This report is the South Adams County Water & Sanitation District’s (District) annual water quality report and summarizes the quality of the water that the District provided last year (2011). It includes information about where the District’s water comes from, what it contains, how it compared to the standards set by the Environmental Protection Agency (EPA) and the Colorado Department of Public Health (CDPHE), and where the public can obtain additional information.

The District is committed to delivering water that meets or exceeds all state and federal drinking water standards. Providing you with safe, high quality drinking water is our priority every day.

We are pleased to report again this year that your tap water met all State and EPA drinking water health standards. You can be assured that your drinking water is safe.

We encourage you to read this report in its entirety and refer to it throughout the year. It is filled with valuable information everyone can use, including important health notices, explanations about standard water quality processes, and ways to find more information.

Protection of our water sources is a continuous process at the District. We’re doing everything we can to safeguard our water supplies. In fact, it’s so important to us that we’d like your help.

All residents and business owners are encouraged to report suspicious behavior that may impact our water resources.

DRINKING WATER SOURCES

Sources of drinking water (both tap water and bottled water) can 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. It can also pick up substances resulting from the presence of animals or human activity.

Contaminates that may be present in source water include:

- Microbial contaminants: Example: viruses and bacteria which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants: Example: salts and metals which can be naturally-occurring or can result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining and farming.
- Pesticides and herbicides: Example: may come from a variety of sources including agricultural applications, urban storm water runoff and residential uses.
- Organic chemical contaminants: Example: synthetic and volatile organic chemicals which are by-products of industrial processes and petroleum production. These also may come from gas stations, urban storm water runoff and septic systems.
- Radioactive contaminants: Example: may be naturally-occurring or may be the result of oil and gas production and mining activities.

Regulation of Drinking Water

In order to ensure that tap water is safe to drink, the Colorado Department of Public Health and Environment prescribes regulations limiting the amount of certain contaminants in water provided by public water systems.

The Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

The State permits monitoring for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data, though representative, is more than one year old.

Unregulated contaminants are those for which the Environmental Protection Agency (EPA) has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.
DEFINITIONS

This report contains water industry terms and abbreviations that may be unfamiliar. The following definitions will provide a general understanding of the water industry and this water quality report.

**AL - Action Level** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements a water system must follow.

**ALG - Action Level Goal** The “Goal” is the level of a contaminant in drinking water below which there is no known or expected risk to health. ALGs allow for a margin of safety.

**BDL - Below Detectable Limit** The compound was below detectable limits.

**Gross Alpha (including RA, excluding RN & U)** - The gross alpha particle activity compliance value includes radium-226, but excludes radon 222 and uranium.

**J value - Compound is present, however, the result falls between the MDL and MRL**.

**MCL - Maximum Contaminant Level** The highest level of a contaminant allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**MCLG - Maximum Contaminant Level Goal** The “goal” 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.

**MDL - Method Detection Limit** The minimum detection level capable with the laboratory method.

**MPA - Microscopic Particulate Analysis** An analysis of surface water organisms and indicators in water. This analysis can be used to determine the existence of surface water influence on a ground water well.

**MRL - Minimum Reporting Level** The minimum quantified value that can be reported by a laboratory. The MRL must be no lower than the lowest calibration standard.

**ppm - parts per million or mg/L** milligrams per liter - Corresponds to one minute in 2 years or a single penny in $10,000.

**ppb - parts per billion or µg/L** micrograms per liter - Corresponds to one minute in 2000 years or a single penny in $10,000,000.

