to the Bellamy Reservoir in Madbury, New Hampshire. This easement was realized through the combined efforts of the City, the Southeast Land Trust (SELT), the Town of Madbury and the State of New Hampshire's Drinking Water and Groundwater Trust Fund.

WATER QUALITY MONITORING

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons (e.g., 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 especially at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/Centers for Disease Control and Prevention (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 800-426-4791 or www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-hotline.

Fluoridation

Your public water supply is fluoridated. According to the CDC, if your child under the age of six months is exclusively consuming infant formula reconstituted with fluoridated water, there may be an increased chance of dental fluorosis. Consult your child's health care provider for more information. Dental fluorosis, in moderate or severe forms, may result in brown staining and/or pitting of the permanent teeth before they erupt from the gums. Concerns for dental fluorosis arise when fluoride levels are greater than 2 mg/L.

Lead and Copper

The Portsmouth Water Division takes the responsibility of protecting your health very seriously. We want you to make informed decisions about your drinking water. Lead is not present in the water when it leaves our treatment and well facilities, or in the water mains that run below the streets. However, lead can be present in old service line connections that tie homes to the water system or plumbing inside homes and businesses. Due to the age of many homes in Portsmouth and surrounding towns, and the associated potential for leaded plumbing components, we encourage customers to have their water tested by a certified laboratory, especially if there are children under six or pregnant women in the household. We actively adjust the water chemistry at the treatment facility and well facilities according to our Corrosion Control Program, to reduce the potential for lead in households to dissolve into the water and end up at the tap. But if lead is present in your plumbing system, and is in contact with water, some risk remains. Information about our Corrosion Control Program can be found online: cityofportsmouth.com/publicworks/water.

Lead was a common material used in plumbing until the 1980s. It is a powerful toxin that is harmful to human health. Pregnant women, infants and young children are especially vulnerable because even low levels of lead in the blood of children can result in behavior and learning problems, lower IQ and hyperactivity, slowed growth, hearing problems and anemia. Adults who drink water with lead concentrations over 15 parts per billion (ppb) over many years could develop kidney problems or high blood pressure.

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are 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 two 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 at 800-426-4791. Additional information is available from NHDES at 603-271-2516 or www.des.nh.gov/organization/divisions/water/dwgb/lead-copper.

The Town of New Castle samples for lead and copper from 10 homes every year. The most recent sampling event, which occurred in 2018, resulted in all of the samples having less than the EPA Action Level (AL) of 15 ppb for lead and 1.3 ppm for copper. Only one of the ten samples had a lead level that was above the laboratory method detection limit. The next sample event is scheduled for the fall of 2019.

WATER QUALITY MONITORING

Per- and Polyfluoroalkyl Substances (PFAS)

Per- and polyfluoroalkyl substances (PFAS) are currently unregulated by the Safe Drinking Water Act. However, the EPA Health Advisory concentration and the NH Ambient Groundwater Quality Standard is 70 parts per trillion (ppt) for perfluorooctane-sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA). In response to the discovery of PFOS in the Haven Well in May 2014 at levels that exceeded the EPA Provisional Health Advisory (200 ppt at that time), the Haven Well was removed from service. This well has remained disconnected from the Pease Tradeport water system since this finding. The source of the PFAS at the Tradeport was aqueous film-forming foam that had been used to extinguish fires and in training exercises at the former Air Force Base.

Over the past five years, the Portsmouth Well #1 and Collins Well in the Portsmouth water system have been routinely monitored for per- and polyfluoroalkyl substances (PFAS) by the Air Force. The City of Portsmouth samples all of the other Portsmouth water supply sources at least twice per year. Sample results from 2018 are summarized in the PFAS table below. All monitoring data is available online: cityofportsmouth.com/publicworks/water.

For more information about PFAS health effects, go to www.atsdr.cdc.gov/sites/pease/index.html.

PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

PER- AND POLYFLUOROALKYL SUBSTANCE (concentrations* reported in ng/L or ppt)		PORTSMOUTH WELL #1	COLLINS WELL	GREENLAND WELL	MADBURY WELL #2	MADBURY WELL #3	MADBURY WELL #4	BELLAMY RESERVOIR	WATER TREATMENT PLANT
# of samples in 2018		12	12	3	3	2	2	3	3
% of water supplied in 2018		8.8%	4.7%	10.8%	4.9%	4.6%	4.6%	61.6%	
Perfluorobutane-sulfonic acid (PFBS)	Average	BD	19	ND	ND	ND	ND	ND	ND
	Range	ND - 8	11 - 25	ND	ND	ND	ND	ND	ND
Perfluorobutanoic acid (PFBA)	Average	BD	BD	ND	ND	ND	ND	ND	ND
	Range	ND - 7	ND - 9	ND	ND	ND	ND	ND	ND
Perfluorohexane-sulfonic acid (PFHxS)	Average	BD	ND	ND	ND	ND	ND	ND	ND
	Range	ND - 9	ND	ND	ND	ND	ND	ND	ND
Perfluorohexanoic acid (PFHxA)	Average	4	BD	5	ND	ND	ND	ND	ND
	Range	ND - 8	ND - 6	ND - 9	ND	ND	ND	ND	ND
**Perfluorooctane-sulfonic acid (PFOS)	Average	BD	BD	BD	ND	ND	ND	ND	ND
	Range	ND - 10	ND - 10	ND - 9	ND	ND	ND	ND	ND
**Perfluorooctanoic acid (PFOA)[1]	Average	5	4	4	4	ND	ND	4	ND
	Range	ND - 9	ND - 9	ND - 9	ND - 9	ND	ND	ND - 9	ND
Perfluoropentanoic acid (PFPeA)	Average	BD	ND	ND	ND	ND	ND	ND	ND
	Range	ND - 9	ND	ND	ND	ND	ND	ND	ND
** PFOS + PFOA	Average	<9	<9	<9	<9	ND	ND	ND	ND
	Range	ND - 18	ND - 18	ND - 18	ND	ND	ND	ND	ND

Note 1 - PFOA was measured in Madbury Well 2, Bellamy Reservoir, and Greenland Well samples during the October 2018 sample round. This is the only event that PFOA has been detected at these locations and no PFOA was detected in follow up samples, so these unusual results may not be accurate.

TABLE ABBREVIATIONS AND NOTES:

*Due to laboratory analytical method limitations, low concentrations reported for these chemicals are considered estimates unless the amount measured is above 20 ng/L (ppt).

EPA Health Advisory Level and NHDES AGQS for PFOS and PFOA concentration separately or combined is **70 ng/L (ppt).

Averages are calculated using half of the method detection limit for samples that were less than detection, per EPA risk assessment protocols.

ND (none detected): Indicates that the substance was not found by laboratory analysis.

BD (below detected level): Average calculated using half of detection limits for non-detect values resulted in average below the detection limit.

PFAS analyzed but not detected in the samples: 6:2 Fluorotelomer sulfonate (6:2 FTS), 8:2 Fluorotelomer sulfonate (8:2 FTS), N-Ethyl perfluorooctane sulfonamide (EtFOSA), N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE), N-Methyl Perfluorooctane Sulfonamide (MEFOSA), N-Methyl Perfluorooctane Sulfonamidoethanol (MEFOSE), Perfluorodecane sulfonate (PFDS), Perfluorodecanoic acid (PFDA), Perfluorododecanoic acid (PFDoA),Perfluoroheptane sulfonate (PFHpS), Perfluoroheptanoic acid (PFHpA), Perfluorononanoic acid (PFNA), Perfluorooctane sulfonamide (PFOSA), Perfluorotetradecanoic acid (PFTeDA), Perfluorotridecanoic acid (PFTrDA), and Perfluoroundecanoic acid (PFUnA).

WATER SUPPLY UPDATES

The City of Portsmouth routinely provides information about the water supply availability through its Water Supply Updates. These updates can be accessed through the City's website at: www.cityofportsmouth.com/publicworks/water/supply-status.

The following is a summary of last year's key water supply statistics.

Precipitation

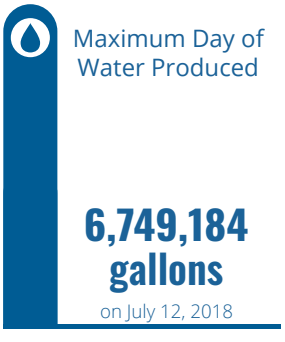
49.95"

2 inches above normal

Total Gallons of Water Produced

1,576,286,703 gallons

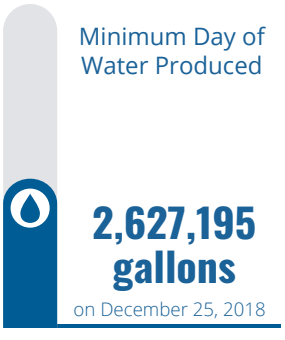
2% less than 10-year average



Maximum Day of Water Produced

6,749,184 gallons

on July 12, 2018



Minimum Day of Water Produced

2,627,195 gallons

on December 25, 2018

MONITORING RESULTS

The Portsmouth Water Division conducts extensive monitoring to guard against contaminants in your drinking water according to federal and state laws. The results of our drinking water monitoring are reported in tables below and on page 7. Definitions of terms used in this report can be found on the final page.

Regulated contaminants detected

During the past year, we have taken hundreds of water samples in order to monitor and test for the presence of radioactive, biological, inorganic, volatile organic and synthetic organic contaminants. The tables show **only** those contaminants that were detected in the water. Many more parameters were tested for, but not detected. They are not included in this report. 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 when the sample was taken.

