Dear Customers:

The District of Columbia Water and Sewer Authority (“WASA”) is pleased to provide to you our 2003 Drinking Water Quality Report, the seventh in a series of annual water quality reports that we have issued since our creation in 1996.

Every resident and visitor expects and we have no higher priority than to provide the highest water quality possible. WASA purchases treated water from the Washington Aqueduct (owned and operated by the U.S. Army Corps of Engineers), and distributes it to our customers in the District of Columbia. Providing safe drinking water is our most important mission, and the Federal Safe Drinking Water Act (“SDWA”) provides a road map that we follow to achieve this goal.

As you may know, the sample tests of tap water from 26 District of Columbia homes showed elevated lead concentrations in 2002. These elevated lead concentrations resulted in WASA developing a program to notify the public and provide information about the potential risks of environmental lead exposure that could occur. WASA began the effort to comply with Environmental Protection Agency (“EPA”) requirements, and also took the additional step of launching a massive and unprecedented testing program (over 6,000 households sampled). WASA’s public education and lead service line replacement programs continue alongside the work of the Washington Aqueduct to develop and implement a plan to address lead leaching with a new treatment process.

We are providing information about the precautions that should be taken, particularly by pregnant and nursing women and children under the age of six. There is also other important information, including an explanation of the SDWA, the source and treatment of your water supply, our very extensive water quality monitoring program, and facts about water chemistry.

I hope you find the 2003 Water Quality Report useful and informative. Please send a fax to 202-787-2210 or contact us at www.dcwasa.com or info@dcwasa.com if you would like to share your opinion about how we might improve this annual report in the future.

Jerry N. Johnson, General Manager
District of Columbia Water and Sewer Authority

The Safe Drinking Water Act

The Safe Drinking Water Act was established in 1974 (and subsequently amended) to protect the quality of drinking water in the United States, and it focuses on water that is actually or potentially designed for drinking, regardless of whether the source is an underground well, or an above ground stream, like the Potomac River. Under the Act, the U.S. Environmental Protection Agency establishes rules for health and non-health related standards. All public water systems, in our community the Washington Aqueduct and WASA, must comply with them. Except for Wyoming, Washington, DC is the only jurisdiction that EPA regulates directly. Generally, water systems in the United States are regulated by state governments.

Chloramine as Our Disinfectant

On November 1, 2000, chloramines began to be used by the Washington Aqueduct as a disinfectant to maintain protection against microbial contamination in the water distribution system. The change in disinfectant from chlorine to chloramines was an effort to reduce the concentrations of “disinfection byproducts” called Trihalomethanes (THMs). This change was made in order to comply with more stringent national standards established by EPA to further reduce their presence in the water and reduce exposure of all Americans to THMs. Chronic (longterm) exposure to high concentrations of Trihalomethanes is considered to be potentially carcinogenic. Since the treatment change to chloramines, there has been a significant reduction of Trihalomethanes in the drinking water. We once
again want to remind facilities providing kidney dialysis treatment, individuals and businesses maintaining fish tanks, and laboratories and businesses affected by chloraminated water that their pretreatment steps must remove chloramines. WASA will provide fact sheets on chloramines upon request.

Note: the Washington Aqueduct and WASA follow the general practice among utilities using chloramines to switch from chloramines back to free chlorine during the spring flushing program. This periodic conversion back to free chlorine in combination with the system-wide flushing program helps to maintain water quality control in the distribution system. The switch to free chlorine is performed for six weeks from April to May each year since chloramines have been used as the disinfectant.

How You Can Help To Protect Washington, DC’s Drinking Water Supply

Watershed Protection—A watershed is an area of land surrounding a river from which water eventually drains into the river. Everyone can help protect the Potomac River, the source of our drinking water, by protecting the watershed. Dispose of household wastes and motor oil in a proper manner. Never dump anything down a storm drain. To participate in watershed protection activities, contact the Interstate Commission on the Potomac River Basin at 301-984-1908.

Report Fire Hydrant Vandalism—Fire hydrants are used primarily to supply water for fire protection. WASA also issues permits for other specific hydrant uses, with prescribed requirements for the use of a special backflow prevention device when drawing water from a hydrant. Unauthorized opening of fire hydrants, or causing damage to fire hydrants are crimes punishable by fines and imprisonment. Vandals opening fire hydrants drain thousands of gallons of fresh drinking water into streets. The torrent of water can damage roads and be a safety hazard to traffic and pedestrians. Unauthorized opening of fire hydrants can also significantly reduce water pressure in some neighborhoods. In addition, by improper use of fire hydrants, the increased water velocity causes mineral sediment in the lines to come loose, resulting in discoloration and potential water quality problems in the surrounding area. Most importantly, unauthorized hydrant use without a backflow preventor can result in the introduction of contaminants into the system. Anyone seeing someone opening a fire hydrant without apparent authorization should call 202-612-3400 immediately.

