ADMINISTRATIVE BOARD MEMBERS

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Frederick W. Faerber, III	Tax Collector
Joseph A. Magliocco, Jr.	Treasurer
Ronald L. Molleur	Moderator
Michael W. Nott	Tax Assessor

Phone: (401) 683-2090
E-mail: info@portsmouthwater.org
www.portsmouthwater.org

Dear Customer:

We are pleased to present a summary of the quality of the water provided to District customers during the past year. The federal Safe Drinking Water Act (SDWA) requires that water utilities issue an annual "Consumer Confidence" report to customers in addition to other notices that may be required by law. This report details where our water comes from, what it contains, and the risks that our water testing and treatment are designed to prevent. The Portsmouth Water and Fire District is committed to providing you with the safest and most reliable water supply available. Informed consumers are our best allies in maintaining safe drinking water.

About the Portsmouth Water and Fire District

The Portsmouth Water and Fire District is a quasi-municipal agency created by the RI General Assembly in 1952. The District is responsible for providing drinking water and water for fire protection for approximately ninety percent of Portsmouth on Aquidneck Island. The District is governed by a seven-member elected Administrative Board and holds an annual election of officers on the second Wednesday in June. **The District is not affiliated legally or administratively with the Town of Portsmouth.** Nevertheless, the District and Town work cooperatively to best serve their common constituents.

The original District was known as Island Park and Common Fence Point Fire District and its water distribution system was constructed in the mid to late 1950's. In 1956, the name of the District was changed to Portsmouth Water and Fire District. In 1965, the District boundaries were changed to include the south end of Portsmouth and the water distribution system was expanded to cover this area in the mid to late 1960's. The Redwood Farms and Raytheon areas were excluded from the District's expanded service area as they were already served by Newport Water. Today the District's water system serves 6,514 customers and consists of over 129 miles of pipe, 4 water storage tanks, 2 pumping stations and 569 fire hydrants.

The District does not own any water supplies, but instead purchases its regular water supply on a wholesale basis from the City of Newport and relies on the Stone Bridge Fire District in Tiverton for emergency water supply.

The Administrative Board's goal is to provide the customers of the District with an adequate supply of the best quality water available. Recent and current efforts to improve water quality and customer service include:

- Installation of a new utility billing system that has allowed the District to switch to quarterly billing. The system also allows customers to pay their water and tax bills on-line using ACH drafts and credit and debit cards. **Go to portsmouthwater.org and click on the "PAY MY BILL" button.**
- Commencement of planning and funding for replacement of the 47 year-old Union Street Pumping Station.
- Annual uni-directional water main flushing program based on hydraulic modeling and analysis.
- Looping of new and existing water main extensions whenever possible to avoid dead-ends.

We encourage public interest and participation in our community's decisions affecting drinking water. Regular meetings of the Administrative Board of the Portsmouth Water and Fire District are held on the third Tuesday of every month at 7:00 PM, at the District's office at 1944 East Main Road. The public is welcome and encouraged to attend these meetings. Written minutes of the meetings are available upon request. This Consumer Confidence Report and minutes of Board meetings are also available on the internet at www.PortsmouthWater.org.

Your Water Source

In 2013, the Portsmouth Water and Fire District purchased all of its water from the City of Newport. The majority of the water is treated at the Lawton Valley Water Treatment Plant in Portsmouth. On occasion, the water may be treated at the Station One Water Treatment Plant in Newport. Newport Water draws its raw water supply from a system of nine surface water reservoirs: Lawton Valley Reservoir and St. Mary's Pond in Portsmouth; Nonquit Pond in Tiverton; Watson Reservoir in Little Compton; North and South Easton Pond in Newport; and Paradise Pond and Gardner Pond in Middletown. Both plants and all nine reservoirs are owned and operated by the Newport Water Department. The emergency supply from the Stone Bridge Fire District is treated at the Stone Bridge Water Treatment Plant in Tiverton, which draws surface water from Stafford Pond in Tiverton.

Source Water Assessments

In 2003, the University of Rhode Island, in cooperation with the RI Department of Health (RIDOH) and other state and federal agencies, assessed the threats to Newport Water's water supply sources. The assessment considered the intensity of development, the presence of businesses and facilities that use, store or generate potential contaminants, how easily contaminants may move through the watersheds, and the sampling history of the water.

The assessment found that our water sources on Aquidneck Island and in Little Compton and Tiverton are moderately susceptible to contamination. Monitoring and protection efforts are especially important to assure the best possible water quality. Newport Water updated the 2003 Assessment in 2010. The complete Source Water Assessment Report is available at our office.

