What were the results from last year's testing?

<table>
<thead>
<tr>
<th>CONTAMINANTS DETECTED</th>
<th>MCLG</th>
<th>MCL</th>
<th>CITY WATER RESULTS</th>
<th>FOR SAMPLES &gt;= 3X</th>
<th>RANGE OF DETECTIONS</th>
<th>VIOLATION?</th>
<th>TYPICAL SOURCE OF CONCERN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Coliform Bacteria</td>
<td>0 pCi/L</td>
<td>50 pCi/L</td>
<td>0 &lt; 0.1 pCi/L</td>
<td>0 &lt; 0.1 pCi/L</td>
<td>No</td>
<td>Naturally present in the environment</td>
<td></td>
</tr>
<tr>
<td>Fecal Coliform (per 100 ml)</td>
<td>0</td>
<td>10</td>
<td>0 &lt; 0.1</td>
<td>0 &lt; 0.1</td>
<td>No</td>
<td>Soil runoff</td>
<td></td>
</tr>
<tr>
<td>Turbidity (mg/L suspended solids (TSS))</td>
<td>0.05 NTU</td>
<td>0.2 NTU</td>
<td>0.001 NTU</td>
<td>0.001 NTU</td>
<td>No</td>
<td>Soil runoff</td>
<td></td>
</tr>
<tr>
<td>Turbidity (mg/L of suspended matter (SS))</td>
<td>0.7 NTU</td>
<td>5 NTU</td>
<td>0.001 NTU</td>
<td>0.001 NTU</td>
<td>No</td>
<td>Soil runoff</td>
<td></td>
</tr>
</tbody>
</table>

**MICRONUTRIENTS**

<table>
<thead>
<tr>
<th>CONTAMINANTS DETECTED</th>
<th>MCLG</th>
<th>MCL</th>
<th>CITY WATER RESULTS</th>
<th>FOR SAMPLES &gt;= 3X</th>
<th>RANGE OF DETECTIONS</th>
<th>VIOLATION?</th>
<th>TYPICAL SOURCE OF CONCERN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>0</td>
<td>15</td>
<td>0</td>
<td>0</td>
<td>No</td>
<td>Naturally present in the environment</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>2 ppm</td>
<td>1.3 ppm</td>
<td>0 &lt; 0.1 ppm</td>
<td>0 &lt; 0.1 ppm</td>
<td>No</td>
<td>Naturally present in the environment</td>
<td></td>
</tr>
<tr>
<td>Zinc</td>
<td>1.3 ppm</td>
<td>1.8 ppm</td>
<td>0 &lt; 0.1 ppm</td>
<td>0 &lt; 0.1 ppm</td>
<td>No</td>
<td>Naturally present in the environment</td>
<td></td>
</tr>
<tr>
<td>Fluoride</td>
<td>4 ppm</td>
<td>1 ppm</td>
<td>0.03 ppm</td>
<td>0.03 ppm</td>
<td>No</td>
<td>Naturally present in the environment</td>
<td></td>
</tr>
<tr>
<td>Barium</td>
<td>2 ppm</td>
<td>0.7 ppm</td>
<td>0.001 ppm</td>
<td>0.001 ppm</td>
<td>No</td>
<td>Naturally present in the environment</td>
<td></td>
</tr>
<tr>
<td>Nitrate</td>
<td>10 ppm</td>
<td>10 ppm</td>
<td>0.16 ppm</td>
<td>0.16 ppm</td>
<td>No</td>
<td>Soil runoff</td>
<td></td>
</tr>
<tr>
<td>Arsenic</td>
<td>10 ppm</td>
<td>10 ppm</td>
<td>0.06 ppm</td>
<td>0.06 ppm</td>
<td>No</td>
<td>Soil runoff</td>
<td></td>
</tr>
</tbody>
</table>

**TYPICAL SOURCE OF CONCERN**

- **Total Coliform Bacteria**: Soil runoff and human and animal waste.
- **Fecal Coliform**: Soil runoff and human and animal waste.
- **Lead**: Naturally present in the environment.
- **Copper**: Naturally present in the environment.
- **Fluoride**: Naturally present in the environment.
- **Barium**: Naturally present in the environment.
- **Nitrate**: Soil runoff and human and animal waste.
- **Arsenic**: Soil runoff and human and animal waste.

