Water Quality Report

2013

Water Department
City of Portland
451 Morse Dr.
Portland, MI 48875

Kenneth L. Gensterblum., Public Works Foreman

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We're pleased to present to you this year's Annual Quality Water Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water source is the Saginaw Aquifer and delivered to you via four municipal wells.

We are actively participating in the Wellhead Protection Plan and the plan is available from our office for more information such as potential sources of contamination.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that 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 provide the same protection for public health.

I'm pleased to report that the City of Portland drinking water is safe and meets or exceeds federal and state requirements. This report shows our water quality and what it means.

If you have any questions about this report or concerning your City water utility, please contact Rod Smith, Water Technician at (517)647-2948. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the first and third Monday of every month at 7:00 p.m. in the City Council Room at City Hall located at 259 Kent Street.

The City of Portland routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st 2013. As water travels over the land and underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk. The City of Portland's production wells have a "high" susceptibility based on the above mentioned geologic sensitivity analysis, and listed potential contaminant sources within the Wellhead Protection Act.

In this table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms, we've provided the following definitions:

Maximum Residual Disinfectant Level (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 Level Goal (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.

Not-Detected (ND) – laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrans perliter (mg/l) – one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter – one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Picocuries per liter (pCi/L) – picocuries per liter is a measure of the radioactivity in water.

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

Maximum Contaminant Level – The "Maximum Allowed" (MCL) is 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 – The "Goal" (MCLG) is 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.

That allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. All of the data is representative of the water quality, but some are more than one year old. The table below represents the most current testing information available.

TEST RESULTS

Inorganic Contaminants

Contaminant	Viola-tion Y/N	Level Detected	Unit of Measure	Range of Detection	MCLG	MCL	Likely Source of Contamination
8. Arsenic**	No	ND	ppb	0-2 ppb	n/a	10	Erosion of natural deposits; runoff from orchards, runoff from glass and electronics production wastes
10. Barium	No	0.03 ppm	ppm	0.01-0.009 ppm	2	2	Discharge of drilling wastes; discharge from metal refineries, erosion of natural deposits
16. Fluoride	No	0.27 ppm	ppm	0.1- 0.3 ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
19. Nitrate (as Nitrogen)	No	1.2mg/L	ppm		10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
60. 1,2 Dichloroethane	No	ND	ppm		0	.005	Discharge from industrial chemical factories

**Beginning in January 2006, drinking water supplies must comply with the new arsenic maximum contaminant level (MCL) of 0.010 milligrams per liter, or 10 parts per billion (ppb). In 2006 the arsenic MCL was 50ppb

Volatile Organic Contaminants

3.TTHM [Total trihalomethanes	No	18.4 Ppb	Ppb	4.8-12.7 ppb	N/A	80	By-product of drinking water chlorination

TTHM		HAA5	MCL
Maynard	0.0120	0.003	.060 ppm
Riverside Dr.	0.0114	0.002	.060 ppm
Donna Dr.	0.0060	0.002	.060 ppm
E Grand River	0.0184	0.004	.060 ppm
Total TTHM	0.0478	0.011	
Average	.0120	0.0028ppm	
Measured in 10 mgd			

Chlorine Residual Monitoring 2012

Highest running annual average for 2012 was 0.78 and the range was 0.22-.1.3ppm

Site	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bristie	.64	.69	.62	.90	.55	.49	.26	.24	.22	.23	.70	.70
Oak St	.40	.42	.38	.42	.60	.45	.46	.56	.45	.39	.46	.36
W. Grand River	.78	.80	.77	1.00	1.10	1.20	1.00	1.30	1.20	1.00	.90	.83
E. Grand River	.78	.80	.67	1.00	.90	.79	.39	.42	.45	.45	.90	.80
Monthly Average	.65	.68	.61	.83	.79	.73	.53	.63	.58	.52	.74	.67
RAA Quarterly			.65			.78			.58			.64

Chlorine Residual Monitoring 2013

Highest running annual average for 2013 was 0.66 and the range was 0.10-0.96ppm

Site	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bristie	.64	.57	.63	.52	.32	.26	.20	.10	.10	.12	.72	.72
Oak St	.29	.32	.30	.28	.22	.20	.28	.31	.32	.32	.34	.46
W. Grand River	.77	.72	.75	.72	.51	.44	.81	.55	.10	.96	.91	.94
E. Grand River	.72	.70	.68	.57	.54	.46	.36	.24	.10	.46	.96	.94
Monthly Average	.61	.58	.59	.52	.40	.34	.41	.30	.16	.47	.73	.77
RAA Quarterly			.59			.42			.29			.66

Unregulated contaminants are those for which EPA has not established drinking water standards. Monitoring helps EPA to determine where these contaminants occur and whether it needs to regulate those contaminants.

Unregulated Contaminants				
Contaminant	Our highest level detected	Range of level detected	Unit of measure	Likely Source of Contamination
Sodium	84 ppm	ppm	ppm	Soil Erosion

Radioactive Contaminants							
Contaminant	Violation Y/N	Level Detected	Unit of Measure	Average/Range	MCLG	MCL	Likely Source of Contamination
Radium	No	2.25 pCi/l	pCi/l	0-3.14 pCi/l	0	50	Decay of natural and man-made deposits
5. Alpha emitters	No	5.60 pCi/l	pCi/l	0-5.60 pCi/l	0	15	Erosion of natural deposits

6. Radon	No	383 pCi/l	pCi/l	N/A	0	5	Erosion of natural deposits

Lead & Copper Distribution Monitoring Results

Contaminant	Date Tested	Number Of Sites Tested	90th Percentile	# of Sites over Action Level	Action level/ Units of Measurement	Likely Source of Contamination
Lead	2012	20	2 ppb	0	15ppb	Corrosion of household plumbing systems, erosion of natural deposits
Copper	2012	20	840 ppb	0	1300 ppb	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

"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 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 at 800-426-4791."

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 City of Portland is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water drinking or cooking. If you 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 or at http://www.epa.gov/safewater/lead.

What does this mean?

As you can see by the table, our system had no violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some contaminants have been detected. The EPA has determined that your water IS SAFE at these levels.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. These substances can be:
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 and residential uses.

Radioactive contaminants, which are naturally occurring or be the result of oil and gas production and mining activities.
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. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants doe not necessarily indicate that the 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.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink two liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding.

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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

The City of Portland's newest water tower is on the south side of the City. The water tower was completed and has been on line since December 17, 2004. The City has drilled a new well in the northwest corner of the City. The new well is a deep rock well protected from ground contaminants that may leech in to the water. Also since 2005 the City of Portland has contracted with Hydro Designs to do our cross-connection Control Program. This will ensure that there are no cross-connections that could lead to health risks. Please call Rod Smith, Water Technician, at (517)647-2948 if you have any questions.

We at the City of Portland work around the clock to provide top quality water to every tap. The Water Department of the City of Portland adds chlorine to the water at a rate of 1-2 ppm to safeguard against Coliform bacteria. This is recommended by the State of Michigan Department of Environmental Quality, but is not required. We also add a phosphate for encapsulation of the irons, which show up as rust in the water when chlorine is added. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

Copies of this report are available at City Hall, the Portland Public Library, and on the City of Portland website at portland-michigan.org.

Thank you.

Water Department
City of Portland