RIDOH Special Monitoring Project

In 2013, RIDOH selected the Newport Water System to be part of a special monitoring project. Samples were collected in April, October and December of 2013 and March of 2014. The monitoring program included eight surface water reservoirs, four sites in the Newport distribution system, and the two water plant effluents. The parameters tested were1,4-dioxane, hexavalent chromium and perchlorate. The only parameter detected during the monitoring period was 1,4-dioxane in a concentration of 0.08 ppb at both North Pond and Nonquit Pond during the April 2013 sampling. The sampling and analysis was performed by the RIDOH

Health Effects Information for the Water You Drink

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 (800-426-4791).

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 (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 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 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 can also come from gas stations, urban stormwater 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. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Water Quality Issues

Concerning Lead in Our Water

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 Portsmouth Water and Fire District is responsible for providing high quality drinking water, but cannot control the variety of materials used in its customer's plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for thirty (30) seconds to two (2) minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your tap 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 www.epa.gov/safewater/lead.

Although there is no lead in the water supplied by the District, it can enter tap water through corrosion of household plumbing materials. Homes built before 1986 are more likely to have fixtures and solder containing lead. However, new homes are also at risk: even legally "lead-free" plumbing may contain up to 8 percent lead. The most common problem is with brass or chrome-plated brass faucets and fixtures which can leach significant amounts of lead into the water, especially hot water.

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. The District can help you get your tap water tested for lead.

THE DISTRICT CAN HELP YOU OBTAIN A CERTIFIED LEAD TEST FOR YOUR TAP WATER FOR $13. PLEASE CALL 683-2090 FOR MORE INFORMATION.

Concerning Total Trihalomethanes (TTHMs) in Our Water

When chlorine is used in the treatment of drinking water, it combines with organic and inorganic matter present in water to form chemicals called disinfection byproducts (DBPs). The EPA sets standards for controlling the levels of DBPs in drinking water, one of which is TTHMs.

Many water systems disinfect their water with chlorine in order to inactivate pathogens that cause disease. The public health benefits of chlorine disinfection practices are significant and well-recognized. One hundred years ago, water borne diseases such as typhoid and cholera were common throughout American cities and disinfection of drinking water was a major factor in reducing these epidemics. However, disinfection poses risks of its own. EPA's health effects language for TTHMs states, "*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 addition, several reproduction and developmental studies have recently become available, and EPA has completed a more extensive analysis of reproductive and developmental effects associated with DBPs. Both human epidemiology studies and animal toxicology studies have shown associations between chlorinated drinking water and reproductive and developmental endpoints such as

spontaneous abortion, stillbirth, neural tube defects, pre-term delivery, intrauterine growth retardation, and low birth weight. New epidemiology and toxicology studies evaluating bladder and rectal cancers have also increased the weight of evidence linking these health effects to DBP exposure.

Consequently, one of the most complex questions facing water supply professionals is how to reduce risks from disinfectants and DBPs while providing increased protection against microbial contaminants.

The District's TTHM levels are the result of the organic content of the raw water, the chlorination and treatment processes at the Lawton Valley Water Treatment Plant, and the hydraulics at the plant and the District's system, and largely form prior to purchase by the District.

The City of Newport is in the process of constructing a new Lawton Valley Treatment Plant in Portsmouth and substantial improvements to the Station 1 Treatment Plant in Newport. The total project cost is $84 million. Due to the challenging water quality of the City of Newport's nine reservoirs, Advanced Water Treatment processes are incorporated into the improvements at each plant in order to assure compliance with drinking water standards, particularly TTHM standards. The plants are scheduled to be operational before the end of 2014.

The District is regulated for TTHMs under the EPA Stage 2 DBPR, which took effect in October 2013. The District has received a fifteen month extension of time from RIDOH to comply with the Stage 2 DBPR Rule. The extension was sought because historical testing shows that the District will not be able to comply with the more stringent Stage 2 DBPR rules without the Advanced Water Treatment. During the time extension the District will be subject to compliance with the prior Stage 1 DBPR Rule based on testing results at its four Stage 2 DBPR testing sites.

