

2006 ANNUAL WATER QUALITY REPORT

Arlington's High-Quality Water

This annual "Consumer Confidence Report," required by the Safe Drinking Water Act, tells you where your water comes from, what our tests show about it and other things

you should know about drinking water.

Arlington's Department of Environmental Services (DES) provides residents with a safe and reliable supply of high-

quality drinking water. The DES tests County water using sophisticated equipment and advanced procedures. Our water meets all state and federal standards for quality.

Property Managers of Multiple Unit Dwellings: Post this report in a public area of the building managed in Arlington County. Contact Perry Sasser at (703) 228-6578 for additional copies.

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo ó hable con alguien que lo entienda bien.



This water tower off Lee Highway holds a 30-foot deep elevated reservoir serving the higher elevations in north Arlington. When the water level drops below 25 feet, water from ground storage tanks (see inset photo) is pumped into the reservoir.



Five water pumping stations like this one are located around Arlington. The pumps turn on when needed to send water to higher elevation tanks or reservoirs.

What's in the Water

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. The water also can pick up substances resulting from animals or 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 runoff, 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.

Arlington's treatment process removes contaminants, making it safe to drink. 💧

Where Arlington's Water Comes From

Arlington County purchases its water from the Washington Aqueduct Division of the Army Corps of Engineers. The Washington Aqueduct operates two water treatment plants in the District of Columbia. The plants treat water from a surface water source, the Potomac River.



Photo by Joshua Davis

Arlington's water comes from the Dalecarlia Treatment Plant, located on MacArthur Boulevard in Northwest Washington. Our water source is routinely monitored for vulnerability and influence through an assessment

program that includes observing land-use activities. The Arlington Waterworks maintains water quality assurance through our continuous distribution/storage evaluations and routine water sampling analysis.

Simple Steps to Prevent Water Pollution



- Dispose of used motor oil and household hazardous waste through Arlington's Household HazMat program (www.arlingtonva.us/recycle).
- Avoid excess fertilizer or pesticide use.

- Always pick up pet waste from your yard or public area.
- Wash your car at a commercial carwash, or in a location where the soapy water will not run into the storm drain.
- Sweep up dirt, grass clippings, and other yard waste instead of washing them down the driveway and into the gutter.

More information available at www.onlyrain.org.

How to Read This Table

It's easy! Our water is tested to ensure it's safe and healthy. Test results from 2005 or the most recent tests available are presented in the table. Footnotes below the chart explain important details.

The column marked **GOAL** shows the Maximum Contaminant Level Goal or **MCLG**. This is 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.

The column marked **MAXIMUM ALLOWED** is the Maximum Contaminant Level or **MCL**. This is 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.

The column marked **DETECTED LEVEL** shows the results observed in our water during the most recent round of testing.

