

<b>Major sources in Drinking water</b>	
Total Coliform Bacteria	Naturally present in the environment
Fecal Coliform & <i>E. coli</i>	Human and animal fecal waste
Beta/photom emitters	Decay of natural and man-made deposits
Alpha emitters	Erosion of natural deposits.
Radium	Erosion of natural deposits.
Fluoride	Erosion of natural deposits. Water additive which promotes strong teeth; discharge from fertilizer and aluminum runoff.
Nitrates	The runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
TTHM (Total Trihalomethanes)	By-product of drinking water disinfection
HAA (Halo Acetic Acid 5)	By-product of drinking water disinfection
Barium	Erosion of natural deposits.
<i>Cryptosporidium</i>	Natural occurring pathogen found in surface water.
Turbidity	Soil runoff
TOC (total organic carbon)	Naturally present in the environment
Chlorine Dioxide	Water additive to control microbes, organics, iron, and manganese.
Chlorine	Water additive to control microbes.
Chlorite	By-product of drinking water disinfection
Sulfate	Naturally present in the environment
Chloroform	By-product of drinking water disinfection
Bromodichloromethane	By-product of drinking water disinfection
MTBE - finished water	Fuel additive that was used to help fuels burn cleaner
Dibromochloromethane	By-product of drinking water disinfection
Pharmaceuticals	Residential and agricultural waste. Improper disposal of medication

**Notes**

- 1) The ARWA provides water to the Cities of Colonial Heights & Petersburg & the Counties of Chesterfield, Dinwiddie & Prince George
- 2) The Authority obtains its source of water from Lake Chesdin, a surface water impoundment of the Appomattox River.
- 3) The water is pumped from Lake Chesdin to the treatment plant for coagulation, sedimentation, filtration, and finally disinfection with chlorine and chloramines.
- 4) The Virginia Department of Health conducted a source water assessment of our system during 2002. Lake Chesdin (Appomattox River) was determined to be highly susceptible to contamination, using criteria developed by the State in its EPA-approved Source Water Assessment Program. The assessment report consists of maps showing the source water assessment area, an inventory of known land use activities of concern and documentation of any known contamination within the last five years from the date of the assessment. The report is available by contacting Mr. Alan Harrison at (804) 590-1145.
- 5) There are no significant sources of contamination for Lake Chesdin. There is the Farmville wastewater treatment plant forty miles upstream, numerous animal feed lots and numerous farms in the drainage area.
- 6) 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.
- 7) *Cryptosporidium* is a microbial pathogen found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly-used filtration methods can not guarantee 100% removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.
- 8) Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than 6 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.
- 9) Additional information can be obtained from EPA's Safe Drinking Water Hotline (1-800-426-4791).