The following steps have and will be taken by the District and the Newport Water Department to reduce the TTHM levels during the time extension and prior to the Advanced Water Treatment processes becoming operational:

- The amount of chlorine added to the water from time to time by the District has been reduced while still ensuring reliable bacteriological control.
- The Newport Water Department has modified its plant operations to the extent possible and permissible by regulations in an effort to minimize the production of TTHMs.
- The District has installed hydraulic mixing systems in its four water storage tanks to reduce water age, which can contribute to the formation of TTHMs.
- The District conducts an annual uni-directional flushing program, which helps reduce TTHM formation.
- The District will continue to regularly test for TTHMs to monitor the levels at the purchase point and in the distribution system.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. In November 2013, we did not complete all monitoring or testing for Total Trihalomethanes (TTHMs) and Haloacetic Acids (HAA5s) and therefore cannot be sure of the quality of your drinking water during that time. At that time, one of four required sampling locations was missed; however, the three other required locations were sampled along with a non-required sampling location within 2.5 miles from the missed

sampling site. These samples provided the District with an accurate determination of the levels of TTHM's and HAA5's in the distribution system.

Since this is a new rule that started on October 1, 2013 and since the rule is based on a calculation of a four-quarter running annual average, compliance with the rule will be determined after four quarters of sampling in August 2014.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

Questions

The Portsmouth Water and Fire District prepared this report. We'll be happy to answer any questions about the District and our drinking water quality. Please contact William J. McGlinn, General Manager and Chief Engineer (401-683-2090).

Some water customers of the Newport Water Department and the Naval Station Newport water system, particularly in the Redwood Farms, Bay View and Melville areas, in addition to properties in the District with private wells, may receive this consumer notice, even though they are not customers of the District. This over-coverage is unavoidable in our effort to ensure that all potential water users within the District receive this legal notice through a Postal Patron mailing.

The Portsmouth Water and Fire District is a proud member and supporter of the American Water Works Association, the New England Water Works Association and the Rhode Island Water Works Association.

PLEASE REFER TO THE WATER QUALITY TABLE BELOW

How Do I Read This Water Quality Table?

It's easy! Our water is regularly tested to assure that it is safe and healthy. The column marked Detected Level shows the highest test results during the year. The column marked Major Sources in Drinking Water shows where substances usually originate. Footnotes explain important details. Abbreviations and definitions of key terms are shown in the table below:

Abbreviations and Definitions used in the Water Quality Table

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.
MFL	**Million Fibers per Liter**
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.
Mrem	**Millirems:** a measure of radiation absorbed by the body.
N/A	**Not Applicable**.
ND	**Not Detectable:** Not detectable at testing limits.
NTU	**Nephelometric Turbidity Units:** a measure of very small particulate matter in drinking water.
pCi/l	**Picocuries per liter:** a measure of radioactivity.
ppb	**parts per billion**, or micrograms per liter (µg/l).
ppm	**parts per million,** or milligrams per liter (mg/l).
ppt	**parts per trillion,** or nanograms per liter (nanograms/l).
TT	**Treatment Technique:** A required process intended to reduce the level of a contaminant in drinking water.