Volunteer Program—WASA has a number of drinking water quality monitoring programs offered during specific periods in which you can participate. By participating in these programs you will not only be serving the community but will also be able to receive detailed information about the water quality at your tap. We have recently mailed out the analysis data to all participants in our supplementary monitoring program. We also have received numerous calls from volunteers for the Lead and Copper Program. We are maintaining a list of volunteers for future contact, and we are planning to increase our monitoring programs to accommodate the maximum number of participants. For more information call the WASA Water Quality Division at 202-612-3440.

Be a Partner in Our Cross-Connection Control Program—Our cross-connection surveyors will be conducting inspections of the drinking water supply in commercial, industrial and apartment buildings on a schedule prioritized by hazard potential. The goal of this program is to keep the drinking water from being contaminated where it’s being used. We would appreciate your cooperation in assisting our surveyors. Depending on the survey findings, WASA will inform you of the type of backflow preventor which may be needed.

Community Meetings—WASA conducts frequent community meetings with Advisory Neighborhood Commissions, civic associations, schools, libraries, and other groups. If you would like a speaker from
WASA to make a presentation to your community group, contact the WASA Public Affairs Office at 202-787-2200, or email us at info@dcwasa.com.

**Board of Directors Meetings**—WASA, a regional service provider, is an independent District of Columbia authority, governed by a board of directors that sets rates, and financial and operating policies. The WASA Board of Directors conducts regular business meetings open to the public, generally on the first Thursday of each month. Each Board standing committee also conducts monthly meetings that are open to the public. If you would like to attend, please call the Office of the Board Secretary at 202-787-2330 to confirm the specific meeting time and location.

**The Potomac River—Our Water Supply Source**

Drinking water for all of Washington, DC comes from the Potomac River, a “surface water” supply. As water travels over land and rocks, through creeks, and into the Potomac River, it dissolves naturally occurring minerals, leaves and vegetation, and sometimes even radioactive materials in small amounts. It may also pick up animal waste, pesticides, and other debris from human activity. Rain or other precipitation may also pick up contaminants as it falls through the atmosphere and into the river.

Contaminants that may be present in source water (before treatment) include:

- Microbial contaminants, such as viruses and bacteria that come from agricultural livestock, septic systems and wildlife;
- Inorganic contaminants, such as salts and metals that can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges;
- Pesticides and herbicides that may come from agriculture, urban storm water runoff, and residential uses;
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum products; and
- Radioactive contaminants, which can be naturally occurring or due to mining activities.

The DC Department of Health conducted a Source Water Assessment of the Potomac River watershed, upstream of the water supply intakes for the District. The assessment includes the delineation of the District of Columbia source water area, the identification of potential contamination sources, a susceptibility analysis for the intakes, and modeling of contaminant transport within the river system. The study was coordinated with various state and local government agencies and interest groups. The key findings of this assessment were that the most likely source of potential contamination to the water supply are urban runoff, toxic spills, agricultural activities and inadequate wastewater treatment. For more information on this project, contact the DC Department of Health at 202-535-2190 or visit the web site http://www.dchealth.com.

**Water Quality Monitoring Programs**

**Coliform Bacteria Monitoring**—A primary method of testing the safety of drinking water is frequent laboratory analysis for coliform bacteria. Most coliform species are harmless; however, they have been found to be a useful measure of the effectiveness of the treatment process in removing harmful microorganisms, and of efforts to prevent their infiltration into the drinking water storage and distribution system. Thus, coliform bacteria monitoring throughout the District is used as an “early warning system” for potential contamination. If coliform bacteria are found in the water, more samples are immediately taken, and the situation is investigated to make sure that the water is safe to drink.

**Lead in Drinking Water**

The District of Columbia Water and Sewer Authority (WASA) is concerned about lead in your drinking water and routinely monitors for lead level concentrations pursuant to EPA regulations. Although most homes have very low levels of lead in their drinking water, some homes in the community, mostly those homes with lead service line pipes, have lead levels above the EPA action level of 15 parts per bil-
lion (ppb). Under federal law when the action level is exceeded the water system is required to have a program in place to minimize lead in your drinking water.

In order to comply with the EPA requirements for controlling copper and lead, water systems, in this case WASA and the Washington Aqueduct, must:

1. **Install and operate an EPA approved “optimal corrosion control treatment” plan** that makes water less likely to leach metals from pipes and other plumbing;

2. **Replace the publicly owned portion of seven percent (1,615) of the identified number of lead service line pipes until lead concentrations fall below the EPA action level;**

3. **Implement a lead public education program.**

The Washington Aqueduct Division of the Army Corps of Engineers is the wholesale supplier of water to WASA. In compliance with federal requirements, the Washington Aqueduct conducted *optimal corrosion control* studies and implemented plans to address the potential problem of lead in the drinking water. The purpose is to use the water treatment process to make the water less corrosive so that it is less likely to leach lead or copper from lead service line pipes and other plumbing into drinking water.

