ANNUAL WATER QUALITY REPORT

Water testing performed in 2008

Presented By:

SMITHS WATER AND SEWER AUTHORITY

PWS ID#: AL0000820

Meeting the Challenge

We are once again proud to present to you our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2008. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts about the information in this report. After all, well-informed customers are our best allies. Smiths Water and Sewer Authority invites you to visit us on the Web at www.smithswater.com. You will find important information such as our annual water quality report, rules and regulations, and certain forms that are required for various transactions. Go paperless! Click on our Web Pay link to make your bill payment online and have your bill e-mailed to you by clicking on the E-Bill link. Web Pay and E-Bill are convenient, secure, and free.

How Is My Water Treated and Purified?

The treatment process consists of a series of steps. First, raw water is drawn from Lake Oliver. The water then goes to a mixing tank where aluminum sulfate, lime, and potassium permanganate are added. The addition of these substances causes small particles to adhere to one another (called floc), making them heavy enough to settle into a basin from which sediment is removed. Chlorine is then added for disinfection. At this point, the water is filtered through layers of fine coal and silicate sand. As smaller, suspended particles are removed, turbidity disappears and clear water emerges. Chlorine is added again as a precaution against any bacteria that may still be present. Finally, lime (used to adjust the final pH and alkalinity), fluoride (used to prevent tooth decay), and a corrosion inhibitor (used to protect distribution system pipes) are added before the water is pumped to sanitized water towers and into your home or business.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. 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 water poses a health risk.

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 radioactive material, and it can pick up substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Where Does My Water Come From?

Smiths Water and Sewer Authority utilizes Lake Oliver Reservoir of the Chattahoochee River as a surface water source. The Authority operates a surface water treatment facility located on Lee Road 315. The Authority also purchases water from the Opelika Water Works Board, which draws surface water from Halawakee Creek (an arm of Lake Harding and an impoundment of the Chattahoochee River) and Saugahatchee Lake in Opelika. Our water supply is part of the Middle Chattahoochee basin, which covers an area of roughly 1,014 square miles. Most of the watershed is covered by forest growth, with agricultural and urban development accounting for less than one-third of watershed use. To learn more about our watershed on the Internet, go to the U.S. EPA's Surf Your Watershed at www.epa.gov/surf.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) 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 (800) 426-4791.

Source Water Assessment

A susceptibility analysis was performed and five potential contaminant sites were identified within the source water protection area. The susceptibility analysis has eight categories: (1) intake structure, (2) water flow, (3) distance from intake, (4) contaminant toxicity, (5) site characteristics, (6) site clean up and control, (7) water source contamination potential, and (8) existing water quality. Based on the susceptibility analysis, each of the five sites had a low-susceptibility ranking and thus do not represent an applicable risk to the source water. The Source Water Assessment report can be reviewed at the Smiths Water and Sewer Authority office during normal business hours. A copy of the report can be obtained upon request at the business office. (Contact the Opelika Water Works Board for information on their assessment.)

Community Participation

You are invited to attend our board meetings. We meet the third Monday of each month at 3:00 p.m(EST). unless otherwise noted on posted annual agenda. Meetings are held at the Smiths Water and Sewer Authority office, 2848 Lee Road 243, Smiths Station, Alabama.

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled waters makes them unsuitable for babies and young children. Further, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for about 70 percent of all bottled water sold in the United States.

People spend 10,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to $1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

For a detailed discussion on the NRDC study results, check out their Web site at www.nrdc.org/water/drinking/bw/exesum.asp.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Eric Lansdon, Director of Utilities, at (334) 298-6342.

Water Conservation

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you can save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Non-detected Substances

The following is a list of contaminants that we tested for during the year but were not detected in our water:

