

2016 ANNUAL DRINKING WATER QUALITY REPORT
Richland Township Water Authority
PWSID #: 1090131

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, ó hable con alguien que lo entienda. (This report contains important information about your drinking water. Have someone translate it for you, or speak with someone who understands it.)

WATER SYSTEM INFORMATION:

This report shows our water quality and what it means. If you have any questions about this report or concerning your water utility, please contact Timothy Arnold at the Richland Township Water Authority, 1328 California Road, Suite D, Quakertown, PA 18951 or call 215-536-4733. We want you to be informed about your water supply. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the second Thursday of the month at 7:00 p.m. at the Richland Township Municipal Building, 1328 California Road, Quakertown.

SOURCE(S) OF WATER:

In 2016, our water source was ground water via five wells designated as Sweetbriar Wells #1 and #2, Walnut Bank Farm Wells #2 and #3, and Richland Court Well #1, which draw from the Brunswick Formation and Diabase. The Richland Township Water Authority has in service a 750,000 gallon water storage tank, plus three tanks with a capacity of 150,000 gallons each. At the end of 2016, the water system had 2,117 service connections.

A *Source Water Assessment* of our source(s) was completed by the PA Department of Environmental Protection (Pa. DEP) in June 2007. The Assessment has found that the well sources that supply water to Richland Township are potentially most susceptible to pesticides applied to agricultural land, low and high density land development use, road deicing materials, and accidental spills along major roads and railways. The water source is also potentially susceptible to leaks in underground storage tanks, landfill sites, municipal waste, and water pollution control facilities. Overall, our source(s) have a high risk of significant contamination. Complete reports were distributed to municipalities, water suppliers, local planning agencies and PA DEP offices. Copies of the complete report are available for review by calling the Pa. DEP Southeast Regional Office, Records Management Unit at 484-250-5900.

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).

MONITORING YOUR WATER:

We routinely monitor for contaminants in your drinking water according to federal and state laws. The following tables show the results of our monitoring for the period of **January 1 to December 31, 2016**. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data is from prior years in accordance with the Safe Drinking Water Act. The date has been noted on the sampling results table.

DEFINITIONS:

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

Maximum Contaminant Level (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 (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 (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 (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.

Minimum Residual Disinfectant Level (MinRDL) - The minimum level of residual disinfectant required at the entry point to the distribution system.

Treatment Technique (TT) - A required process intended to reduce the level of a contaminant in drinking water.

pCi/L = picocuries per liter (a measure of radioactivity)

ppm = parts per million, or milligrams per liter (mg/L)

ppb = parts per billion, or micrograms per liter (µg/L)

2016 DETECTED SAMPLE RESULTS:

Chemical Contaminants								
Radioactive Contaminant	MCL in CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Combined radium	5	0	3.175 (2012)	0 – 3.175	pCi/l	2012-2015	N	Erosion of natural deposits
Combined Uranium	30	0	7.688 (2015)	0 – 7.688	ppb	2012-2015	N	Erosion of natural deposits
Gross Alpha	15	0	7.545 (2016)	2.73 – 7.75	pCi/l	2012-2016	N	Erosion of natural deposits
Inorganic Contaminant	MCL in CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Arsenic	10	0	3.25 (2016)	1 – 8	ppb	2015-2016	N	Erosion of natural deposits; runoff from orchards; runoff from glass and electronic production wastes
Selenium	50	50	2.0 (2015)	2.0	ppb	2014-2015	N	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Barium	2	2	0.395 (2015)	0.219 – 0.395	ppm	2014-2015	N	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium	100	100	2.0 (2015)	2.0	ppb	2014-2015	N	Discharge from steel and pulp mills; erosion of natural deposits
Flouride	2	2	0.36 (2015)	0.36	ppm	2015	N	Erosion of natural deposits; discharge from fertilizer and aluminum factories
Volatile Organic Contaminant Unregulated	MCL in CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Dichloromethane	5	0	3.98 (2012)	0 – 3.98	ppb	2012-2015	N	Discharge from pharmaceutical and chemical factories
Trichlorethylene	5	0	1.3 (2012)	0.5 – 1.3	ppb	2012	N	Discharge from metal degreasing sites and other factories
cis-1,2, Dichloroethylene	70	70	9.6 (2016)	0.7 – 9.6	ppb	2012-2016	N	Discharge from industrial chemical factories
Xylenes	10	10	0.0049 (2014)	0 – 0.0049	ppm	2014	N	Discharge from petroleum factories and chemical factories.
Disinfection Byproducts (DPBs)	MCL in CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
TTHMs – Total Trihalomethanes	80	n/a	60.1	23.8 – 60.1	ppb	2016	N	By-product of drinking water chlorination
Five Haloacetic Acids – HAA5	60	n/a	19	18.5 – 19	ppb	2016	N	By-product of drinking water disinfection

