

City of Bethlehem

2007 Annual Consumer Report on the Quality of Tap Water

El informe contiene informacion importante sobre la calidad del agua en su comunidad. Traduzcalo o hable con alguien que lo entienda bien.

The City of Bethlehem's drinking water surpasses all federal and state drinking water standards. This report is a snapshot of the quality of the water that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. We are committed to providing you with information because informed customers are our best allies. For more information about your water, call Jodi Schnalzer @ 610-865-7144.

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 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).

We encourage public interest and participation in our community's decisions affecting our drinking water. Regular City Council meetings occur on the first and third Tuesdays of every month, at 7:30 PM, in Town Hall, 10 East Church Street, Bethlehem, PA. The Bethlehem Authority meetings occur on the second Thursday of each month at 3:00 PM, in City Hall, Room B-504, 10 East Church Street, Bethlehem, PA. Any changes to these meeting schedules will be published in the local newspaper. The public is welcome.

City of Bethlehem's water comes entirely from surface sources, namely the Wild Creek Reservoir, Towamensing Township, Carbon County, in a watershed that covers 22 square miles and the Penn Forest Reservoir, Penn Forest Township, Carbon County and Polk Township, Monroe County, in a watershed that covers 17 square miles. This primary water supply is located 22 miles north of the City. The Tunkhannock Creek, Tunkhannock Township, Monroe County provides a supplemental supply to the Penn Forest Reservoir. Dual transmission mains can carry up to 47 million gallons of water per day to the City's water filtration plant in Lehigh Township and from there to the distribution system.

A Source Water Assessment of the Tunkhannock Creek Intake, which supplies water to the Bethlehem Filtration Plant, was completed in 2001 by the PA Department of Environmental Protection (PA DEP). The Assessment has found that the Tunkhannock Intake is potentially most susceptible to road deicing materials, accidental spills along roads and leaks in underground storage tanks. Overall, the Tunkhannock Creek Watershed has little risk of significant contamination. In the event that monitoring of either the raw or finished water identifies or detects any of these contaminants then additional required health effects information will be included in this report noting these detections and attempting to identify the potential source(s) of the contamination. Complete reports were distributed to the City of Bethlehem's Water Bureau, local municipalities, county planning agencies and PA DEP offices. Copies of the complete report are available from the PA DEP Northeast Regional Office, Records Management Unit at (570) 826-5472. Summary reports of the Assessment should be available on the PA DEP website at www.dep.state.pa.us (directLINK "source water") in the future. A Source Water Assessment of the Wild Creek Watershed was conducted. Copies of the draft July, 2004 Report are available from the Pa DEP

Regional Office, Records Management Section. The draft assessment found that the Wild Creek Watershed is potentially most susceptible to individual point source activities including above ground storage tanks and underground petroleum storage tanks and to non point source activities including fuel oil storage tanks, household cleaning supplies, highway spills, highway salt applications, lawn care supplies, on-lot sewage disposal, petroleum pipelines, swimming pools, wells (abandoned or active) and bore holes (abandoned or active). Overall, because of all the potential threats identified near the water supply, the adoption of a source water protection plan was recommended. The final report is pending.

The Bethlehem Authority owns approximately 13,600 acres around the Wild Creek and Penn Forest Reservoirs and approximately 9,000 acres around the Tunkhannock Creek and restricts any activities on these lands that could contaminate these water supplies. There is no public access, such as boating, allowed on these reservoirs. As a result of this restriction past test results for MTBE, a fuel additive known to be contaminating some water supplies throughout the country, indicated non-detectable levels in our raw water supply. This boating restriction has eliminated another potential source of contamination of our water supply.

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 EPA's Safe Drinking Water Hotline (800-426-4791).

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 before we treat it include:

- *Microbial contaminants*, such as viruses and bacteria, which may come from septic systems, agricultural livestock operations and wildlife.
- *Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or result from stormwater runoff, industrial or domestic wastewater discharges, or farming.
- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture and residential uses and stormwater runoff.
- *Radioactive contaminants*, which are naturally occurring.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial processes, and can also come from gas stations, stormwater runoff, and septic systems.

More information is available on the World Wide Web at <http://www.bethlehem-pa.gov>

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. We treat our water according to EPA's regulations. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

WATER QUALITY DATA

The table on the next two pages lists all the drinking water contaminants that we detected during the 2007 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1-December 31, 2007. The state requires 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. Some of the data, though representative of the water quality, is more than one year old.

Terms & abbreviations used below:

Maximum Contaminant Level or 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 or 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.

