Notes About Contaminants

* Industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

* Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil or gas production, mining or farming.

* Radiative contaminants, such as Radon, 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, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which provide the same protection for public health.

A Note About Lead

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 your 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. You may also flush your tap water for 30 seconds to two minutes before using it.

Additional information is available from the Safe Drinking Water Hotline, 800-426-4791.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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.

For More Information...

For additional information or questions about this report, contact the Gwinnett County Department of Public Utilities Environmental Laboratory at 770-614-2080. Director of Water Production, Noell C. Spivey, may be reached at 770-904-3200. Tours of the Lanier Filter Plant are available for school groups and individuals by calling 770-904-3200.

Contaminants and Health Risks

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.

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Detected Contaminants Table

<table>
<thead>
<tr>
<th>Water Source: Lake Lanier</th>
<th>Water System #: 1350004</th>
<th>Period Covered: 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead &amp; Copper Monitoring Results</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Action Level</td>
<td>MCL</td>
<td>Water System Results</td>
</tr>
<tr>
<td>Copper</td>
<td>1.3 ppm</td>
<td>1.3 ppm</td>
</tr>
<tr>
<td>Lead</td>
<td>15 ppb</td>
<td>0 ppb</td>
</tr>
</tbody>
</table>

Primary Inorganic Substance |
| MCL | MCLG | Water System Results | Range of Detections | Violation (yes/no) |
| Fluoride | 4.0 ppm | 4.0 ppm | 0.87 ppm | 0.20–1.26 | no | Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories. |
| Nitrate/Nitrite | 10.0 ppm | 10.0 ppm | 0.27 ppm | <0.20–0.27 | no | Runoff from fertilizer use; leaching from septic tanks, sewage, erosion of natural deposits. |

Volatile Organic Substances Unregulated |
| MCL | MCLG | Highest Level Detected | Violation (yes/no) | Source of substance |
| Bromodichloro-methane | none established | none established | 1.9 ppb | no | By-product of drinking water chlorination. |
| Chloroform | none established | none established | 5.9 ppb | no | By-product of drinking water chlorination. |

Substance |
| MCL | MCLG | Average | Violation (yes/no) | Range of Detections | Source of substance |
| Total Trihalomethanes | 80 ppb | 0.0 | 20.0 ppb | no | 6.5–40.8 | By-product of drinking water chlorination. |
| Total Haloacetic Acids | 60 ppb | 0.0 | 16.5 ppb | no | 8.9–28.2 | By-product of drinking water chlorination. |
| Bromate | 0.01 ppm | 0.0 | 0.005 ppm | no | 0.004 – 0.010 | By-product of drinking water chlorination. |

Substance |
| MCL | MCLG | Highest Monthly % of Positive Samples | Major Sources in Drinking Water |
| Total Coliform Bacteria | No more than 5% of monthly samples can test positive for Coliforms | 0.0 | 0.8 | Naturally present in the environment. |

Turbidity |
| Units | MCL | MCLG | Highest Reported | Lowest % of Samples Meeting Limits | Violation (yes/no) |
| Source: Soil Runoff | NTU | TT | n/a | 0.480 | 99.19 | no |

Water Treatment Process and Water Quality

Because of the excellent water quality of water from Lake Lanier, Gwinnett is able to utilize what is known as a direct filtration process for purification. Incoming water is first disinfected with Ozone, an extremely powerful oxidant that kills bacteria, inactivates viruses and protzoans, and oxidizes naturally occurring organic compounds found in surface waters. Following Ozonation, two chemicals known as coagulants are added to facilitate removal of suspended matter from the water. These chemicals are Ferric Chloride and a liquid Cationic Polymer. Immediately after addition of these chemicals a short (one minute), intense mixing process takes place, followed by a slower, more gentle mix period of 15 minutes. This process is called flocculation. After flocculation, water moves to the filtration step. Filters consist of four feet of anthracite, sitting on top of one foot of sand. The filter media (the sand and anthracite) is made up of very specific sized grains to achieve maximum removal of suspended material. After filtration, water receives its final chemical application on its way to on-site storage, until it is pumped into the water distribution system. Gwinnett uses Chlorine as the final disinfectant. State and federal Safe Drinking Water Act regulations require that a disinfectant residual be maintained throughout the water distribution system. Typical Chlorine residuals are 1.8–2.0 mg/l, leaving the water treatment plant. Residuals gradually decrease through the distribution system. Georgia law requires Fluoridation of drinking water to prevent dental caries in children. Naturally occurring Fluoride in waters in this part of the State are 0.3–0.4 mg/l. Enough Fluoride is added at the water treatment plant to bring the Fluoride level to 0.8 mg/l, a concentration recommended by the American Dental Association. Water from Lake Lanier is very ‘soft’, meaning that it has low levels of dissolved minerals. Soft water is also very corrosive, and steps are taken to reduce this corrosivity, using a phosphates-based corrosion inhibitor. The corrosion inhibitor (an ortho/polyphosphate blend) minimizes corrosion of metal pipes and plumbing fixtures. Corrosion inhibitors are most effective in a pH range of 7.2–7.5 units. Water from Lake Lanier is usually slightly acidic, with a pH of about 6.8. Finished water pH is adjusted to 7.2 units (just slightly basic) with a liquid Lime (Calcium Hydroxide) product.

Definitions

What are PPM and PPB?

Simply put, “ppm” means “parts per million” and “ppb” means “parts per billion.” PPM corresponds to one penny in $10,000 or one minute in 2 years. PPB corresponds to one penny in $10,000,000 or one minute in 2,000 years.

Maximum Contaminant Level Goal (MCLG)

The level of a known contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

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.

Action Level (AL)

The concentration of a contaminant, which, if exceeded, triggers a treatment or other requirement that a water system must follow.

NTU

Nephelometric Turbidity Units, which are a measure of suspended material in water. Turbidity is measured by shining a beam of light through water and measuring the angle at which the light is scattered by the suspended material. An instrument called a Turbidimeter is used for this purpose.

A required process intended to reduce the level of a contaminant in drinking water.

March 2006