Contaminant	MRDL	MRDLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine	4	4	1.35	0.934 – 1.878	ppm	2016	N	Water additive used to control microbes.
Secondary Contaminant	MCL in CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Total Dissolved Solids	500		586	586 – 586	ppm	9/12/14	Y	
Sulfate	250		68.2	68.2 – 68.2	ppm	6/25/12	N	
Iron	0.3		0.0196 (2012)	0 – .0196	ppm	2012-2013	N	
Manganese	0.05		0.011 (2012)	0 – .011	ppm	2012-2013	N	
Magnesium			33 (2012)	33 - 33	ppm	6/25/12	N	
Calcium			82.2 (2012)	82.2 – 82.2	ppm	6/25/12	N	

Entry Point Disinfectant Residual

Contaminant	Minimum Disinfectant Residual	Lowest Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Chlorine	0.4	0.51	0.51 – 3.01	ppm	2016	N	Water additive used to control microbes.

Lead and Copper

Contaminant	Action Level (AL)	MCLG	90 th Percentile Value	Units	# of Sites Above AL of Total Sites	Violation Y/N	Sources of Contamination
Lead	15	0	2 2	ppb	1 (1/1/16-6/30/16) 0 (7/1/16-12/31/16)	N	Corrosion of household plumbing systems; erosion of natural products
Copper	1.3	1.3	1.24 1.33	ppm	4 (1/1/16-6/30/16) 7 (7/1/16-12/31/16)	N	Corrosion of household plumbing systems; erosion of natural products; leaching from wood preservatives

INFORMATION ABOUT 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. The Richland Township Water Authority 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 the 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 (800-426-4791) or at <http://www.epa.gov/safewater/lead>.

NOTE:

The level for total dissolved solids is currently higher than the recommended level. We are continuing to monitor the situation.

ARSENIC: 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.

VIOLATIONS:

The Richland Township Water Authority received a violation for reporting the radioactive contaminants late. We strive to report all lab results on time. Please note that monitoring these contaminants was not missed or out of compliance.

EDUCATIONAL INFORMATION:

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 run-off, 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 and DEP prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA and DEP regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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).

OTHER INFORMATION:

Many of the levels that are reported in the level column are the maximum level detected in the range column. Only one sample was required to be taken at each entry point so the highest level was noted in the level detected column and lowest to highest level was reported in the range column.

While the RTWA tests for over eighty contaminants to ensure water quality, only detected values of regulated and unregulated contaminants are included in this report. EPA recommendations state that undetected contaminants need not be listed. There were no detections of synthetic organic compounds.

Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of the unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether further regulation is warranted.

The Authority's constant goal is to provide you with a dependable supply of drinking water and to continually improve the water treatment process and protect our water resources. We are committed to ensuring that our customers receive a safe, economical, and continuous supply of drinking water. Filtration systems are in operation at the well stations, reducing the amount of iron/manganese that enters the water, and keeping the arsenic level under compliance.

The Richland Township Water Authority consists of five volunteer board members appointed by the Richland Township Board of Supervisors to serve five year terms. The system is operated by a Pennsylvania certified licensed waterworks operator.