**pCi/L - picocuries per Liter** A measure of radioactivity in water.

**RAA - Running Annual Average** An average of monitoring results for the previous 12 calendar months.

**TT - Treatment Technique** A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

**Waiver - State permission not to test for a contaminant.**

### Regulated Substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>Sample Year</th>
<th>MCLG</th>
<th>MCL</th>
<th>Range</th>
<th>Average</th>
<th># Detections</th>
<th>#Sample</th>
<th>Common Source of Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony</td>
<td>2011</td>
<td>6</td>
<td>6</td>
<td>BDL</td>
<td>10</td>
<td>BDL - 2.5 ppb</td>
<td></td>
<td>Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder</td>
</tr>
<tr>
<td>Barium</td>
<td>2011</td>
<td>2 ppm</td>
<td>2 ppm</td>
<td>0.002 ppm</td>
<td>10</td>
<td>0.025 - 0.089 ppm</td>
<td></td>
<td>Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits</td>
</tr>
<tr>
<td>Fluoride</td>
<td>2011</td>
<td>4 ppm</td>
<td>4 ppm</td>
<td>0.81 ppm</td>
<td>10</td>
<td>0.44 - 1.44 ppm</td>
<td></td>
<td>Natural deposit erosion; water additive which promotes strong teeth; discharge from fertilizer, aluminum factories</td>
</tr>
<tr>
<td>Nitrate</td>
<td>2011</td>
<td>10 ppm</td>
<td>10 ppm</td>
<td>4.99 ppm</td>
<td>12</td>
<td>1.26 - 6.62 ppm</td>
<td></td>
<td>Runoff from fertilizer; leaching septic tanks, sewage; natural deposits erosion</td>
</tr>
<tr>
<td>Selenium</td>
<td>2011</td>
<td>50 ppb</td>
<td>50 ppb</td>
<td>5.59 ppb</td>
<td>10</td>
<td>3.4 - 7.5 ppb</td>
<td></td>
<td>Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines</td>
</tr>
<tr>
<td>1,1-Dichloroethylene</td>
<td>2011</td>
<td>7 ppb</td>
<td>7 ppb</td>
<td>0.6 ppb</td>
<td>10</td>
<td>BDL - 1.4 ppb</td>
<td></td>
<td>Discharge from industrial chemical factories</td>
</tr>
<tr>
<td>1,1,1-Trichloroethane</td>
<td>2011</td>
<td>200 ppb</td>
<td>200 ppb</td>
<td>0.2 ppb</td>
<td>10</td>
<td>BDL - 0.6 ppb</td>
<td></td>
<td>Discharge from metal de-greasing sites and other factories</td>
</tr>
<tr>
<td>1,2-Dichloroethylene</td>
<td>2011</td>
<td>70 ppb</td>
<td>70 ppb</td>
<td>0.6 ppb</td>
<td>10</td>
<td>BDL - 1.2 ppb</td>
<td></td>
<td>Discharge from industrial chemical factories</td>
</tr>
<tr>
<td>Trichloroethylene</td>
<td>2011</td>
<td>0 ppb</td>
<td>5 ppb</td>
<td>0.6 ppb</td>
<td>10</td>
<td>BDL - 1.2 ppb</td>
<td></td>
<td>Discharge from metal de-greasing sites and other factories</td>
</tr>
<tr>
<td>Tetrachloroethylene</td>
<td>2011</td>
<td>0 ppb</td>
<td>5 ppb</td>
<td>0.9 ppb</td>
<td>10</td>
<td>BDL - 2.0 ppb</td>
<td></td>
<td>Discharge from factories and dry cleaners</td>
</tr>
<tr>
<td>Carbon tetrachloride</td>
<td>2011</td>
<td>0 ppb</td>
<td>5 ppb</td>
<td>BDL</td>
<td>10</td>
<td>BDL - J ppb</td>
<td></td>
<td>Discharge from chemical plants and other industrial activities</td>
</tr>
<tr>
<td>Xylenes</td>
<td>2011</td>
<td>10,000 ppb</td>
<td>10,000 ppb</td>
<td>0.1 ppb</td>
<td>10</td>
<td>BDL - 1.0 ppb</td>
<td></td>
<td>Discharge from petroleum and chemical factories</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>2011</td>
<td>700 ppb</td>
<td>700 ppb</td>
<td>BDL</td>
<td>10</td>
<td>BDL - J ppb</td>
<td></td>
<td>Discharge from petroleum refineries</td>
</tr>
<tr>
<td>Gross Alpha</td>
<td>2011</td>
<td>0 pCi/L</td>
<td>15 pCi/L</td>
<td>4 pCi/L</td>
<td>3</td>
<td>BDL - 8 pCi/L</td>
<td></td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>Beta/Photon Emitters</td>
<td>2007</td>
<td>0 pCi/L</td>
<td>50 pCi/L</td>
<td>3.6 pCi/L</td>
<td>1</td>
<td>3.3-3.8 pCi/L</td>
<td></td>
<td>Decay of natural and man-made deposits</td>
</tr>
<tr>
<td>Uranium</td>
<td>2011</td>
<td>0 µCi/L</td>
<td>30 µCi/L</td>
<td>18 µCi/L</td>
<td>3</td>
<td>14 - 20 µCi/L</td>
<td></td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>Combined Radium (226 + 228)</td>
<td>2011</td>
<td>0 pCi/L</td>
<td>5 pCi/L</td>
<td>0.2 pCi/L</td>
<td>3</td>
<td>0.1-0.4 pCi/L</td>
<td></td>
<td>Erosion of natural deposits</td>
</tr>
</tbody>
</table>