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cyanide, Lead, Mercury, Nickel, Nitrite, Selenium, Thallium, Simazine, Silvex, 2,4-D, Alachlor, Atrazine, Benzo(a)pyrene, Carbofuran, Chlordane, Dalapon, 1,2-Dibromo-3-chloropropane, Bis(2-Ethylhexyl)adipate, Bis(2-ethylhexyl)phthalate, Dinoseb, Diquat,1,2-Dibromoethane, Endothall, Endrin, Glyphosate, Heptachlor, Heptachlor epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, gamma-BHC, Methoxychlor, Oxamyl, Total Polychlorinated Biphenyls, Pentachlorophenol, Picloram, Toxaphene, 3-Hydroxylcarbofuran, Aldicarb, Aldicarb sulfone, Aldicarb sulfoxide, Aldrin, Butachlor, Carbaryl, Dicamba, Dieldrin, Methomyl, Metolachlor, Metribuzin, Propachlor, Isopropylbenzene, 1,3-Dichlorobenzene, Methyl tert-butyl ether, n-Butylbenzene, Naphthalene, n-Propylbenzene, 2-Chlorotoluene, 4-Chlorotoluene, 4-Isopropyltoluene, sec-Butylbenzene, tert-Butylbenzene, Trichlorofluoromethane, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1-Dichloroethene, 1,2,4-Trichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, Benzene, Carbon tetrachloride, cis-1,2-Dichloroethene, Ethylbenzene, Methylene chloride, Chlorobenzene, 1,2-Dichlorobenzene, 1,4-Dichlorobenzene, Styrene, Trichloroethene, Tetrachloroethene, Toluene, trans-1,2-Dichloroethene, Vinyl chloride, Xylenes, 1,1-Dichloropropene, 1,1,1,2-Tetrachloroethane, 1,1,2,2-Tetrachloroethane, 1,1-Dichloroethane, 1,2,3-Trichlorobenzene, 1,2,3-Trichloropropane, 1,2,4-Trimethylbenzene, 1,3-Dichloropropane, 1,3-Dichloropropene, 1,3,5-Trimethylbenzene, 2,2-Dichloropropane, Bromobenzene, Bromochloromethane, Bromoform, Bromomethane, Chloroethane, Chloromethane, Dibromomethane, Dichlorodifluoromethane, Hexachlorobutadiene.

What Causes the Pink Stain on Bathroom Fixtures?

The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, toothbrush holders and on pets' water bowls is caused by the growth of the bacterium *Serratia marcesens*. Serratia is commonly isolated from soil, water, plants, insects, and vertebrates (including man). The bacteria can be introduced into the house through any of the above mentioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive.

The best solution to this problem is to continually clean and dry the involved surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help to eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence.

Serratia will not survive in chlorinated drinking water.

Lead and Drinking Water

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. Smiths Water and Sewer Authority is responsible for providing high-quality drinking water but cannot control the variety of materials used in plumbing components. 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. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

Based on a study conducted by ADEM with the approval of the EPA, a statewide waiver for the monitoring of asbestos and dioxin was issued. Thus, monitoring for these contaminants was not required.

REGULATED SUBSTANCES

				Smiths Water & Sewer Authority		Opelika Utilities			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2008	[4]	[4]	2.24	1.7–2.6	NA	NA	No	Water additive used to control microbes
Fluoride (ppm)	2008	4	4	0.99	0.91–1.10	NA	NA	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2008	60	NA	20.2	13.4–37.2	27.75	10.1–45.6	No	By-product of drinking water disinfection
Nitrate (ppm)	2008	10	10	0.94	NA	0.184	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2008	80	NA	53.9	29.7–77.5	58.6	36.9–87.7	No	By-product of drinking water chlorination
Total Organic Carbon (ppm)	2008	TT	NA	1.9	1.6–2.2	1.8	1.5–3.1	No	Naturally present in the environment
Turbidity[1] (NTU)	2008	TT	NA	0.098	0.022–0.098	NA	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community (lead was not detected at the 90th percentile)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2007	1.3	1.3	0.164	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

SECONDARY SUBSTANCES

				Smiths Water & Sewer Authority		Opelika Utilities			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2008	250	NA	16.3	NA	10.5	NA	No	Runoff/leaching from natural deposits
pH (ppm)	2008	6.5–8.5	NA	7.27	7.1–7.4	7.21	NA	No	Naturally occurring
Sulfate (ppm)	2008	250	NA	26.6	NA	30	NA	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED SUBSTANCES

		Smiths Water & Sewer Authority		Opelika Utilities		
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane (ppm)	2008	0.0102	0.009–0.014	0.005	NA	By-product of drinking water disinfection
Chloroform (ppm)	2008	0.0128	0.011–0.060	0.02	NA	By-product of drinking water disinfection
Dibromochloromethane (ppm)	2008	0.004	0.002–0.005	0.002	NA	By-product of drinking water disinfection

IDSE RESULTS [2]

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Smiths Water & Sewer Authority AMOUNT DETECTED	Smiths Water & Sewer Authority RANGE LOW-HIGH	Opelika Utilities AMOUNT DETECTED	Opelika Utilities RANGE LOW-HIGH	TYPICAL SOURCE
Haloacetic Acids [HAA]–IDSE Results (ppb)	2008	21.41	12.5–38.6	29.18	11.2–47.6	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]–IDSE Results (ppb)	2008	59.9	35–79.1	54.06	26.9–91.3	By-product of drinking water disinfection

[1] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of water quality and the effectiveness of disinfectants.

[2] We were required by the U.S. EPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE) and is intended to identify locations in our distribution system that have elevated disinfection by-product concentrations. Disinfection by-products (e.g., HAAs and TTHMs) result from continuous disinfection of drinking water and form when disinfectants combine with organic matter that naturally occurs in the source water.

Definitions

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

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 technology.

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant 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.

NA: Not applicable.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.