Unregulated contaminants detected

Portsmouth participated in the third stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program in 2014 and 2015. The City performed additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water. This helps the EPA determine if it needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information. Sampling for the fourth UCMR monitoring event began in 2018 and will continue through 2019.

From October 2016 through September 2018, monthly sampling of the untreated water from the Bellamy Reservoir was conducted to test for Cryptosporidium as part of the EPA Long-Term 2 Enhanced Surface Water Treatment Rule requirements. None of the samples contained Cryptosporidium, so no additional surface water treatment is needed to meet this rule requirement.

About our violations - Exceedance of the Maximum Contaminant Level (MCL) for Disinfection Byproducts (DBP)

The New Castle water system violated the drinking water quality standard for Total Trihalomethanes (TTHMs) during the first three quarters (January through September) of 2018 at one of the two monitoring sites in the New Castle system. Trihalomethanes are byproducts of the water disinfection process, which are formed as a result of chlorine reactions with organics in the water. The drinking water standard for TTHMs is 0.080 mg/L. This standard is based on a rolling annual (four-quarter) average at each monitoring site. The TTHM average annual rolling average concentration at the New Castle School site varied between 0.076 mg/L and 0.095 mg/L.

Notices of violation were issued on: 03/01/18, 07/02/18, and 12/05/18. These violations did not pose an immediate health risk; however, 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 system, and may have an increased risk of getting cancer. In response to the DBP violations, New Castle hired a consulting firm in 2016 to develop interim strategies to mitigate the elevated TTHM levels. New Castle is working with the City of Portsmouth to address this issue. As a long-term solution, the City of Portsmouth in the process of upgrading the Newington Booster Pumping Station with a system designed to reduce the TTHM levels in the water. This project is underway and is scheduled to be complete by the fall of 2019.

WATER QUALITY PARAMETERS

PARAMETERS (UNITS)	AVERAGE LEVEL	RESULTS RANGE	SECONDARY DRINKING WATER STANDARD SMCL
Chloride (ppm)	57	51 - 66	250
Copper (ppm)	6	<5 - 28	1000
Iron (ppb)	61	30 - 130	300
Manganese (ppb)	0	4 - 50	50
pH	N/A	6.76 - 8.25	6.5 - 8.5
Sulfate (ppm)	6	4 - 29	250
Conductivity (umos/com)	304	240 - 377	N/A
Alkalinity (ppm)	38	28 - 54	N/A
Hardness (ppm as CaCO3)	28	10 - 49	N/A
Ortho-Phosphate (ppm)	1.46	1.22 - 1.75	N/A
Sodium (ppm)	36	14 - 39	N/A

SOURCE WATER ASSESSMENT RESULTS

SYSTEM	SOURCE INFORMATION	SUMMARY OF SUSCEPTIBILITY RATINGS		
		High	Medium	Low
Portsmouth	Greenland Well - GPW 003	4	3	5
	Portsmouth Well - GPW 004	5	4	3
	Madbury Well 2 - GPW 006	2	4	6
	Madbury Well 3 - GPW 007	0	5	7
	Madbury Well 4 - GPW 008	2	4	6
	Bellamy Reservoir - 009	1	6	5
	Collins Well - GPW 010	4	1	7

