

## 2011 ANNUAL DRINKING WATER QUALITY REPORT

PWSID #: 7360143

NAME: WEST EARL TOWNSHIP

*Este informe contiene información muy importante sobre su agua de beber. Tradúzcalo ó hable con alguien que lo entienda bien.* (This report contains very important information about your drinking water. Translate it, 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 Robert Buckwalter, Jr. at 157 W. Metzler Road, Brownstown, PA 17508 or by calling 717-859-3201.

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 the first Monday of every month at 7 p.m.

### SOURCES OF WATER:

The Nolt Well located north of Turtle Hill Road and surface water from the City of Lancaster – primarily from the Conestoga Water Treatment Plant.

**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, 2011 to December 31, 2011. 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 AND ABBREVIATIONS:

**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 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.

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

water.

**Mrem/year** = millirems per year (a measure of radiation absorbed by the body)

**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)

**ppq** = parts per quadrillion, or picograms per liter

**ppt** = parts per trillion, or nanograms per liter

**DETECTED SAMPLE RESULTS:**

Chemical Contaminant	MCL In CCR Units	MCLG	Highest Level Detected	Range of Detections	Units	Violation	Sources of Contamination
Nitrate (2011)	10	10	3.7	3.1 – 3.7	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Sodium (2011)	N/A	N/A	31.9	27.3 – 31.9	ppm	No	Byproduct of softening
Tetrachloroethylene (2011)	5	0	1.7	Single Sample	ppb	No	Discharge from factories and dry cleaners
Trihalomethanes (2011)	80	N/A	30.82*	3.4 – 85.9	ppb	No	By-product of drinking water chlorination
HAA (Haloacetic Acids) (2011)	60	N/A	29.67*	0 – 65	ppb	No	By-product of drinking water chlorination
Total Dissolved Solids (2011)	500	500	713	264 - 713	ppm	Yes	Byproduct of softening
Fluoride** (2003)	2	2	0.11	N/A	ppm	No	Water additive to promote strong teeth
Chlorine Residual (2011)	MRDL 4	MRDLG 4	1.2	0.36-1.2	ppm	No	Additive to control microbes Disinfectant residual

\* Highest running annual average

\*\*Fluoride result from the well, not from Lancaster City

Contaminant	Action Level (AL)	MCLG	90 <sup>th</sup> Percentile Value	Units	# of Sites Above AL of Total Sites	Violation Of TT	Sources of Contamination
Lead (2010)	15	0	4.9	ppb	0	No	Household plumbing corrosion
Copper (2010)	1.3	1.3	0.3	ppm	0	No	Household plumbing corrosion

**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 storm water 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:**

**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. West Earl Township 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 drinking water, testing methods, and steps you can take to minimize exposure these are available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

**ABOUT FLOURIDE:** The ideal fluoride content in drinking water is .7 to 1.2 ppm. The water from the Nolt well contains very little fluoride and none is added to that water. However, the water that the Township receives from the City of Lancaster does contain fluoride. Therefore, residents of West Earl Township receive a mixture of non-fluoridated and fluoridated water. To get an idea of how much fluoride is contained in the water from the City of Lancaster please see the attached CCR.

**ABOUT SODIUM AND TOTAL DISSOLVED SOLIDS:** These two chemicals occur in the treated water from the well because of the water softening system that was in place. At the beginning of 2009 the use of water softeners were discontinued which will cause the sodium and total dissolved solids level to lower over time.

# 2011 ANNUAL DRINKING WATER QUALITY REPORT

**PWSID #: 7360058 -- NAME: CITY OF LANCASTER, PA**

*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. We want you to be informed about your water supply. If you have any questions about this report or concerning your water utility, please contact Al Nagy at 717-291-4833.

## **SOURCES OF WATER:**

Our sources of water are the Conestoga River and the Susquehanna River located in Lancaster County. A Source Water Assessment was completed in 2009 by the PA Department of Environmental Protection (PA DEP). The Assessment found our sources are potentially susceptible to agricultural activity, accidental spills along roads and urban development. Overall, our sources have a low risk of significant contamination. The assessment is available at: <http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-59455/RS7360058001%20City%20of%20Lancaster%20BofW.pdf>. Complete reports were distributed to municipalities, water supplier, local planning agencies and PA DEP offices. Copies of the complete report are available at the DEP Regional Office, Records Management Unit at 484-250-5910.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as individuals 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, 2011. 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.

**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

**ppb** = parts per billion, or micrograms per liter

**pCi/L** = picocuries per liter, measure of radiation

**ppq** = parts per quadrillion or picograms per liter

**mrem/year** = millirems per year

**ppm** = parts per million or milligrams per liter

**ppt** = parts per trillion or nanograms per liter

**DETECTED SAMPLE RESULTS: SUSQUEHANNA PLANT; ENTRY POINT 101**

Chemical Contaminants								
Contaminant	MCL in CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Barium	2	2	0.04	0.03 – 0.04	ppm	2011	N	Erosion of natural deposits.
Fluoride	2	2	0.8	0.73 - 0.80	ppm	2011	N	Water additive that promotes strong teeth.
Nickel	100	0	3.2	1.5 - 3.2	ppb	2011	N	Corrosion of home plumbing.
Nitrate	10	10	0.99	---	ppm	2011	N	Erosion of natural deposits.
Combined Uranium	30	0	1.06	---	pCi/L.	2011	N	Erosion of natural deposits.