To fulfill the lead service line pipe physical replacement requirement, EPA's regulations allow for physical replacement of the publicly-owned portion of the service line pipe or testing to make sure that tap water tests below 15 ppb at a specific number of addresses with lead service line pipes. In 2003, WASA used a combination of testing and physical replacements of service line pipes in public space (from the property line to the water main in the street) to achieve the seven percent replacement goal.

It is important for property owners with a lead service line pipe to know that WASA will offer the property owners the option of paying WASA’s contractor to replace the portion of the service line pipe on private property at the time that we schedule work to replace the portion of the lead service line pipe in public space. There may be some advantage in cost and convenience to property owners who choose to use this option.

If you have any questions about how we are carrying out the requirements of the lead regulation, please e-mail us at WQP2003@dcwasa.com or give us a call at 202-787-2732.

The following information explains the simple steps you can take to protect your family by reducing potential exposure to lead in drinking water.

**More About Lead in Drinking Water**

Lead in drinking water can increase a person's total lead exposure, particularly the exposure of infants who drink baby formulas and concentrated juices that are mixed with water from homes with lead service lines and/or plumbing systems.

**Health Effects of Lead**

Lead is a common metal found throughout the environment in lead-based paint, soil, especially near highways (because lead was used in gasoline for many years); household dust, especially in older homes with lead paint; food to a small degree, certain types of pottery glazes, pewter and water. Lead can pose a significant risk to your health if too much of it enters your body. The greatest risk is to young children and the offspring of pregnant and nursing women.

Amounts of lead that won’t hurt adults can slow normal mental and physical development of growing bodies and may cause behavioral problems. In addition, a child at play often comes into contact with sources of lead contamination—like dirt and dust, so it is important to wash children's hands and toys often. The goal is to reduce lead intake from every source.

Infants and children who drink water containing lead in excess of the action level 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.

For more information about the health effects of lead and how to obtain a blood lead level screening test, contact the Department of Health at 202-671-0733 (www.dchealth.dc.gov).

**Steps to Reduce Exposure to Lead in Drinking Water**

Determine whether or not the service line that connects your home to the water main is made of lead. The best way to determine if your service line is made of lead is by either hiring a licensed plumber to inspect the line or by contacting the plumbing contractor who
installed the line. WASA also maintains records of the materials located in the public portions of the distribution system. E-mail us at WQP2003@dcwasa.com or call 202-787-2732 for information to determine the material of your service line. A test of the water drawn from the service line pipe can also provide an indication of the material.

To find out whether you need to take further action in your own home, have your drinking water tested to determine if it contains excessive concentrations of lead. Testing the water is essential because you cannot see, taste, or smell lead in drinking water. For more information on having your water tested, please e-mail us at WQP2003@dcwasa.com or call us at 202-787-2732.

If a water test indicates that the drinking water drawn from a tap in your home contains lead above 15 ppb, or if you think you have a lead service line then you should take the following precautions:

**Flushing Instructions and Consumer Advisory**

**Homes with lead service line pipes**

- Use water that you will consume only after 10 minutes of high water use activity (toilet flushing, showering, washing dishes or clothes)
- After the high water use activity, flush the tap for 60 seconds and collect cold water for drinking and store some in the refrigerator for future use

- Pregnant women, nursing mothers and children under 6 years old should only drink filtered tap water

**All homes**

- Flush the tap for 60 seconds before drawing water for drinking
- Use only cold water for drinking or cooking
- Remove and clean the strainer/aerator/screen device from your faucet on a regular basis
- Boiling water will not remove lead!
- Lead in water is not absorbed across the skin

**For More Information**

You can consult a variety of sources for additional information on this issue:

- Your family doctor or pediatrician can perform a blood test for lead and provide you with information about the health effects of lead.
- The District of Columbia Water and Sewer Authority can provide additional informational brochures, and there is also useful information on our website at [www.dcwasa.com](http://www.dcwasa.com). You can also contact us at 202-787-2732, and by e-mail at WQP2003@dcwasa.com.
- The DC Department of Consumer and Regulatory Affairs at 202-442-4641 may have information about building permit records containing the names of plumbing contractors that plumbed your home.
• The DC Department of Health at 202-671-0733 can provide you with information about the health effects of lead and how you can have your blood tested.
• U.S. EPA Safe Drinking Water Hotline is 800-426-4791, and e-mail at www.epa.gov/dclead.

What is Being Done to Improve Our Drinking Water Quality?