NOTE: Arlington (of 1503) for total resampling at the

Summary of Water Quality Data

NONORGANIC CONTAMINANTS	DATE TESTED	UNIT	GOAL (MCLG)	MAX ALLOWED (MCL)	DETECTED LEVEL
Arsenic	2006	ppb	n/a	50	0.0001
Barium	2006	ppm	2	2	0.0001
Chromium	2006	ppb	100	100	0.0001
Copper ¹	2006	ppm	1.3	AL=1.3	0.0001
Flouride	2006	ppm	4	4	0.0001
Lead ²	2006	ppb	0	AL=1.5	0.0001
Nitrate (as Nitrogen)	2006	ppm	10	10	0.0001
Selenium	2006	ppb	50	50	0.0001
Nitrite	2006	ppm	1	1	0.0001
SYNTHETIC ORGANIC CONTAMINANTS (Sampled at treatment plant)	DATE TESTED	UNIT	GOAL (MCLG)	MAX ALLOWED (MCL)	DETECTED LEVEL
Atrazine	2006	ppb	3	3	0.0001
Simazine	2006	ppb	15	15	0.0001
Hexachlorocyclopentadiene	2006	ppb	15	15	0.0001
VOLATILE ORGANIC CONTAMINANTS	DATE TESTED	UNIT	GOAL (MCLG)	MAX ALLOWED (MCL)	DETECTED LEVEL
Chloramines	2006	ppm	4	4	0.0001
TTHM	2006	ppb	n/a	80	0.0001
HAA5	2006	ppb	n/a	60	0.0001
MICROBIOLOGICAL CONTAMINANTS (Sampled at treatment plant)	DATE TESTED	UNIT	GOAL (MCLG)	MAX ALLOWED (MCL)	DETECTED LEVEL
Turbidity ³	2006	NT	n/a	0.5	0.0001
MICROBIOLOGICAL CONTAMINANTS (Sampled in distribution system)	DATE TESTED	UNIT	GOAL (MCLG)	MAX ALLOWED (MCL)	DETECTED LEVEL
Total Organic Carbon (TOC)	2006	ppm	n/a	TT	0.0001
Total Coliform	2006	n/a	n/a	+	0.0001
MICROBIOLOGICAL CONTAMINANTS (Sampled in distribution system)	DATE TESTED	UNIT	GOAL (MCLG)	MAX ALLOWED (MCL)	DETECTED LEVEL
Radium 226/228	2006	pCi/L	0	5	0.0001
Beta emitters	2006	pCi/L	0	50	0.0001

TABLE FOOTNOTES

- ¹ None of the samples tested for copper exceeded the current Action Level of 1.3 ppm
- ² None of the 100 samples tested for lead exceeded the current Action Level of 1.5 ppb
- ³ 100% of the samples tested were below the Treatment Technique Level of 0.50 NTU. Turbidity is the measure of cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of the filtration process.
- ⁴ Erosion of natural deposits or products
- ⁵ Corrosion of household plumbing
- [†] Presence of coliform bacteria in >5% of monthly samples.

Saving Water, Saving Energy, Saving \$\$

Keep your energy bill out of hot water

Saving energy is good for the environment – and it can save you money. One of the easiest ways to reduce energy consumption in your home is to use water wisely. In fact, heating water is the third largest energy expense for most households, often accounting for nearly 13 percent of a utility bill. Here are easy steps to keep your energy bill out of hot water:

Use Less, Save More

- **Take more showers than baths.** Bathing uses the most hot water in the average household.
- **Take shorter showers.** Water heaters account for nearly a quarter of your home's energy use.
- **Turn off the water while shaving or washing your face.** Brush your teeth first while the water heats up, then wash or shave after filling the basin.
- **Use cold water settings for the washer when possible.** Approximately 80 to 85 percent of the energy used for washing clothes is used to heat the water. Switching the temperature setting from hot to warm cuts a load's energy use in half.

be cut in half by using low-flow aerating showerheads.

- **Insulate your hot-water storage tank and pipes.** You'll get hot water faster and avoid wasting energy to heat it up.
- **Lower your water heater thermostat to 120 degrees.**

Shop Smarter

- **Look for Energy Guide labels.** These labels are helpful when shopping for an energy-efficient water heater.
- **Consider buying ENERGY STAR® qualified dishwashers or clothes washers.** ENERGY STAR models reduce energy costs related to hot water use.
- **Invest in a natural gas on-demand or tankless water heater.** Research shows these model heaters may save up to 30 percent compared to standard heaters.
- **Out with the old; in with the new.** While most water heaters will last 10 to 15 years, it's best to start shopping for a new one if yours is more than seven years old.

Small Improvements Make a Big Difference

- **Repair leaky faucets promptly.** A leaky faucet can waste gallons of water in a short period of time.
- **Use aerating, low-flow faucets and shower heads.** A family of four that showers for five minutes a day each will use 700 gallons of water a week. This amount can



If you're planning on a renovation in the laundry room, consider buying ENERGY STAR qualified appliances.

Important Health Information

SOURCE OF CONTAMINANTS provides an explanation of the typical natural or man-made origins of the contaminant.

ACTION LEVEL is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

TREATMENT TECHNIQUE is a required process intended to reduce the level of a contaminant in drinking water.