### Regulated in the Distribution System

<table>
<thead>
<tr>
<th>Substance</th>
<th>Sample Year</th>
<th>MCL</th>
<th>RAA</th>
<th>Number RAA</th>
<th>End of Year RAA</th>
<th>Range of Samples</th>
<th>Number of Samples</th>
<th>Common Source Of Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Trihalomethanes*</td>
<td>2011</td>
<td>n/a</td>
<td>80 ppb</td>
<td>4</td>
<td>36.9 ppb</td>
<td>13.4 - 80.7 ppb</td>
<td>16</td>
<td>By-product of drinking water chlorination</td>
</tr>
<tr>
<td>Haloacetic Acids</td>
<td>2011</td>
<td>n/a</td>
<td>60 ppb</td>
<td>4</td>
<td>21.1 ppb</td>
<td>6.4 - 41.3 ppb</td>
<td>16</td>
<td>By-product of drinking water disinfection</td>
</tr>
<tr>
<td>Free-Chlorine</td>
<td>2011</td>
<td>4 ppm</td>
<td>4 ppm</td>
<td>12</td>
<td>0.73 ppm</td>
<td>&lt; 0.05-1.46 ppm</td>
<td>720</td>
<td>Water additive used to control microbes</td>
</tr>
</tbody>
</table>

*Total Trihalomethanes are by-products of the disinfection process that are potential cancer risks at levels at or above the regulated levels over an extended period of time. The District samples its distribution system each quarter. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
Regulated at the Customer’s Tap

<table>
<thead>
<tr>
<th>Substance</th>
<th>Sample Year</th>
<th>ALG</th>
<th>AL</th>
<th>Number of Samples</th>
<th>Samples Exceeding Action Level</th>
<th>90th Percentile Value</th>
<th>Common Source of Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>2011</td>
<td>1.3 ppm</td>
<td>1.3 ppm</td>
<td>30</td>
<td>0</td>
<td>0.54 ppm</td>
<td>Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives</td>
</tr>
<tr>
<td>Lead</td>
<td>2011</td>
<td>0 ppb</td>
<td>15 ppb</td>
<td>30</td>
<td>0</td>
<td>3.5 ppb</td>
<td>Corrosion of household plumbing systems; erosion of natural deposit</td>
</tr>
</tbody>
</table>

If present, elevated levels of lead can cause serious health problems (especially for pregnant women and young children). When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791), or at http://www.epa.gov/safewater/lead.


Unregulated Substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>Sample Year</th>
<th>MCLG</th>
<th>No Violations</th>
<th>No MCL</th>
<th>Substances with One or More Detections #Samples</th>
<th>Range</th>
<th>Common Source of Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1 Dichloroethane</td>
<td>2011</td>
<td>0.5 ppb</td>
<td>10</td>
<td>BDL - 1.0 ppb</td>
<td>Discharge from metal de-greasing sites and other factories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlorodifluoromethane</td>
<td>2011</td>
<td>0.1 ppb</td>
<td>10</td>
<td>BDL - 0.8 ppb</td>
<td>Refrigerant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyl-tert-butyl ether</td>
<td>2011</td>
<td>BDL</td>
<td>10</td>
<td>BDL - J ppb</td>
<td>Octane enhancer in unleaded gasoline</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>2011</td>
<td>0.04 ppm</td>
<td>10</td>
<td>BDL - 0.1 ppm</td>
<td>Leaching from contact with pipes and fittings. Dissolution from bearing rock formations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>2011</td>
<td>73 ppm</td>
<td>10</td>
<td>66.1 - 84.2 ppm</td>
<td>Natural geology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfate</td>
<td>2011</td>
<td>124 ppm</td>
<td>10</td>
<td>61.5 - 158 ppm</td>
<td>Natural geology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radon</td>
<td>1998</td>
<td>0</td>
<td>191 pCi/L</td>
<td>0.5 ppm</td>
<td>Natural geology</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Colorado Department of Public Health & Environment has issued our system monitoring waivers for the following compounds: Dioxin, Cyanide, Asbestos, Glyphosate, and Unregulated Organics.