WASA has developed a $1.6 billion capital improvement plan to repair and upgrade the utility’s overall infrastructure during the next ten years. This initiative is, for example, helping to replace and repair large water mains, valves and pumping stations. Very recently, we completed a major overhaul of elevated storage facilities around the city which help maintain water quality and adequate water pressure for fire protection as well as home use.

WASA has embarked on many projects in the distribution system to improve water quality and provide you with safe drinking water. The cross-connection control program, which protects the drinking water from potential contaminants, is now established in DC. In addition to compliance monitoring, WASA has implemented supplementary monitoring programs to ensure water quality. Supplying water also means making sure water delivery pipes, pumps and tanks are in place and working, even in emergencies.

The Washington Aqueduct’s potential use of a chemical in the treatment process, like orthophosphate, to prevent lead leaching from pipes, is an example of the type of research that is always underway. Over the past several months, WASA has been conducting comprehensive studies at our Fort Reno facility and in a number of residential homes to determine the possible cause and best treatment for reducing lead concentrations that have been found in some District homes.

Water Quality Enhancement Program

Maintaining water quality is more than treating the water, it’s also ensuring that the water delivered to our customers consistently meets all standards promulgated under the Safe Drinking Water Act and Environmental Protection Agency.

To meet this goal, WASA’s Water Quality Division has developed an aggressive program that includes the following:

• Monitoring the water supply as it enters the distribution system, documenting special and temporal changes in the water quality;
• Ensuring that the water remains safe, technicians and analysts collect hundreds of samples every month from various locations in the distribution system and residential homes to be analyzed for coliform bacteria, chlorine residual, pH, turbidity, temperature and other water quality parameters;
• Identifying and responding rapidly to customer complaints or other water quality episodes;
• Developing baseline conditions for water quality data management;
• Standardizing quality assurance and quality control procedures in all water quality units for sampling and testing;
• Designing a small mobile lab that will be able to address routine sampling, water quality complaints and emergency situations efficiently.

Other Water Quality Enhancement Programs

The quality of drinking water is affected as it flows through the distribution system. WASA has undertaken a number of programs to protect, maintain and enhance water quality in the distribution system. Examples include such maintenance activities as comprehensive system flushing, water main rehabilitation and construction, and cross connection control management.

Water Main Flushing—Annually each spring through fall, WASA conducts an aggressive flushing program to systematically “flush” water mains in the distribution system. The water is released by sequentially opening the District’s 8,700 fire hydrants and flushing water in a unidirectional manner. As some of the water being flushed may end up in streams and rivers, we are dechloraminating the water being flushed to protect aquatic life. Flushing water through the pipes at high velocities removes potential buildup of materials in pipes that may cause discolored water. Look for the continuously updated flushing schedule on our website, www.dcwsa.com. In addition, flyers will be placed on your door at least 48 hours in advance to notify you when flushing will be occurring in your neighborhood.

How To Flush Your Household Pipes—Organic or other matter in your household pipes which may cause taste and odor problems can be eliminated by flushing your water pipes. The procedure is outlined in the following steps.

Remove the screens (called aerators) from the ends of the indoor faucets and run all of the faucets wide open and simultaneously for 3 to 5 minutes.

Flush the toilets two or three times each while the faucets are running. This generates a large flow of water through the pipes and will hopefully dislodge any build-up of organic material that causes taste and odor problems. Removing the aerators before flushing the plumbing will prevent anything dislodged from accumulating on the screens.

After 3 to 5 minutes of flushing, turn off the water faucets, clean the aerators, and reinstall the aerators on the ends of the faucets.

Replace worn-out aerators with new ones.

Cross Connection Control Regulation Program—The purpose of WASA’s cross connection control program is to eliminate potential “cross connections”—physical links that could allow contaminants to flow into the District’s water supply from customers’ facilities. WASA’s cross connection control regulations are published in chapter 54 Title 21 DCMR under the heading “Cross Connections.” Under these regulations to protect public health, WASA is requiring local businesses to install backflow prevention devices at the water service connection, which will prevent contaminants from entering the drinking water supply. Backflow of contaminating materials may cause serious illness. WASA is leading this cooperative effort that includes the DC Department of Health, the DC Department of Consumer and Regulatory Affairs, the EPA and consumers.
Important Health Information

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, people 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. Federal EPA and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

The Washington Aqueduct tests the untreated source water for Cryptosporidium. Tests of the source water (prior to treatment) have not detected Cryptosporidium. Because current test methods for Cryptosporidium cannot conclusively assure that the organism will never be present in our source water, the Washington Aqueduct’s treatment plants provide a multiple-barrier approach—chemical treatment, highly efficient filtration technology and disinfection—designed to remove Cryptosporidium.