2018 WATER QUALITY MONITORING RESULTS FOR NEW CASTLE

	CONTAMINANT (UNIT OF MEASUREMENT)	VIOLATION (Y/N)	LEVEL MEASURED	RANGE	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
MICROBIOLOGICAL CONTAMINANTS	Total Organic Carbon (% removal)	N	Average % Removal: 73.2	68.0 - 81.7	N/A	TT: minimum removal 45% - 50%	Naturally present in the environment
	Total Coliform Bacteria	N	**No** total coliform bacteria were detected in the 12 distribution system samples that were collected and analyzed in 2018				Naturally present in the environment
	Turbidity (NTU)	N	Highest Measurement: 0.22	0.01 - 0.22	N/A	1	Soil runoff
	Turbidity (Lowest monthly percent of samples meeting limit)	N	100%	N/A	N/A	TT=95% of samples < or = 0.3 NTU	Soil runoff
DISINFECTION BYPRODUCTS	Haloacetic Acids (ppb)	N	Highest LLRA: 50	39 - 71	N/A	60	Health Effects of Contaminant: Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer. Likely Source: Byproduct of drinking water disinfection
	Total Trihalomethanes (ppb) (Bromodichloro-methane, Bromoform, Dibromomethane, Chloroform)	Y	*Highest LLRA: 95	46 - 107	N/A	80	Health Effects of Contaminant: 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. people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer. Likely Source: Byproduct of drinking water chlorination
LEAD AND COPPER	Lead (ppb) May 2018	N	90th Percentile = 0	<1 - 7.2 0 sites above AL (13 sites sampled)	0	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits
	Lead (ppb) November 2018	N	90th Percentile = 0	<1 - 1.9 0 sites above AL (10 sites sampled)	0	AL = 15	Corrosion of household plumbing systems; erosion of natural deposits
	Copper (ppm) May 2018	N	90th Percentile = 0.102	0.0361 - 0.106 0 sites above AL (13 sites sampled)	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
	Copper (ppm) November 2018	N	90th Percentile = 0.128	0.023 - 0.160 0 sites above AL (10 sites sampled)	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
INORGANIC CONTAMINANTS	Arsenic (ppb) 2016	N	Highest Level Measured: 1.4 Avg Source Level: <1	<1 - 1.4	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
	Barium (ppb) 2016	N	Highest Level Measured: 19.9 Avg Source Level: 13.1	5.7 - 19.9	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
	Chlorine (ppm)	N	Highest Level Measured: 0.93 Avg System Level: 0.53	0.00 - 0.93	MRDLG = 4	MRDL = 4	Water additive used to control microbes
	Chromium (total) (ppb) 2016	N	Highest Level Measured: <5 Avg Source Level: <5	<5	100	100	Discharge from steel and pulp mills; erosion of natural deposits
	Fluoride (ppm)	N	Highest Level Measured: 0.72 Avg Level: 0.67	0.61 - 0.72	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
	Nitrate (as Nitrogen) (ppm)	N	Highest Level Measured: 5.31 Avg Source Level: 0.32	<0.1 - 5.31	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
RADIOACTIVE CONTAMINANTS	Compliance Gross Alpha (pCi/L) 2013 & 2016	N	Highest Level Measured: 1	<1 - 1	0	15	Erosion of natural deposits
	Uranium (ug/L) 2013 & 2016	N	Highest Level Measured: 1	<1 - 1	0	30	Erosion of natural deposits
	Combined Radium 226 + 228 (pCi/L) 2016	N	Highest Level Measured: 1.96	<1 - 1.96	0	5	Erosion of natural deposits
UNREGULATED SUBSTANCES	Chlorate (ppb) 2015	N	73	35 - 110			Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide
	Chromium-6 (hexavalent chromium) (ppb) 2015	N	0.25	0.06 - 0.46			Naturally occurring element; used in making steel and other alloys; chromium-3 or -6 forms are used for chrome plating, dyes and pigments, leather tanning, and wood preservation
	Strontium (ppb) 2015	N	151	34 - 379			Naturally occurring element; historically used commercially in the faceplate glass of cathode-ray tube televisions to block X-ray emissions
	Per- and Polyfluoroalkyl Substances (PFAS)	N	see PFAS section		Surfactant or emulsifier; used in fire-fighting foam, circuit board etching acids, alkaline cleaners, floor polish, and as a pesticide active ingredient for insect bait traps; U.S. manufacture of PFOS phased out in 2002; however, PFOS still generated incidentally. Perfluorinated aliphatic carboxylic acid (PFOA); used for its emulsifier and surfactant properties in or as fluoropolymers (such as Teflon), fire-fighting foams, cleaners, cosmetics, greases and lubricants, paints, polishes, adhesives and photographic films	

*Highest LLRA for TTHM occurred at the New Castle School sample site during the third quarter, 2018. Highest levels were measured on 07-25-2018.

City of Portsmouth
Department of Public Works
Water Division
680 Peverly Hill Rd
Portsmouth, NH 03801

COMMUNITY OUTREACH

Please share your thoughts with us about this report. We welcome your input and the opportunity to answer any questions you may have about the water supply. For more information about your drinking water, please contact Steve Tabbutt.

- **Steve Tabbutt, New Castle Public Works, Superintendent 603.431.6710 (ext. 13)**

You are invited to address the Town of New Castle Select Board and the Portsmouth City Council. The Select Board meets twice a month on the first and third Mondays. Please call 603-431-6710 (ext. 10) to confirm meeting dates and times. City of Portsmouth City Council Meetings are typically held twice each month on Monday evenings at Portsmouth City Hall. Information about meetings can be found online at cityofportsmouth.com.

Definitions of Terms Used in this Report:

- **AGQS (Ambient Groundwater Quality Standard):** Groundwater quality standard established by the State of New Hampshire per Env-Or 600.
- **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.
- **N/A (not applicable):** Sampling was not completed by regulation or was not required.
- **ND (none detected):** Indicates that the substance was not found by laboratory analysis.
- **ppm (parts per million):** One part substance per million parts water (or milligrams per liter).
- **ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).
- **ppt (parts per trillion):** One part substance per trillion parts water (or nanograms per liter).
- **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.
- **TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.
- **LRAA (Locational Running Annual Average):** The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters. Amount Detected values for TTHMs and HAAs are reported as LRAAs.