**What do all these numbers mean?**

Most importantly, this information shows that your drinking water met all applicable federal regulatory requirements during 2016. We use this information to have reliable sources for our drinking water needs and well operated treatment facilities. Additional information is provided below that will give you more details on each contaminant detected in your drinking water.

**PUBLIC HEALTH IMPACT**

- **Bacteria**: Risk of developing a potentially life-threatening illness. In November 2003, RWSA began a two year study to determine the occurrence of this parasite in the public water supplies of the United States. Ingestion of Cryptosporidium parvum in drinking water has caused major outbreaks of waterborne disease. Therefore, the presence of Cryptosporidium in your drinking water is very dangerous and could result in serious illness.
- **Chlorine**: Chlorine is a water additive used to control disease-causing microbes. Some people who use water containing chlorine well in excess of the MCL, please visit www.charlottesville.org/waterquality. Most importantly, this information shows that your drinking water met all applicable federal regulatory requirements during 2016. We use this information to have reliable sources for our drinking water needs and well operated treatment facilities. Additional information is provided below that will give you more details on each contaminant detected in your drinking water.

**What is Water Hardness?**

If substantial amounts of either calcium or magnesium (both nontoxic minerals) are present in drinking water, the water is said to be hard. The hardness of finished water in the City water system averages 25.5 mg/L, which is equivalent to 1.49 grains per gallon. This is the same mineral. The water may be described as soft to slightly hard.

**Fluoride**

Fluoriated water is highly supported by the Virginia Department of Health, the American Medical Association, American Dental Association, Centers for Disease Control (CDC), and the majority of health professionals in the U.S. Please visit www.cdc.gov/fluoridation if you would like further information on the health impacts of fluoridated water.

**Revised Water Treatment Process Coming Soon**

RWSA was granted an extension by the VDH to the new, stricter requirement to remove Cryptosporidium (Stage 2 - Disinfection By-Products Rules). Rules require advanced treatment and disinfection processes to meet new standards for disinfection by-products. For information on the health risks associated with long-term exposure to these contaminants at levels in excess of the MCL, please visit www.charlottesville.org/waterquality.

**Cryptosporidium in Drinking Water**

Cryptosporidium is a microbial pathogen found in surface waters throughout the United States. Ingestion of Cryptosporidium may cause as an abdominal infection in susceptible people, and diarrhea, abdominal cramps, nausea, and vomiting in the general population. The disease can be severe for people with weakened immune systems.

**What if I am immunocompromised?**

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

- Immunosuppressed people, including those with HIV/AIDS or other immune system disorders, some cancer patients, and those undergoing treatment for cancer.
- People with certain chronic conditions (such as those with diabetes, neuromuscular disorders, or renal failure) and those taking medication (such as non-steroidal anti-inflammatory drugs) that suppress the immune system.
- Elderly people or those who have weakened immune systems because of their age.
- Children under five years of age.
- Pregnant women or those who may become pregnant.
- Nursing mothers.
- People with chronically lowered immunity due to malnutrition.
- People who have had recent organ transplants.

If you are immunocompromised, you may be more vulnerable to the health effects of pollutants in your drinking water.

**Additional Information for Lead**

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. RWSA and the City are responsible for providing high quality drinking water by using corrosion inhibitors added to the water to coat the pipes and help prevent corrosion. However, there is no way to guarantee lead-free service connections upstream and downstream of the initial sample site (3 samples total). All resamples and upstream/downstream samples came back negative for bacteria, indicating the most likely reason for this positive result was laboratory or sampling error. This does not constitute a violation of the MCL.

