

Annual Drinking Water Quality Report
January 1, 2010 to December 31, 2010

Richland Township Water Authority
PWSID Number 1090134

Richland Township Water Authority is pleased to present this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. 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. RTWA is committed to ensuring that our customers receive a safe, economical, and continuous supply of safe drinking water. Our water source is ground water via two wells designated as Walnut Bank Farms Wells #2 & #3 which draw from the Brunswick Formation and Diabase. Over the past year the Authority has run several miles of water main to interconnect all of the systems together. The Richland Township Water Authority is interconnected with the Milford Township Water Authority. Milford Township's water supply source is ground water via six wells drawn from the Brunswick Formation and Diabase. The Richland Township Water Authority has in service a 750,000 gallon water storage tank. This storage tank has increased the water pressure throughout Richland Township's distribution system 23 pounds and also provides additional water storage for fire fighting. The Authority does recommend that the homeowner have a pressure reducing valve installed in the home if the water pressure is greater than 65 pounds. 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 Pa. Certified licensed waterworks operator. The water system currently has 683 service connections.

Important Health Information

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 and the 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 (800-426-4791)

Este informe contiene informacion muy importante sobre su agua beber. Traduzcalo o hable con alguien que lo entienda bien. [translated: This report contains very important information about your drinking water. Translate it, or speak with someone who understands it well.]

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 215-536-4733. 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 held on the second Wednesday of every month at 7:00 P.M at the Richland Township Municipal Building located at 1328 California Road.

Richland Township Water Authority routinely monitors for constituents 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, 2010.**

While RTWA tests for over eighty contaminants to ensure water quality, only detected values of regulated and unregulated contaminants are going to be included in this report. EPA recommendations prevent the Authority from listing every constituent that was tested for but not detected.

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:

Not Applicable (N/A) - not applicable

Non-Detects (ND) - laboratory analysis indicates that the contaminant is not present at a detectable level.

Parts per million (ppm) or Milligrams per liter (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.

Millirems per year (mrem/yr) - measure of radiation absorbed by the body

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

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

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.

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 contamination.

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)

As water travels 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 before we treat it include:

- .. *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural live stock 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, storm water 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 results 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 (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

TEST RESULTS Year 2010

Radioactive Contaminants

Contaminant (Unit of measurement)	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination
Beta emitters (pCi/l)	NO	6.19	2.25-6.19	0	50	Decay of natural and man-made deposits
Alpha emitters (pCi/l)	NO	6.11	4.14-6.11	0	15	Erosion of natural deposits
Combined radium (pCi/l)	NO	1.302	1.302-1.302	0	5	Erosion of natural deposits
Uranium (pCi/l)	NO	6.19	5.45-6.19	0	30	Erosion of natural deposits

Inorganic Contaminants

Contaminant (Unit of measurement)	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination
Arsenic (ppb)	NO	4.9	4.9	n/a	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Selenium (ppb)	NO	4.2	ND-4.2	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines.
Barium (ppm)	NO	0.297	ND-0.297	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (ppb)	NO	5.1	ND-5.1	100	100	Discharge from steel and pulp mills; erosion of natural deposits.

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant (Unit of Measurement)	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination

Volatile Organic Contaminants Unregulated

Contaminant (Unit of Measurement)	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination
Chloroform (ppb)	NO	13.5	13.5			
Bromodichloromethane (ppb)	NO	13.1	13.1			
Chlorodibromomethane (ppb)	NO	5.88	5.88			
Bromoform	NO	0.410	0.410			
cis 1,2, Dichloroethene (ppb)	NO	2.91	2.91			

Volatile Organic Contaminants

Contaminant (Unit of Measurement)	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination

Lead and Copper Rule

Contaminant (Unit of Measurement)	Violation Y/N	90 th Percentile Value	# of Sites Above AL of Total Sites	MCGL	MCL	Likely Source of Contamination
Copper (ppm)	NO	.0825	0 out of 10	1.3	AL=1.3	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	YES	.0186	3 out of 10	0	AL=15	Corrosion of household plumbing systems; Erosion of natural deposits