Cryptosporidium, a microorganism that lives in the gut of animal hosts, is found in surface water throughout the U.S. People can be exposed to Cryptosporidium through ingestion of contaminated food, recreational water, or drinking water containing Cryptosporidium cysts. Exposure to Cryptosporidium may cause diarrhea, fever, and gastrointestinal illness. Healthy individuals generally easily manage this illness.

About our compliance with the EPA lead and copper rule:

Since the Authority triggered the action level for lead in the drinking water, the Authority is required to engage in public education and begin replacements of lead service lines. Over the course of 2003, the Authority distributed educational materials to the public regarding the health risks of lead and steps consumers could take to mitigate lead exposure and began lead service line replacements. The EPA, in a March 31, 2004 Show Cause letter and pursuant to a compliance audit, has identified several instances in which it asserts that the Authority did not fully comply with the regulations. While the Authority does not necessarily agree with the EPA, the information is being provided to you. This information is accurate and up to date as of the date of this printing. You can find a copy of the EPA’s Show Cause letter at www.epa.gov/dclead/johnson-letter2.htm.

Public Outreach

The public education requirements are set forth in federal regulations (40 CFR §141.85). The regulations require that a public service announcement be submitted to five or more radio and television stations every six months. The Authority submitted a public service announcement to over 31 radio and television stations in October of 2002 and again in September of 2003. We did not submit an announcement in the Spring of 2003. The EPA has also cited the Authority for language used in the public service announcements that were submitted to media outlets but not aired. The Authority referred to “potential elevated levels of lead” in your drinking water rather than stating that “unhealthy levels of lead” can enter your drinking water from the plumbing in your home. However, because not one of our public service announcements was aired, the Authority placed a paid advertisement in the Washington Post to alert its consumers to the presence of lead in its drinking water.

The regulations also require that public education materials be included with the Authority’s water bills; and that notice language be included on the bill itself. The EPA has alleged that the Authority’s notice language was deficient because the phrase “in their drinking water” was reordered and the Authority omitted the term “significant” on the face of the bill.

Because the Authority believes the residents and water consumers of the District of Columbia could benefit from additional information beyond what the lead and copper rules require, the Authority is committed to conducting a far more expansive public outreach program.

Lead Line Replacements

As part of the enhanced requirements for triggering the action level, the Authority has undertaken a lead service line replacement program. This program requires that the Authority replace at least seven percent of the lead service lines each year until the monitoring results demonstrates reduced levels of lead in the drinking water. The Authority can only replace that portion of the service line that exists in public space, but must offer each homeowner the opportunity to replace the portion of the service line that exists on private property. If the homeowner does not elect to have the private portion replaced, the Authority will do a “partial” replacement. For each partial replacement, the regulations require that, within 72 hours following the replacement, a water sample be taken at the tap. Unfortunately, many homeowners (although provided advance notice and sampling kits with instructions) did not provide the Authority with the samples. Because of the importance of timely completing the testing, the Authority has begun a new outreach program to urge homeowners to complete the testing as soon as possible.

Late Reports

The lead and copper rules also contain reporting requirements. For example, the rule requires that regular monitoring of lead in the water be conducted. For the Authority, that means that for each six month period, the drinking water of 100 residences must be tested (at the tap). The samples are sent to the laboratory and tested for lead content. The laboratory reports back to the Authority thirty days later and the Authority reports these results to EPA. The report to EPA should be made no later than 10 days after the close of the monitoring period. The official reports provided by the Authority did not meet the 10 day requirement. However, the Authority is committed to timely reporting and will request homeowners to conduct the sampling earlier in the monitoring period so the Authority will have time to send the samples to the laboratory and receive the results early enough so that it may timely report. In addition to reporting after monitoring periods, reports are to be made to EPA regarding public education and lead service line replacements requirements as well. Although the Authority worked closely with EPA on its public education pieces, the Authority did not make some of its formal reports timely. While, the Authority did provide EPA with several progress reports on lead line replacements, its end of year compliance report was untimely as well.

The Authority commits to more timely formal reporting.
What’s in My Drinking Water?

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 regulations establish limits for contaminants in bottled water which must provide the same protection for public health. The table summarizes the District’s drinking water test results during the year 2003. The water is tested for the presence of 127 prescribed contaminants; however for clarity only those detected are listed in the table. The table compares the level of each detected contaminant to an allowable upper limit (maximum contaminant level, or MCL) and the ideal goal (maximum contaminant level goal, or MCLG) set by EPA. If you would like a complete list of contaminant test results call 202-612-3440.

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 expected health risks can be obtained by calling the Environmental Protection Agency Safe Drinking Water Hotline at 1-800-426-4791.

