

Lehigh County Authority Annual Water Quality Report 2016

Central Lehigh Division
PWSID: 3390073

*Este informe contiene información muy importante sobre su agua potable.
Tradúzcalo o hable con alguien que lo entienda bien.*

LCA Commitment to Safe Drinking Water

LCA is a public, nonprofit water and sewer utility dedicated to a single mission – to provide continually improved, affordable, reliable and sustainable services to our customers.

Continuous improvement comes from our ongoing participation in programs and associations such as the Partnership for Safe Water program, Lehigh Valley Water Suppliers, American Water Works Association, the PA-DEP Source Water Protection Technical Assistance Program and the Pennsylvania Association of Accredited Environmental Laboratories. It also comes from our professional staff of water plant operators, laboratory technicians, customer service personnel and distribution system operators who provide the highest quality service possible every single day.

This report contains detailed information about your water quality. As you review this information, please feel free to contact LCA to ask questions and learn more about our commitment to our customers. Thank you!

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About Your Water System

Service Area: Portions of Upper Macungie, Lower Macungie, Salisbury, South Whitehall, Upper Milford, Weisenberg and Lowhill townships.

Number of Customers: 17,381 properties served.

Water Supply: 14 wells located throughout the service area, plus an interconnection with LCA's Allentown Division water system, produce an average of 9.3 million gallons of water per day. The Allentown Division draws its water from two large springs, the Little Lehigh Creek and the Lehigh River.

Water Treatment: Water from LCA's wells is disinfected with chlorine to kill bacteria. No other treatment is necessary in order to ensure a safe supply of drinking water. The Allentown Division water supply is treated at LCA's full-scale water filtration plant located in Allentown.

Why this report is important!

The information contained in this report may be especially important for some groups of people, such as the elderly, people with compromised immune systems and infants. If you are viewing this report, but the water LCA provides is actually provided to tenants, patients, customers or employees who use your property, please make a copy of this report available to them as well. Thank you!

2016 Water Quality Test Results

Abbreviations & Definitions

MCL:	Maximum Contaminant Level. The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs (definition below) 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.
MinRDL:	Minimum Residual Disinfectant Level. The minimum level of residual disinfectant required at the entry point to the distribution system.
MaxRDL:	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.
MaxRDLG:	Maximum Residual Disinfectant Level Goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MaxRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.
AL:	Action Level. The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
TT:	Treatment Technique. A required process intended to reduce the level of a contaminant in drinking water.
mg/L:	Milligrams per liter.
NTU:	Nephelometric turbidity units (measure of water's cloudiness)
pCi/L:	Picocuries per liter (a measure of radiation).
ppm:	Parts per million (equal to milligrams per liter).
ppb:	Parts per billion.
ug/L:	Micrograms per liter.
N/A:	Not applicable.
ND:	Not detected.
< or >	< = Less than. > = Greater than.

2016 Water Quality Test Results

Entry Point Disinfectant Residual

Contaminant Name	MCL (Maximum Allowed)	MCLG (Goal)	LCA's Water Test Results	Range of LCA's Test Results	Sample Date	Pass or Fail?	Sources of Contamination
Chlorine (as Cl ₂) (ppm)	MinRDL = 0.40	N/A	Lowest Detected Level = 0.40	0.40 – 1.56	2016	Pass	Water additive used to control microbes

2016 Water Quality Test Results

Chemical Contaminants

Contaminant Name	MCL (Maximum Allowed)	MCLG (Goal)	LCA's Water Test Results	Range of LCA's Test Results	Sample Date	Pass or Fail?	Sources of Contamination
Chlorine (as Cl ₂) (ppm)	MaxRDL = 4	MaxRDLG = 4	1.01	0.83 – 1.01	2016	Pass	Water additive used to control microbes
Total Trihalomethanes (ppb)	80	N/A	35.5 (running annual average)	4.0 – 61.4	2016	Pass	By-product of water chlorination
Haloacetic Acids (ppb)	60	N/A	16.2 (running annual average)	1.2 – 26.5	2016	Pass	By-product of water chlorination
Barium (ppm)	2	2	0.064	0.014 – 0.064	2015/ 2016	Pass	Erosion of natural deposits

2016 Water Quality Test Results

Chemical Contaminants (cont'd)

Contaminant Name	MCL (Maximum Allowed)	MCLG (Goal)	LCA's Water Test Results	Range of LCA's Test Results	Sample Date	Pass or Fail?	Sources of Contamination
Nitrate (ppm)	10	10	7.42	3.98 – 7.42	2016	Pass	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Fluoride (ppm)*	2	2	0.55	0 – 0.55	2015/ 2016	Pass	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories

* *Fluoride*: LCA adds fluoride to the drinking water in Allentown as a requirement of the lease of the water system from the City of Allentown. The Allentown water typically contains fluoride levels up to 0.6 ppm, which is blended with well water to serve your home. Customers may be receiving a blended amount of fluoride at any time that ranges from 0 – 0.6 ppm.