Microbiological Contaminants						
Contaminant (Unit of Measurement)	Violation Y/N	Level Detected	# of Samples Positive	MCGL	MCL	Likely Source of Contamination
Total Coliform Bacteria	Yes	3	3 of 48	0	0	Naturally Present in the environment
Disinfection Byproducts (DBPs), Byproduct Precursors, and Disinfectant Residuals						
Contaminant (Unit of Measurement)	Violation Y/N	Level Detected	Range	MCGL	MCL	Likely Source of Contamination
TTHMs {Total Trihalomethanes} (ppb)	NO	42.01	42.01	n/a	80	By-product of drinking water chlorination
Five Haloacetic Acids {HAA} {ppb}	NO	35.99	35.99	n/a	60	By-product of drinking water disinfection
Chlorine (ppm)	NO	3.99	3.99-0.46	MRDLG =4	MRDL=4	Water additive used to control microbes
Secondary Contaminants						
Contaminant (Unit of Measurement)	Violation Y/N	Level Detected	Range	MCLG	MCL	Likely Source of Contamination
Total Dissolved Solids (ppm)	NO	446	446		500	
Sulfate (ppm)	NO	46.5	46.5		250	
Chloride (ppm)	NO	94.7	94.7-94.7		250	
Iron (ppm)	NO	.0541	ND-.0541		0.3	
Manganese (ppm)	NO	0.002	ND-0.002		0.05	
Magnesium (ppm)	NO	37.4	37.4-37.4		0.1	
Calcium (ppm)	NO	71.4	71.4-71.4			

Footnotes:

- 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 the highest level was reported in the range column.
- Radioactive contaminants listed in this report were taken in 2008; sampling is required every 4 years.

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

Radioactive Contaminants:

Beta/photon emitters (mrem/yr) - Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta particle and photon radioactivity in excess of the MCL over many years may have an increased risk of getting cancer.

Alpha emitters (pCi/l) - 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.

Combined Radium 226/228 (pCi/l) - 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.

Uranium (pCi/L) - 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.

Inorganic Contaminants:

Arsenic (ppb) - 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.

Selenium (ppb) Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.

Barium (ppm) - Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

Chromium (ppb) – Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.

Lead and Copper Rule:

Copper (ppm)- 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 (ppm) - Infants and children who drink water containing lead in excess of the AL 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.

Disinfection Byproducts (DBPs), Byproduct Precursors, and Disinfectant Residuals:

Chlorine (ppm)- 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.

TTHMs (Total trihalomethanes) (ppb) - Some people who drink water containing TTHMs 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.

Haloacetic Acids (HAA) (ppb) - Some people who drink water containing HAAs in excess of the MCL over many years may have an increased risk of getting cancer.

Total Coliform Bacteria – Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

What does this mean?

As you can see by the table, our system had two violations. The first violation listed is for lead, 3 of our 10 samples collected for lead exceeded the action level of 15 ppb. The Richland Township Water Authority is in the process of collecting two more sets of ten samples in 2011 to see if they exceed the action level. In the past the Walnut Bank Farms System never was over the action level of 15 ppb.

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. 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 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 or at <http://www.epa.gov/safewater/lead>.

The second violation listed is for Total Coliform Bacteria, 3 of 48 samples taken in 2010 had the presence of coliform bacteria. After collecting several more samples there were no Coliform Bacteria found.

A Source Water Assessment of the Richland Township Water Authority, which supplies water to Richland Township, was completed in June 2007 by the PA Department of Environmental Protection (PADEP). The Assessment has found that the well sources that supply water to Richland Township are potentially most susceptible to pesticides applied to agriculture land, low and high density land development use, road deicing materials, and accidental spills along major roads and railroads. Also potentially susceptible to leaks in underground storage tanks, land fill sites, municipal waste, and water pollution control facilities. Overall, the Richland Township Water Authority has a high risk of significant contamination. Summary reports of the Assessment are available by writing to the Richland Township Water Authority 1328 California Road, Suite D Quakertown, Pa. 18951 and will be available on the PADEP website at www.dep.state.pa.us (Keyword: "DEP source Water"). Complete reports were distributed to Municipalities, water Suppliers, local planning agencies and PADEP offices. Copies of the complete report are available for review by calling the PADEP Southeast Regional Office, Records Management Unit at 484-250-5900.

We work around the clock to provide top quality water to every customer. 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. If you have any suggestions regarding this report, or content for future reports, please write, or call our office.