Washington, DC Drinking Water Analysis Data for 2003

Regulated Contaminants

<table>
<thead>
<tr>
<th>Category of Contaminants</th>
<th>Units</th>
<th>EPA Limits</th>
<th>DC Drinking Water</th>
<th>Typical Sources of Contaminants</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MCLG</td>
<td>MCL or TT</td>
<td>Highest</td>
</tr>
</tbody>
</table>

**Potomac River Source**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th>7.8</th>
<th>7.0 to 7.8</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>7.8</td>
<td>7.0 to 7.8</td>
<td>NA</td>
</tr>
<tr>
<td>Alkalinity</td>
<td>ppm</td>
<td>NA</td>
<td>NA</td>
<td>88</td>
<td>50 to 88</td>
<td>NA</td>
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**Water Treatment Plant Performance**

<table>
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<tr>
<th>Turbidity</th>
<th>NTU</th>
<th>NA</th>
<th>5 (maximum)</th>
<th>0.08</th>
<th>0.04 to 0.08</th>
<th>Soil Runoff</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of turbidity</td>
<td>NA</td>
<td>NA</td>
<td>95%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>readings ≤ 0.5 NTU</td>
<td>NA</td>
<td>NA</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>NA</td>
<td>NA</td>
<td>8.5</td>
<td>7.7 to 8.4</td>
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<td></td>
</tr>
<tr>
<td>Alkalinity</td>
<td>ppm</td>
<td>NA</td>
<td>NA</td>
<td>83</td>
<td>47 to 83</td>
<td></td>
</tr>
<tr>
<td>Total Hardness</td>
<td>ppm</td>
<td>NA</td>
<td>NA</td>
<td>152</td>
<td>106 to 152</td>
<td></td>
</tr>
<tr>
<td>TOC</td>
<td>ppm</td>
<td>NA</td>
<td>NA</td>
<td>2.1</td>
<td>1.15 to 2.1</td>
<td>Naturally present in the environment</td>
</tr>
</tbody>
</table>

**Microbiological Indicators**

<table>
<thead>
<tr>
<th>Total Coliform Bacteria</th>
<th>% of total-coliform-positive samples</th>
<th>0</th>
<th>5% (maximum)</th>
<th>4.0%</th>
<th>0% to 4.0%</th>
<th>Naturally present in the environment</th>
</tr>
</thead>
</table>

**Disinfectants and Disinfection Byproducts**

<table>
<thead>
<tr>
<th>Chlorine</th>
<th>ppm</th>
<th>4</th>
<th>4.0 (MRDL)</th>
<th>3.8</th>
<th>3.5 to 3.8</th>
<th>Water additive that protects against microbiological contamination. Chlorine is combined with ammonia to form Chloramine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Trihalomethanes</td>
<td>ppb (4-quarter running average)</td>
<td>0</td>
<td>80</td>
<td>43.3 (highest 4-quarter running average)</td>
<td>14.2 to 55.5</td>
<td>Trihalomethanes are a byproduct of drinking water chlorination. <strong>Comment:</strong> Changeover to chloramines has reduced trihalomethanes formation</td>
</tr>
<tr>
<td>Haloacetic Acids (6)</td>
<td>ppb (4-quarter running average)</td>
<td>0</td>
<td>60</td>
<td>34.8 (highest 4-quarter running average)</td>
<td>12 to 38</td>
<td>Trihalomethanes are a byproduct of drinking water chlorination. <strong>Comment:</strong> Changeover to chloramines has reduced trihalomethanes formation</td>
</tr>
</tbody>
</table>

*continued on next page*
## EPA Regulations

1. EPA regulations require that corrective action be taken if greater than 5 of 50 samples exceed the action level.

2. EPA requirements allow for some contaminants to be monitored for less frequently than once per year because the concentrations of these contaminants do not change frequently. The most recent radionuclides data was obtained in 2002.