HALOACETIC ACIDS (HAAs) ANALYSIS:

HAAs are compounds created from organic compounds that exist in source water blended with disinfectants like chlorine, that are used to eliminate potential microbial pathogens, such as bacteria and viruses. EPA has not determined the long-term health effects of HAAs ingestion. Arlington County monitored HAAs in all four quarters of 2005. The maximum detected level of 27 ppb meets and exceeds the level of 60 ppb set by EPA.

County recorded two positive samples (out of 15) for coliform in calendar year 2006. Subsequent testing at the same location was negative for coliform bacteria.

DETECTED LEVEL	RANGE OF LEVELS TESTED	SOURCE OF CONTAMINANTS
0.7	0 - 0.7	Run off from orchards, glass and electronic product waste ⁴
0.042	0.029 - 0.042	Discharge of drilling waste, from metal refineries ⁴
1.3	0 - 1.3	Discharge from steel and pulp mills ⁴
0	0	Leaching from wood preservatives ^{4, 5}
1.19	0.07 - 1.19	Water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
0	0	Runoff from fertilizer use; leaching from septic tanks ^{4, 5}
2.67	0.41 - 2.67	Runoff from fertilizer use; leaching from septic tanks, sewage
0.7	0 - 0.7	Discharge from petroleum, mines and metal refineries
0.04	0 - 0.04	

DETECTED LEVEL	RANGE OF LEVELS TESTED	SOURCE OF CONTAMINANTS
0.02	0 - 0.02	Runoff from herbicide used on row crops
0.08	0 - 0.08	Herbicide runoff
0.08	0 - 0.08	Discharge from chemical factories

DETECTED LEVEL	RANGE OF LEVELS TESTED	SOURCE OF CONTAMINANTS
3.4	2.8 - 3.4	Water additive used to control microbes
54	18 - 54	By-product of drinking water chlorination
34	16 - 34	By-product of drinking water chlorination

DETECTED LEVEL	RANGE OF LEVELS TESTED	SOURCE OF CONTAMINANTS
0.1	0.07 - 0.1	Soil runoff

DETECTED LEVEL	RANGE OF LEVELS TESTED	SOURCE OF CONTAMINANTS
5.38	2.39 - 5.38	Naturally present in the environment
12%	2 of 1503	Naturally present in the environment

DETECTED LEVEL	RANGE OF LEVELS TESTED	SOURCE OF CONTAMINANTS
0.76	0 - 0.76	⁴
3.8	0 - 3.8	Decay of natural and man-made deposits

LEVELS OF COMPOUNDS IN ARLINGTON DRINKING WATER


Average Hardness	7.8 grains/gal
Average pH	7.4 pH Units
Average Chloramine Residual	3.0 ppm
Average Fluoride	0.87 ppm

Advice for Special Populations

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 at risk from infections. These people should seek advice from their health care providers about drinking water.

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.

The Washington Aqueduct participates in a major drinking water quality testing program called the Information Collection Rule (ICR). One of the contaminants the County tests for is the parasite, cryptosporidium. Cryptosporidium has caused outbreaks of intestinal disease in the United States and overseas. It is common in surface water, difficult to kill, and even the best water system will contain some live parasites.


The Environmental Protection Agency (EPA) is working to resolve several scientific issues that will allow it to set cryptosporidium safety standards. The Washington Aqueduct conducted tests from January through December 2005. There was no presence of cryptosporidium detected in the treated finished water supply. No precaution about County drinking water is currently necessary for the general public. (See details at left). 

EPA Regulations

To ensure 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.

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.

Call the EPA's Safe Drinking Water Hotline at (800) 426-4791 for information about contaminants and potential health effects. 



Pumping stations such as this one have as many as four pumps that serve as backups and assist in pumping a higher volume up to the water tower when levels drop below 25 feet.

IMPORTANT HEALTH INFO ON TOTAL TRIHALOMETHANES (TTHMs):

The TTHM result of 54 ppb were the highest quarterly concentration for 2006. The 12-month running average result was 34 ppb. Both results meet and exceed the MCL of 80 ppb set for 2006. Some people who drink water

contained trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and have an increased risk of getting cancer.