2013 WATER QUALITY TABLE *

DETECTED CONTAMINANTS	YEAR TESTED	UNIT	MCL / MRDL	MCLG / MRDLG	DETECTED LEVEL (FOR COMPLIANCE)	DETECTED RANGE	MAJOR SOURCES IN DRINKING WATER	VIOLA-TION
Microorganisms			MCL	MCLG				
Total Coliform Bacteria (1)	2013	% of Positive Samples	5%	0	0.0%	N/A	Naturally present in the environment.	NO
Total Organic Carbon (2)	2013	Removal ratio	TT	N/A	1.05	0.96 – 1.43	Naturally present in the environment.	NO
Turbidity (2) (8)	2013	NTU	TT = 1.0 TT = 95% of monthly samples ≤ 0.3	N/A	0.24 100% ≤ 0.3	N/A	Soil runoff.	NO
Radioactive Contaminants								
Combined Radium (3)	2008	pCi/L	5	0	2.00	ND – 2.00	Erosion of natural deposits.	NO
Disinfection Byproducts			MCL	MCLG				
Chlorite (2)	2013	ppm	1.0	0.8	0.613	0.130 – 0.880	By-product of drinking water chlorination.	NO
Haloacetic Acids (HAA5s)	2013	ppb	60	N/A	20.5	10.9 – 31.2	By-product of drinking water chlorination.	NO
Total Trihalomethanes (TTHMs) (7)	2013	ppb	80	N/A	96.3	21.5 – 134	By-product of drinking water chlorination.	NO (7)
Disinfectants			MRDL	MRDLG				
Chlorine	2013	ppm	4	4	0.71	0.02 – 1.98	Water additive used to control microbes.	NO
Chlorine Dioxide (2)	2013	ppb	800	800	770	10 – 770	Water additive used to control microbes.	NO
Inorganic Chemicals			MCL	MCLG				
Arsenic (3)	2013	ppb	10	0	1	ND – 1	Erosion from natural deposits; runoff from orchards; Runoff from glass and electronics production wastes.	NO
Barium (3)	2013	ppm	2	2	0.007	0.005 – 0.007	Erosion of natural deposits; discharge of drilling wastes.	NO
Copper (4)	2012	ppm	AL = 1.3	1.3	0.054	N/A	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.	NO
Fluoride (2) (5)	2013	ppm	4	4	0.97	0.13 – 0.97	Water additive, which promotes strong teeth.	NO
Lead (6)	2012	ppb	AL = 15	0	ND	ND	Corrosion of household plumbing systems; erosion of natural deposits.	NO
Nitrate (3)	2013	ppm	10	10	3.32	0.13 – 3.32	Runoff from fertilizer use; leaching from septic tanks, sewerage; erosion of natural deposits.	NO
Synthetic Organic Chemicals including Pesticides and Herbicides			MCL	MCLG				
Atrazine (3)	2013	ppb	3	3	0.1	ND - 0.1	Runoff from herbicide used on row crops.	NO
Unregulated Contaminant Monitoring			MCL	MCLG				
1,4 – Dioxane (3) (10)	2013	ppb	N/A	N/A	0.08	ND – 0.08	Discharge from steel and pulp mills; Erosion of natural deposits.	N/A
Chlorate (11)	2013	ppb	N/A	N/A	180	140 – 180	Used in agriculture as defoliants or desiccants and may occur in drinking water related to use of disinfectants such as chlorine dioxide.	N/A
Chromium, Hexavalent (11)	2013	ppb	N/A	N/A	0.06	0.05 – 0.06	Discharge from steel and pulp mills; Erosion of natural deposits	N/A
Metolachlor (3) (9)	2013	ppb	N/A	N/A	0.2	ND – 0.2	Herbicide for weed control on agricultural crops.	N/A
Sodium (2)	2013	ppm	100 **	N/A	30.9	26.6 – 30.9	Erosion of natural deposits; road-salt runoff; contained in water treatment chemicals.	N/A
Strontium (11)	2013	ppb	N/A	N/A	64	54 – 64	Naturally-occurring element used as strontium carbonate in pyrotechnics, in steel production, as a catalyst and as a lead scavenger.	N/A
Vanadium (11)	2013	ppb	N/A	N/A	0.3	0.3 – 0.3	Naturally-occurring element commonly used as vanadium pentoxide in the production of other substances and as a catalyst.	N/A

* The data presented in this table is from the most recent testing done in accordance with regulations. Test results are from the Portsmouth Water and Fire District's distribution system unless otherwise noted by the footnotes.

** Although not regulated by the EPA, we are required by the Rhode Island Department of Health to test for sodium. There is no MCL for sodium; however the Health Advisory Level is 100 ppm.

Water Quality Table Footnotes

(1) In 2013, the District collected 509 samples that were tested for Total Coliform Bacteria. None of the samples tested positive.
(2) Measured after treatment at the Newport Water Department Lawton Valley Water Treatment Plant**.**
(3) Measured in the Newport Water Department raw water reservoirs prior to treatment.
(4) The detected copper level indicates the 90th percentile value of the 30 samples obtained at 30 high-risk homes in June. None of the 30 samples exceeded the Action Level for copper.
(5) Fluoride is added to the water to help prevent tooth decay in children.
(6) The detected lead level indicates the 90th percentile value of the 30 samples obtained from 30 high-risk homes in June. One of the 30 samples exceeded the Action Level for lead. *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.*
(7) *Some people who drink water containing TTHM's 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.* The detected level indicates the highest four-quarter, running annual average. Because the District did not routinely add chlorine in 2013 to the already chlorinated water it purchases from Newport Water, the RI Department of Health did not regulate TTHMs in the District's system. Therefore, the District was not in violation of the standard even though its TTHM level exceeded the MCL. In October, 2013 a new Disinfection Byproducts Rule (Stage 2) took effect, for which the District will be regulated. Initial compliance with this rule will be determined after four quarters of sampling in August 2014. Please refer to Concerning TTHMs in Our Water elsewhere in this report.
(8) *Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.*
(9) The EPA requires that this contaminant be reported, which was tested for by Newport under the Unregulated Contaminant Monitoring Rule List 3.
(10) Voluntary sampling of unregulated contaminant by RI Department of Health (Special Project)
(11) The EPA requires that this contaminant be reported, which was tested for by the District under the Unregulated Contaminant Monitoring Rule List 3.