3. The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

4. Nickel is required to be monitored while EPA reconsiders its MCL.

### Washington, DC, Drinking Water Analysis Data for 2003

#### Regulated Contaminants (continued)

<table>
<thead>
<tr>
<th>Category of Contaminants</th>
<th>Units</th>
<th>EPA Limits</th>
<th>DC Drinking Water</th>
<th>Typical Sources of Contaminants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MCLG</td>
<td>MCL or TT</td>
<td>Highest</td>
</tr>
<tr>
<td><strong>Inorganic Metal</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selenium</td>
<td>ppb</td>
<td>50</td>
<td>50</td>
<td>0.8</td>
</tr>
<tr>
<td>Barium</td>
<td>ppm</td>
<td>2</td>
<td>2</td>
<td>0.046</td>
</tr>
<tr>
<td>Arsenic</td>
<td>ppb</td>
<td>50</td>
<td>50</td>
<td>0.6</td>
</tr>
<tr>
<td>Chromium</td>
<td>ppb</td>
<td>100</td>
<td>100</td>
<td>3.0</td>
</tr>
<tr>
<td>Copper (at the customers’ tap)</td>
<td>ppm</td>
<td>1.3</td>
<td>1.3 (AL)</td>
<td>0.01 to 0.623 90th percentile 0.194</td>
</tr>
<tr>
<td>Lead (at the customers’ tap)</td>
<td>ppb</td>
<td>0</td>
<td>15 (AL)</td>
<td>35 samples¹ out of 108 above AL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inorganic Ions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluoride</td>
<td>ppm</td>
<td>4</td>
<td>4</td>
<td>0.99</td>
</tr>
<tr>
<td>Nitrate (as N)</td>
<td>ppm</td>
<td>10</td>
<td>10</td>
<td>3.02</td>
</tr>
<tr>
<td>Chloride</td>
<td>ppm</td>
<td>46</td>
<td>16 to 46</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SOCs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atrazine</td>
<td>ppb</td>
<td>3</td>
<td>3</td>
<td>0.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Herbicides</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dalapon</td>
<td>ppb</td>
<td>200</td>
<td>200</td>
<td>2.0</td>
</tr>
<tr>
<td>2-4-D</td>
<td>ppb</td>
<td>70</td>
<td>70</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Radionuclides</strong>²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alpha Emitters</td>
<td>pCi/L</td>
<td>0</td>
<td>15</td>
<td>2.1</td>
</tr>
<tr>
<td>Beta Emitters³</td>
<td>pCi/L</td>
<td>0</td>
<td>50</td>
<td>3.0</td>
</tr>
</tbody>
</table>

---

1. EPA regulations require that corrective action be taken if greater than 5 of 50 samples exceed the action level.
2. EPA requirements allow for some contaminants to be monitored for less frequently than once per year because the concentrations of these contaminants do not change frequently. The most recent radionuclides data was obtained in 2002.
3. The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.
4. Nickel is required to be monitored while EPA reconsiders its MCL.
Washington, DC, Drinking Water Analysis Data for 2003

Unregulated Contaminants

<table>
<thead>
<tr>
<th>Category of Contaminants</th>
<th>Units</th>
<th>Status</th>
<th>Highest</th>
<th>Range</th>
<th>Typical Sources of Contaminants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inorganic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfate</td>
<td>ppm</td>
<td>NR</td>
<td>54</td>
<td>35 to 54</td>
<td>Naturally present in the environment and in mine drainage wastes</td>
</tr>
<tr>
<td>Nickel</td>
<td>ppb</td>
<td>NR</td>
<td>1.5</td>
<td>0.8 to 1.5</td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td>ppb</td>
<td>NA</td>
<td>158</td>
<td>26 to 158</td>
<td></td>
</tr>
<tr>
<td>Iron</td>
<td>ppb</td>
<td>NA</td>
<td>123</td>
<td>ND to 123</td>
<td></td>
</tr>
<tr>
<td>Lithium</td>
<td>ppb</td>
<td>NA</td>
<td>2.5</td>
<td>0.9 to 2.5</td>
<td></td>
</tr>
<tr>
<td>Magnesium</td>
<td>ppm</td>
<td>NA</td>
<td>9</td>
<td>6 to 9</td>
<td></td>
</tr>
<tr>
<td>Manganese</td>
<td>ppb</td>
<td>NA</td>
<td>14.3</td>
<td>ND to 14.3</td>
<td></td>
</tr>
<tr>
<td>Molybdenum</td>
<td>ppb</td>
<td>NA</td>
<td>1.6</td>
<td>ND to 1.6</td>
<td></td>
</tr>
<tr>
<td>Potassium</td>
<td>Ppm</td>
<td>NA</td>
<td>3.3</td>
<td>1.8 to 3.3</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>ppm</td>
<td>NA</td>
<td>14</td>
<td>8.4 to 14</td>
<td></td>
</tr>
<tr>
<td>Strontium</td>
<td>ppm</td>
<td>NA</td>
<td>202</td>
<td>106 to 202</td>
<td></td>
</tr>
<tr>
<td>Vanadium</td>
<td>ppb</td>
<td>NA</td>
<td>1.4</td>
<td>ND to 1.4</td>
<td></td>
</tr>
<tr>
<td>Zinc</td>
<td>ppb</td>
<td>NA</td>
<td>5.2</td>
<td>ND to 5.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,4 &amp; 2,6 di-nitrotoluene, Acetochlor, DCPA mono &amp; di-acid degradate, 4,4-DDE, EPTC, Molinate, MTBE, Nitrobenzene, Perchlorate and Terbacil</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The contaminants shown in the adjacent column are required to be monitored under the “unregulated contaminant monitoring rule” (UCMR) by large water providers on a quarterly basis for one year. EPA requires that large water systems monitor for these compounds to help determine the need for future regulations. The monitoring for the UCMR began January 2002. None of the contaminants listed is detected. Results are available on request</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disinfection Byproducts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chloral Hydrate</td>
<td>ppb</td>
<td>NR</td>
<td>13</td>
<td>1.6 to 13.0</td>
<td>The non-regulated (NR) contaminants shown here are byproducts of drinking water chlorination. EPA required that large water providers monitor for these compounds to help determine the need for future regulations</td>
</tr>
<tr>
<td>Chloropicrin</td>
<td>ppb</td>
<td>NR</td>
<td>0.9</td>
<td>&lt;0.5 to 0.9</td>
<td></td>
</tr>
<tr>
<td>Haloacetonitriles</td>
<td>ppb</td>
<td>NR</td>
<td>12.3</td>
<td>2.3 to 12.3</td>
<td></td>
</tr>
<tr>
<td>Haloketones</td>
<td>ppb</td>
<td>NR</td>
<td>4.9</td>
<td>1.1 to 4.9</td>
<td></td>
</tr>
<tr>
<td>Total Organic Halides</td>
<td>ppb</td>
<td>NR</td>
<td>330</td>
<td>160 to 330</td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations and Definitions