\* EPA's MCL for fluoride is 4 ppm. However, Pennsylvania has set a lower MCL to better protect human health.

Turbidity						
Contaminant	MCL	MCLG	Level Detected	Sample Date	Violation Y/N	Source of Contamination
Turbidity	TT=1 NTU for a single measurement.	0	0.05	2011	N	Soil runoff.

Total Organic Carbon (TOC)					
Contaminant	Range of % Removal Required	Range of percent removal achieved	Number of quarters out of compliance	Violation Y/N	Sources of Contamination
TOC	0 - 45	26-57	0	N	Naturally present in environment.

Entry Point Disinfectant Residual: Susquehanna and Conestoga Treatment Plants							
Contaminant	Minimum Disinfectant Residual	Lowest Level Detected	Range of Detections	Units	Date of Lowest Sample	Violation Y/N	Sources of Contamination
Susquehanna Plant Chlorine	0.2	0.35	0.35 – 3.1	ppm	4/29/11	N	Water additive used to control microbes.
Conestoga Plant Chlorine	0.2	0.15*	0.15 – 1.8	ppm	2/15/11	N	Water additive used to control microbes.

\*This low level was only momentary, and was not a violation.

**DETECTED SAMPLE RESULTS: CONESTOGA WATER PLANT; ENTRY POINT 102**

Chemical Contaminants								
Contaminant	MCL in CCR Units	MCLG	Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Barium	2	2	0.05	Both samples 0.05	ppm	2011	N	Erosion of natural deposits.
Fluoride	2	2	0.94	0.73 - 0.94	ppm	2011	N	Water additive to promote strong teeth.
Nickel	100	0	1.1	Both samples 1.1	ppb	2011	N	Erosion of natural deposits.
Nitrate	10	10	7.4	Four samples 4.4-7.4	ppm	2011	N	Runoff from fertilizer use.

**DETECTED SAMPLE RESULTS: CONESTOGA WATER PLANT; ENTRY POINT 102 (continued)**

Selenium	50	0	1.1	0 – 1.1	ppb	2011	N	Erosion of natural deposits.
Combined Uranium	30	0	1.48	---	pCi/L.	2011	N	Erosion of natural deposits.

\*EPA's MCL for fluoride is 4 ppm. However, Pennsylvania has set a lower MCL to better protect human health.

<b>Turbidity</b>							
Contaminant	MCL	MCLG	Level Detected	Sample Date	Violation Y/N	Source of Contamination	
Turbidity	TT=1 NTU for a single measurement	0	0.05	2011	N	Soil runoff.	

<b>Total Organic Carbon (TOC)</b>					
Contaminant	Range of % Removal Required	Range of percent removal achieved	Number of quarters out of compliance	Violation Y/N	Sources of Contamination
TOC	0 – 35	12-56	0	N	Naturally present in environment.

**DETECTED SAMPLE RESULTS: DISTRIBUTION SYSTEM**

<b>Distribution Disinfectant Residual</b>							
Contaminant	Minimum Disinfectant Residual	Highest Average Result	Range of Monthly Avg Results	Units	Month w/ Highest Avg Result	Violation Y/N	Sources of Contamination
Chlorine	0.2	1.4	1.0 – 1.4	ppm	Oct. 2011	N	Water additive used to control microbes.

<b>Disinfection Byproducts</b>								
Contaminant	MCL in CCR Units	MCLG	Avg Level Detected	Range of Detections	Units	Sample Date	Violation Y/N	Sources of Contamination
Haloacetic Acids	60	n/a	43	13 - 90	ppb	2011	N *	By-product of disinfection
Trihalomethanes	80	n/a	47	9 -117	ppb	2011	N *	By-product of disinfection

\*Violation of MCL is based on running annual average

<b>Lead and Copper</b>							
Contaminant	Action Level (AL)	MCLG	90 <sup>th</sup> Percentile Value	Units	# of Sites Above AL of Total Sites	Violation Y/N	Sources of Contamination
Lead	15	0	4.8	ppb	0 of 50	N	Corrosion of home plumbing.
Copper	1.3	1.3	0.17	ppm	0 of 50	N	Corrosion of home plumbing

**DETECTED SAMPLE RESULTS: DISTRIBUTION SYSTEM (continued)**

<b>Microbial</b>					
<b>Contaminants</b>	<b>MCL</b>	<b>MCLG</b>	<b>Highest # or % of Positive Samples</b>	<b>Violation Y/N</b>	<b>Sources of Contamination</b>
Total Coliform Bacteria	For systems that collect ≥ 40 samples/month:	0	0	N	Naturally present in environment.
Fecal Coliform Bacteria or E. coli	0	0	0	N	Human and animal fecal waste

**VIOLATIONS:**

In 2011 we failed to test for volatile organic chemicals (VOC's) in water treated at the Conestoga and Susquehanna Water Plants. No VOC's were present in samples collected 1/26/2012. VOC's were not detected from 1995-2010.

**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).

**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 City of Lancaster, Bureau of Water is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. Lead was not detected in City drinking water when it leaves our treatment plants and underground pipes. 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>. For information about lead, go to the city web site: <http://www.cityoflanasterpa.com/lanastercity/lib/lanastercity/lead.pdf>. If you have questions about City drinking water, contact Al Nagy at 717-291-4833 or [anagy@cityoflanasterpa.com](mailto:anagy@cityoflanasterpa.com).