The next cycle of the Unregulated Contaminant Monitoring Regulation (UCMR 3) will begin in 2013. This EPA regulation requires all public water systems serving more than 10,000 people to conduct assessment monitoring for 28 contaminants (List 1). This regulation is part of the EPA’s response to the Safe Drinking Water Act, which requires EPA to identify up to 30 contaminants every five years that are not currently regulated.

Important Health Information

All 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 the water poses a health risk. 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 particularly at risk of infections. These people should seek drinking water advice from their healthcare providers.

For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by cryptosporidium and microbiological contaminants, call the EPA Safe Drinking Water Hotline at 1-800-426-4791 or by visiting http://water.epa.gov/drink/contaminants.

Where Does the District’s Drinking Water Come From?

The District’s extensive water system serves a 65 square mile area, utilizing over 358 miles of pipe to distribute carefully blended drinking water to our valued customers.

Your water consists of groundwater from eleven wells which draw from the alluvial aquifer tributary to the South Platte River, eight deep wells which draw from the Arapahoe formation, and treated surface water from Denver Water. Eight of the District’s shallow wells are first pumped to the Klein Water Treatment Facility for treatment, then mixed with Denver Water before delivery to storage reservoirs.

The Denver Water portion comes entirely from surface sources over a watershed covering 3,100 square miles on both sides of the Continental Divide. The sources include the South Platte River and its tributaries, the streams that feed Dillon Reservoir and creeks and canals above the Fraser River. The Denver Water Quality Report is available online at www.denverwater.org.

State and Federal regulations require safe handling of chemicals and protection of our environment. The Source Water Assessment and Protection Report (prepared by the Colorado Department of Public Health and Environment) provides a screening-level evaluation of potential contamination that could occur.

It does not mean that contamination has or will occur. As a part of the assessment, the CDPane identified potential sources of contamination in our source water, such as District customers and neighbors with chemical storage tanks, EPA hazardous waste generators, chemical inventory storage sites and Superfund sites (e.g. Rocky Mountain Arsenal, Chemical Sales OU2). We use this information to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. This helps us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan.

You may obtain a copy of the report by visiting http://www.cdphe.state.co.us/wq/sw/swareports/swareports.html, clicking on Adams County and selecting 101140; South Adams County WSD, or contact the District’s Water Quality Supervisor, Charlene Seedle at 303.286.0447.

Cryptosporidium and Giardia

Cryptosporidium (Crypto) and Giardia are microscopic organisms that, when ingested, can result in diarrhea, cramps, fever and other gastrointestinal symptoms.

The District analyzed, as directed, shallow wells for microscopic particulates (MPA) in 2006. The results indicate a low risk for ever seeing Crypto or Giardia.

Denver Water tested for crypto in its source water supplies, and its treated water since the 1980s and has never detected a viable indication of either in its drinking water.

Nitrates in drinking water at levels above 10 ppm is a health risk for infants of less than six 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.

Source Water Assessment and Protection (SWAP)

The District’s extensive water system serves a 65 square mile area, utilizing over 358 miles of pipe to distribute carefully blended drinking water to our valued customers.

Your water consists of groundwater from eleven wells which draw from the alluvial aquifer tributary to the South Platte River, eight deep wells which draw from the Arapahoe formation, and treated surface water from Denver Water. Eight of the District’s shallow wells are first pumped to the Klein Water Treatment Facility for treatment, then mixed with Denver Water before delivery to storage reservoirs.

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Hard Water is Due to High Levels of Dissolved Calcium and Magnesium

Generally, water that comes from lakes and rivers (surface water) tends to be softer than water from shallow alluvial wells (groundwater) that has been exposed to underground mineral deposits.

The National Research Council (National Academy of Sciences) states that hard drinking water naturally contributes a small amount of the total calcium and magnesium in basic human dietary needs. They further state that in some instances, where these minerals are very high, water could be a major contributor of calcium and magnesium to the diet.