**Action Level (AL)**—The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement that a water system must follow.

**CDC**—Centers for Disease Control and Prevention, located in Atlanta, venting and controlling disease, injury, and disability. CDC is an agency of the U.S. Department of Health and Human Services.

**Halococetic Acid (6) (HAA6)**—The six haloacetic acid species required to be monitored by EPA.

**MRDL**—Maximum Residual Disinfectant Level. The highest level of a disinfectant that is allowed in drinking water. MRDLs are set as close to the MCLGs as feasible using the best available treatment technologies.

**MRDLG**—Maximum Residual Disinfectant Level Goal. The level of drinking water disinfectant in water 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.

**MCL**—Maximum Contaminant Level. 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 technologies.

**MCLG**—Maximum Contaminant Level Goal. The level of a contaminant in water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**MDL**—Minimum Detectable Limit. The smallest amount of a contaminant that can be detected with a reasonable degree of confidence.

**NTU**—Nephelometric turbidity unit. A measure of the cloudiness of water. NTUs are used to measure the effectiveness of the water treatment system. Turbidity in excess of 5 NTU is just noticeable to the average person.

**TDI**—Total Daily Intake. The amount of a contaminant that a person would be exposed to over the course of their lifetime.

**TDS**—Total Dissolved Solids. The total amount of inorganic and organic substances dissolved in water.

**TCO**—Total Chlorine. The sum of free and combined chlorine in water.

**U.S. EPA**—United States Environmental Protection Agency.

**pCi/L**—Picocuries per liter (a measure of radioactivity)

**ppm**—parts per million

**ppb**—parts per billion

**SOCs**—Synthetic Organic Chemicals

**TT**—Treatment Technique. A required process intended to reduce the level of a contaminant in drinking water.

**Turbidity**—A measure of the cloudiness of water. We measure turbidity because it is a good indicator of the effectiveness of the water treatment system. Turbidity in excess of 5 NTU is just noticeable to the average person.

**NA**—Not Applicable

**ND**—Non-Detectable

**NR**—Not regulated by EPA at this time.

"<"—Less than. In some cases, the laboratory's analytical method was not capable of measuring at or below EPA's minimum detection level. In these cases, if the contaminant was not detected, a "less than" result is reported under the "Highest" detected level in DC's drinking water.
For More Information or Questions concerning this report call the WASA Water Quality Division, at 202-612-3440.

For other information, please call one of the numbers listed below:

Drinking Water Quality: WASA Water Quality 202-612-3440
Other General Information: WASA Switchboard 202-787-2000
Lead Hotline: WASA Lead Control 202-787-2732
Water Bills: Water Bill Action Line 202-354-3600
To Report Pipe Breaks, Leaks, or Open Hydrants (24 Hours per Day): WASA Water Operations 202-612-3400
Emergencies: WASA Public Affairs Office 202-787-2200
Storm Drain Complaints: WASA Department of Sewer Services 202-612-3400
Source Water Protection: DC Department of Health 202-724-7694
Source Water Protection: Interstate Commission on the Potomac River Basin 301-984-1908
Drinking Water Treatment: Washington Aqueduct Division, USACE 202-764-2753
Safe Drinking Water Hotline: EPA 800-426-4791

Visit Our Website—WASA's annual Water Quality Report and other information about WASA are available on the Internet at:
http://www.dcwasa.com

Other web sites with information about drinking water are listed below:
EPA's Surf Your Watershed http://www.epa.gov/surf
American Water Works Association http://www.awwa.org

Glenn S. Gerstell — Chairman of the Board
Jerry N. Johnson — General Manager

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