2016 Water Quality Test Results

Chemical Contaminants (cont'd)

Contaminant Name	MCL (Maximum Allowed)	MCLG (Goal)	LCA's Water Test Results	Range of LCA's Test Results	Sample Date	Pass or Fail?	Sources of Contamination
Chromium (ppb)	100	100	2	1 – 2	2015/ 2016	Pass	Discharge from steel and pulp mills; Erosion of natural deposits
Nickel (ppm)*	N/A	N/A	0.002	0 – 0.002	2015/ 2016	N/A	Erosion of natural deposits; corrosion of bronze plumbing fixtures
Tetrachloroethylene (ppb)	5	0	0.9	0 – 0.9	2016	Pass	Discharge from factories and dry cleaners

* *Nickel*: Although tests for Nickel are required, EPA has rescinded the MCL on the amount of Nickel allowed in drinking water.

2016 Water Quality Test Results

Lead & Copper Testing

Contaminant Name	MCL (Maximum Allowed)	MCLG (Goal)	LCA's Water Test Results	Range of LCA's Test Results	Sample Date	Pass or Fail?	Typical Source
Copper (ppm)	AL = 1.3	1.3	0.13	All samples were < AL	2016	Pass	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	AL = 15	0	3	All samples were < AL	2016	Pass	Corrosion of household plumbing systems; Erosion of natural deposits

2016 Water Quality Test Results

Radioactive Contaminants

Contaminant Name	MCL (Maximum Allowed)	MCLG (Goal)	LCA's Water Test Results	Range of LCA's Test Results	Sample Date	Pass or Fail?	Sources of Contamination
Alpha Emitters (pCi/L)	15	0	8.75	0 – 8.75	2015	Pass	Decay of natural and manmade deposits
Combined Radium (pCi/L)	5	0	1.1	0 – 1.1	2014/2016	Pass	Erosion of natural deposits

2016 Water Quality Test Results

Other Contaminants

Contaminant Name	MCL (Maximum Allowed)	MCLG (Goal)	LCA's Water Test Results	Range of LCA's Test Results	Sample Date	Pass or Fail?	Typical Source
Turbidity (NTU)	$\frac{TT = 1}{TT = \text{at least 95\% of monthly samples} \leq 0.3 \text{ NTU}}$	0	$\frac{0.15}{100\%}$	N/A	2016	Pass	Soil runoff

2016 Water Quality Test Results

Unregulated Contaminant Monitoring

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

Contaminant Name	Reported Level (Average)	Range of Results
Chlorate (ppb)	64.8	0 – 229
Hexavalent chromium (ppb)	0.4	0.07 – 0.74
Total chromium (ppb)	0.6	0.2 – 1.2
Strontium (ppb)	210	42.4 – 638
Vanadium (ppb)	0.04	0 – 0.3
1,4-Dioxane (ppb)	0.04	0 – 0.23
Chlorofluormethane (ppb)	0.01	0 – 0.11
1,1-Dichloroethane (ppb)	0.004	0 – 0.06

All results are from the 2014 Unregulated Contaminant Monitoring Rule 3 (UCMR3) testing.

What does this report mean?

The information in this report shows only those substances that were detected in your water. All of them “passed” because they fall within acceptable limits for health and safety as determined by state and federal regulations. These regulations are put in place to protect the public’s health, and we are pleased to show that our water met these standards in 2016!

Any violations in 2016?

LCA faced no water quality violations in your water system in 2016!

NOTICE: 2016 Monitoring & Reporting Violation

LCA is required monitor your drinking water for specific contaminants and treatment chemicals on a regular basis. Results of regular monitoring are an indicator of whether your drinking water meets health standards.

During the period of October 21 to October 31, 2016, LCA failed to record daily entry-point chlorine residuals at Entry Point # 111. Therefore, we cannot be sure of the quality of your water on those days. This monitoring violation occurred due to a failure in the automated system that records the daily monitoring results. When the incident occurred, the system was corrected to ensure all results will be recorded properly. The water system returned to full compliance on November 1, 2016.

During this time period, all other daily monitoring points were recorded properly, and all results indicate that your water meets health and safety standards due to having adequate chlorine disinfection in place.

What's NOT in your water?

In addition to the substances shown in this report, LCA tests your water for many other substances which were NOT detected in your water. These tests are routinely conducted according to schedules and procedures outlined in state and federal regulations for safe drinking water.

Substances LCA tests for include:

Microbiological Contaminants

Radioactive Contaminants

Inorganic Contaminants

Disinfection By-Products

Volatile Organic Contaminants

Synthetic Organic Contaminants

With the exception of those listed in the charts in this report, none of the substances we have tested for have been detected in your drinking water. For detailed information about our water quality monitoring program, please give us a call at 610-398-1444 any time with your questions.