The typical total hardness the District detected in 2011 was 21 grains per gallon (359 mg/L).

Personal preferences for water hardness vary greatly. If lowering hardness is desired, it can be managed with packaged water softening devices. Just keep in mind that softened water is generally not recommended for plants, lawns and gardens due to its sodium content. Also, due to the sodium content, some individuals should seek the advise of their physician prior to installation of a softener. More information about softeners is published on the District’s website at www.sacwsd.org.

Water Hydrant Flushing

The primary function of water main and hydrant flushing is to maintain the water quality by keeping water from stagnating within the system. The flushing program maintains the distribution system and water quality with the most efficient and effective means available. Many necessary tests can be completed during a single flushing operation, such as static pressure, chlorine content, clarity and fire protection capabilities. Due to the large discharge of water, these activities often bring questions about environmental protection and conservation management.

To protect the environment, the District maintains standard operating procedures for both hydrant and water main flushing. All flushing activities are done in a manner that will protect the environment, including the use of a de-chlorinating agent. All flushing and discharge operations are carefully planned and reviewed to ensure water conservation.

Water Conservation and Drought Response

Colorado is a dry state. According to the U.S. Drought Monitor, almost all of the state is abnormally dry this year, with about half in moderate to severe drought. Some areas of the state experienced the driest March on record, with just a trace of precipitation. Statewide, snowpack usually peaks in early to mid-April, but this year it began to melt off rapidly in early March.

Drought is a prolonged period of below-average precipitation severe enough to negatively impact the environment and human activities. The odds are not good for relief in the next few months, with higher than average chances of dry conditions continuing at least through June, according to the Climate Prediction Center. Climatologists at Colorado State University are confirming what many Coloradans already suspect — almost the entire state is consumed by drought.

However, proper planning for drought can greatly reduce its impacts on our natural resources, our economy, and our quality of life. The District’s conservation program promotes and encourages the wise use of water and has adopted water-efficient practices that include guidelines for overall water usage and outdoor irrigation regulations.

For more information regarding the District’s conservation plan that characterize the integration, implementation, monitoring and evaluation of future water conservation resources and practices, and drought response regulations, please refer to the District’s website www.sacwsd.org. There is a link on the Home Page of the website to the Water Conservation Plan.

The District will continue to monitor and evaluate the current dry conditions and keep our customers informed if any additional conservation measures will need to be implemented to avoid water shortages if drought conditions persist.

Separate Irrigation System

Water in Colorado is a very valuable and declining natural resource. Water providers throughout the State must fully utilize every water resource available to them. This is why the District has implemented a dual water supply in all new developments in the northern part of the District.

The District’s separate irrigation system that services the northern portion of the District’s service area is one of Colorado’s largest dual systems. The separate irrigation system currently contemplates service to approximately 37,000 households and businesses. The irrigation water is supplied from its own set of alluvial wells, and delivered from a completely separate infrastructure than the potable drinking water supply system.

The non-potable supply meets all state and federal guidelines for irrigation. While the irrigation water is chlorinated, it may not always be treated to fully meet drinking water regulations. Groundwater supplies can be high in minerals and other inorganic compounds that are expensive to remove. However, this untreated groundwater is still great for landscape irrigation.

The irrigation operational season is from April 15 to October 15. For information regarding the proper care and steps each property owner should follow to start-up and shut-down their irrigation system, please visit the District’s website at www.sacwsd.org.

Outdoor Water Use

The greatest potential for water savings is through irrigation conservation and the elimination of wasteful outdoor water uses. Water usage increases at least three-fold in the summer months. This has a profound effect on water supplies and distribution systems.

The following practices can dramatically reduce the amount of water waste and contribute to a sustainable water resource for the District’s customers far into the future:

◊ Water your lawn early in the morning or at night to avoid excess evaporation.
◊ Plant native and other shrubs that don’t need a lot of watering.
◊ Mulch around plants, bushes and trees to help retain moisture.
◊ Let grass grow taller in hot weather.
◊ Use lawn chemicals only when necessary.
◊ Use a broom rather than a hose to clean sidewalks or driveways.
◊ Check your irrigation system for leaks.
◊ Repair, replace or adjust sprinkler heads.
◊ Aerate clay soils at least once a year to help the soil retain moisture.