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

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water. For turbidity this means any monthly sample greater than 1 NTU's or 95% of the monthly samples are greater than or equal to 0.3 NTU's.

Maximum Residual Disinfectant Level or 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 or MRDLG: The level of a drinking water disinfectant below which there is no known or expected health risks. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Terms and abbreviations continued:

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

ppb = parts per billion, or micrograms per liter (ug/l)

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

mrem/year= millirem per year (a measure of radiation absorbed by the body)

NTU = Nephelometric Turbidity Units

NA = not applicable

| <i>Inorganic Contaminants</i> | Units | MCL | MCLG | Detected Level | Range of Detection | Violation | Major Sources |
|-------------------------------|-------|-----|------|----------------|--------------------|-----------|---------------|
|-------------------------------|-------|-----|------|----------------|--------------------|-----------|---------------|

| | | | | | | | |
|-----------------------|-----|---|---|-----|----|----|--|
| ¹ Fluoride | ppm | 4 | 4 | 1.0 | NA | NO | Water Additive which promotes strong teeth |
|-----------------------|-----|---|---|-----|----|----|--|

| <i>Organic Contaminants</i> | Units | MCL | MCLG | Detected Level | Range of Detection | Violation | Major Sources |
|-----------------------------|-------|-----|------|----------------|--------------------|-----------|---------------|
|-----------------------------|-------|-----|------|----------------|--------------------|-----------|---------------|

| | | | | | | | |
|------------------------------|-----|----|----|------|-------|----|---|
| Total Trihalomethanes | ppb | 80 | 0 | 31.9 | 16-53 | NO | By-product of drinking water chlorination |
| Five Haloacetic Acids (HAA5) | ppb | 60 | NA | 32.2 | 4-37 | NO | By-product of drinking water chlorination |

| <i>Microbiological Contaminants</i> | MCL | MCLG | Highest % of positive samples collected in any one month | Violation | Major Sources |
|-------------------------------------|-----|------|--|-----------|---------------|
|-------------------------------------|-----|------|--|-----------|---------------|

| | | | | | |
|----------------|--|---|------|----|--------------------------------------|
| Total Coliform | presence of coliform in >5% of monthly samples | 0 | 0.00 | NO | Naturally present in the environment |
|----------------|--|---|------|----|--------------------------------------|

¹ The City of Bethlehem has been adding Fluoride to their drinking water since June 1971.

| <i>Lead/Copper</i> | Units | AL | MCLG | Detected Level | # of sites found above AL | Violation | Major Sources |
|--------------------|-------|-----|------|----------------|---------------------------|-----------|---|
| Lead | ppb | 15 | 0 | 1 | 1 out of 50 | NO | Corrosion of household plumbing systems |
| Copper | ppm | 1.3 | 1.3 | 0.096 | 0 out of 50 | NO | Corrosion of household plumbing systems |

| <i>Performance Monitoring</i> | Units | MCL | MCLG | Detected Level | Lowest Monthly % of samples meeting TT | Violation | Major Sources |
|-------------------------------|-------|-----|------|----------------|--|-----------|---------------|
| ² Turbidity | NTU | TT | NA | 0.070 | 100 | NO | Soil Runoff |

| <i>Radiologicals</i> | Units | MCL | MCLG | Detected Level | Range | Violation | Major Sources |
|-----------------------------------|-----------|-----|------|----------------|-------|-----------|-------------------------------------|
| ³ Beta/photon emitters | mrem/year | 4 | 0 | 0.37 | NA | NO | decay of natural & manmade deposits |
| Combined Radium | pCi/l | 5 | 0 | 1.6 | NA | NO | erosion of natural deposits |

Data collected in the above table is from 2003.

| <i>Performance Monitoring</i> | Units | MRDL | MRDLG | Detected Level | Range | Violation | Major Sources |
|-------------------------------|-------|------|-------|----------------|-----------|-----------|---|
| Disinfectant Residual | ppm | 4 | 4 | 0.90 | 0.02-1.88 | NO | Product of drinking water disinfection. |

Additional health information

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 elevated 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 (800-426-4791).

The City of Bethlehem was required to monitor for 10 Unregulated Contaminants during each quarter of the 2002 monitoring year. All results for these analytes came back non-detected. Information regarding these contaminants is available by calling Jodi Schnalzer @ (610) 865-7144.

The City of Bethlehem's Public Water Supplier ID (PWSID) Number is 3480046.

² Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

³ Strontium 90 was detected at 0.3 pCi/l and Tritium was detected at 1100 pCi/l. These two results are put in a formula to determine the mrem/year value noted above.