Other Important Information

Water Testing Frequency

The monitoring results shown in this report includes information from calendar year 2016. Annual testing is not required for all contaminants. Some are on multi-year cycles based on schedules determined by state and federal regulations. We also test for some contaminants such as total coliform and chlorine many times throughout the year as results may change as environmental conditions change.

Other Important Information

Nitrates in Drinking Water

Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from your health care provider.

Other Important Information

Cryptosporidium

Cryptosporidium is a microbial parasite commonly found in surface water, and the City of Allentown has monitored for it in both the surface water sources – the Little Lehigh Creek and the Lehigh River. This monitoring concludes that Cryptosporidium is present in low concentrations, and DEP has determined that no additional treatment is needed for effective removal. Customers should be aware that cryptosporidium is capable of causing a disease called cryptosporidiosis. Symptoms include diarrhea, abdominal cramping and nausea. Healthy individuals usually overcome the illness in a few weeks. However, immuno-compromised individuals are at greater risk of developing serious, chronic illness. These people should consult a physician to discuss precautions to avoid infection. Cryptosporidium must be ingested to develop disease, and it may be spread through means other than drinking water.

Other Important Information

Lead in Drinking 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. LCA 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 (800-426-4791) or at <http://www.epa.gov/safewater/lead>.

A Note From EPA

Where drinking water contamination comes from, and how EPA protects public health

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 microbes, organic or inorganic chemicals, pesticides and herbicides or radioactive materials.

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. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

A Note From EPA (cont'd)

Where drinking water contamination comes from, and how EPA protects 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).

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).

Water Hardness, pH & Other Useful Info

Water “hardness” is a measure of the mineral content in your water. These minerals, such as calcium and magnesium, are essential to human health and do not need to be removed from your drinking water. However, some customers prefer to remove these minerals with a water softener to avoid mineral deposits on faucets and other fixtures.

Hardness Scale:

0 - 5 grains per gallon = Soft Water

6 - 10 grains per gallon = Moderately Hard Water

> 11 grains per gallon = Hard Water

Water Hardness, pH & Other Useful Info

Secondary Contaminant Analysis

Secondary contaminants are associated with the aesthetic qualities of drinking water, such as taste, smell, color and formation of deposits on plumbing fixtures. When a secondary contaminant MCL is exceeded, you may notice a change in the color, smell or taste of your tap water.

Contaminant Name	MCL	Your Water – Average	Range of Results
pH (standard units)	6.5 – 8.5	7.3	7.1 – 7.6
Iron (ppm)	0.3	0	None detected
Magnesium (ppm)	N/A	22	*11 – 38
Manganese (ppm)	0.05	0	None detected
Sodium (ppm)	N/A	21	14 – 50
Total Dissolved Solids (ppm)	500	309	247 – 392
Total Hardness (grains per gallon)	N/A	17	14 – 21
Calcium (ppm)	N/A	62	*47 – 87

*2014 results

Protecting Your Drinking Water

The Pennsylvania Department of Environmental Protection (PA-DEP) completed an initial Source Water Assessment of the groundwater wells that supply water to your water system in 2004. An update to this assessment was completed in 2011 through PA-DEP's Source Water Protection Technical Assistance Program. Public meetings were held in 2011 to review the assessment, and completed reports are available for review by LCA customers, municipalities served by LCA's water systems, and local planning agencies.

The assessment found that LCA's sources of water are located within residential, commercial and industrial areas and, therefore, are susceptible to potential sources of contamination from related activities. Examples include leaking underground storage tanks, wintertime road salt applications and household activities such as lawn fertilizing and improper disposal of household hazardous wastes. Please contact LCA if you are interested in learning more about the Source Water Protection plan.

A summary of the report is available by contacting LCA, and additional information is available on the PA-DEP web site at www.dep.state.pa.us (use Keyword "Source Water Protection").

Protecting Your Drinking Water

Here are a few ideas about how you can help:

Don't Dump: Anything you put on the ground or down a storm drain can make its way into our groundwater or other water sources. Contact the Lehigh County Office of Solid Waste at 610-799-4177 to find out how to dispose of household hazardous wastes.

Lawn Care: Use only as much fertilizer as your lawn or garden really needs, and be sure to pick up after your pets!

Care for Your Car: Oil spots left on driveways and parking lots can wash away with the rain and will end up back in the environment.

Report Spills: Call 9-1-1 if you witness accidental or intentional dumping of unknown substances into our environment!

Got Questions? How to reach LCA:

Please contact Lehigh County Authority at 610-398-1444, or visit us online at www.lehighcountyauthority.org!

Board meetings are open to the public! Please visit us online for a meeting schedule and agendas!