**Other Microbiological Compounds**

- **Cryptosporidium**: A protozoan parasite that can cause severe, flu-like symptoms in immunocompromised individuals
- **Giardia**: A protozoan that can cause diarrhea and other gastrointestinal symptoms
- **Parasites**: Protozoa and helminths that can cause a variety of illnesses
- **Protozoa**: Microscopic organisms that can cause infections
- **Helminths**: Worms that can cause infections

**What is Water Hardness?**

If substantial amounts of either calcium or magnesium (both nontoxic minerals) are present in drinking water, the water is said to be hard. The hardness of finished water in the City water system averages 25.5 mg/L, which is equivalent to 1.49 grains per gallon. This is the same mineral. The water may be described as soft to slightly hard.

**Fluoride**

Fluoriated water is highly supported by the Virginia Department of Health, the American Medical Association, American Dental Association, Centers for Disease Control (CDC), and the majority of health professionals in the U.S. Please visit www.cdc.gov/fluoridation if you would like further information on the health impacts of fluoridated water.

**Revised Water Treatment Process Coming Soon**

RWSA was granted an extension by the VDH to the new, stricter requirement to remove Cryptosporidium (Stage 2 - Disinfection By-Products Rules). Rules require advanced treatment and disinfection processes to meet new standards for disinfection by-products. For information on the health risks associated with long-term exposure to these contaminants at levels in excess of the MCL, please visit www.charlottesville.org/waterquality.

**Cryptosporidium in Drinking Water**

Cryptosporidium is a microbial pathogen found in surface waters throughout the United States. Ingestion of Cryptosporidium may cause as an abdominal infection in susceptible people, and diarrhea, abdominal cramps, nausea, and vomiting in the general population. The disease can be severe for people with weakened immune systems.
RWSA operates two water treatment plants (WTP) that provide water to the City of Charlottesville. The plants are the South Rivanna WTP and the Observatory WTP. Each plant employs both chemical and physical treatment processes before releasing water into the distribution system. Sodium hypochlorite is used at both South Rivanna and Observatory for disinfection.

Fluoride is added at all treatment plants to promote good dental health. The water treatment plant that provides water to your tap may vary from day to day depending on the daily production of water at each plant, the level of storage in the system and your location.

The North Rivanna WTP draws water from the North Fork Rivanna River and serves customers located in Northern Albemarle County. The South Rivanna WTP draws water from the South Fork Rivanna Reservoir.

Where does my water come from?

RWSA operates two water treatment plants (WTP) that provide water to the City of Charlottesville. The plants are the South Rivanna WTP and the Observatory WTP. Each plant employs both chemical and physical treatment processes before releasing water into the distribution system. Sodium hypochlorite is used at both South Rivanna and Observatory for disinfection.

Fluoride is added at all treatment plants to promote good dental health. The water treatment plant that provides water to your tap may vary from day to day depending on the daily production of water at each plant, the level of storage in the system and your location.

The North Rivanna WTP draws water from the North Fork Rivanna River and serves customers located in Northern Albemarle County. The South Rivanna WTP draws water from the South Fork Rivanna Reservoir.

How do I get more information?

For more information about your water and for any comments, you can contact Lauren Hildebrand at (434) 970-3800 or at Hildebrand@charlottesville.org.

Suggestions on how to make your CCR better are welcomed. For more information, please contact Ms. Lauren Hildebrand, Director of Utilities, at 434-970-3800. (Please share this information with all other people who drink this water, especially those who may not have received this notice directly {for example, people in apartments, nursing homes, schools, and businesses}. You can do this by passing this newsletter out, posting a flyer, putting it on the internet, or any other means you feel will be effective. It is very important to make sure that the people who drink this water are aware of this information because informed customers are our best allies. We hope that this report was easy to read and easy to understand. We encourage you to contact us and let us know what you think about your Consumer Confidence Report. Suggestions on how to make your CCR better are welcomed.

The Observatory WTP draws water from both the Ragged Mountain and Sugar Hollow Reservoirs. Under a program developed by VDH, a source water assessment for the Albemarle/Charlottesville Urban Area was completed by the VDH on March 25 and September 4, 2002. This assessment determined that the raw water sources named above may be susceptible to contamination. All surface water sources are exposed to a wide array of contaminants at varying concentrations and changing hydrologic, hydraulic and atmospheric conditions that promote migration of contaminants from land use activities of concern within the assessment area. More specific information may be obtained by contacting the water system representative listed at the end of this insert.