

City of Emerson, Georgia

ANNUAL WATER QUALITY REPORT FOR 2011

IMPORTANT INFORMATION ABOUT THE SAFETY OF YOUR DRINKING WATER

The City of Emerson is pleased to report that during 2011 our community's drinking water met or exceeded all safety and quality standards set by the Georgia Environmental Protection Division (EPD) and the U. S. Environmental Protection Agency (EPA). All Emerson water customers receiving this report were supplied by water pumped from Emerson's Moss Spring. The spring, which is located 1.7 miles southwest of Emerson, is fully enclosed by a concrete structure and produces groundwater from the dolomite (limestone) aquifer. Georgia EPD's analysis of Emerson's spring water by microscopic particulate analysis (MPA) has never detected evidence of direct surface water influence. Therefore filtration is unnecessary. In 2002, Georgia EPD prepared a Well-Head Protection Plan for Emerson's Moss Spring. The Well Head Protection Plan was rescinded by the Georgia EPD in 2004 and has not been replaced. Extensive investigations will be required to adequately delineate management and vulnerability zones for protection of the spring. The studies are underway by EPD.

During 2011 Emerson's spring water was sampled and analyzed by the Georgia EPD Laboratory for 17 other regulated and unregulated contaminants, including metals and Nitrate/Nitrite. The spring water was analyzed for sixty-one (61) synthetic organic pesticides, herbicides, and volatile organic compounds. No such contaminants were found to be present in the water above detection limits or outside of acceptable ranges. The Emerson Water Department samples and analyzes the water daily for chlorine residual, pH, and fluoride content. Turbidity is analyzed continuously by a turbidity meter. In addition, Emerson contracts with the City of Cartersville's Drinking Water Laboratory for analysis of finished water bacteriological quality twice monthly and with the Georgia EPD Water Laboratory for periodic testing of other quality parameters each year.

The following table summarizes monitoring and testing results for regulated substances. Because Georgia EPD has determined that Emerson's drinking water is of a high quality that does not change frequently within the system, some of the data represented are greater than one year old. All results are for 2011 unless otherwise noted.

DRINKING WATER ANALYSIS TABLE						
Substance Detected	Unit	MCLG	MCL	Amount Detected	Does it meet Standards?	Probable Source
Fluoride	ppm	4.0	4.0 2.0 (SMCL)	0.84 (a)	Yes	Water additive which promotes strong teeth; Erosion of natural deposits
Lead	ppb	0	15 (AL)	0.0 (b)	Yes	Corrosion of plumbing systems
Copper	ppb	1300	1300 (AL) 1000(SMCL)	170 (b)	Yes	Corrosion of plumbing systems
Nitrate/Nitrite	ppm	10	10	0.27	Yes	Runoff from fertilizer use
Turbidity	NTU	N/A	Not Applicable	0.077 (c)	Yes	Soil runoff
Barium	ppm	2	2	0.63	Yes	Erosion of natural deposits; Naturally occurring in trace amounts
Sodium	ppm	Not applicable	Not applicable	4.0	Yes	Erosion of natural deposits; Naturally occurring in trace amounts
TTHM's (Total Trihalomethanes)	ppb	0	80	11.6	Yes	By-products of drinking water disinfection
HAA5 (Total Haloacetic Acids)	ppb	0	60	4.14	Yes	By-products of drinking water disinfection
Total Coliform Bacteria	--	0	No more than one sample positive	None	Yes	Bacteria naturally present in the environment; used as indicator for potentially harmful bacteria

(a) Fluoride is added at Moss Spring to bring the natural level to the EPA optimum of 1 part per million (ppm). During 2011 daily samples of water analyzed by Emerson reported fluoride ranging from 0.40 to 1.7 ppm and averaged 0.92 ppm for the year. The EPD lab results for 11 monthly split-sample reports for Fluoride ranged from 0.18 to 1.61 ppm and averaged 0.73 ppm.

- (b) Water from the Emerson Spring does not contain lead or copper in detectable amounts. Previous testing has shown that lead and copper levels in the drinking water supply are consistently below the Action Level established. Therefore, Emerson has received a waiver from Georgia EPD for reduced frequency of monitoring for lead and copper.
- (c) Turbidity is a measure of the cloudiness or degree of clarity of water. We continuously monitor water pumped from Moss Spring for turbidity because it is a good indicator of water quality.
- (d) pH is a measure of the acidity or alkalinity of the water. During 2011, the daily samples of treated water ranged from 7.0 to 7.9.

Background Information about Sources of Contaminants in Drinking Water in the USA

The sources of drinking water (both tap 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, and can pick up substances resulting from the presence of animals and human activity. Contaminants that may be present in source water include the following:

- **Microbial contaminants**, such as viruses and bacteria that may come from sewage treatment plants, septic tank systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban 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 tank systems.
- **Radioactive contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the State of Georgia and Federal EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. For bottled water, Food and Drug Administration regulations establish limits for the contaminants in bottled water. 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. More information can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791) or contacting additional information sources on the Internet:

<http://www.epa.gov/ow>

<http://www.dnr.state.ga.us/epa>

Notice: 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 from infections. These people should seek advice about drinking water from health care providers. 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 (1-800-426-4791).

Concerning Lead: If present, elevated levels of lead 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. The Emerson water system 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 leading 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>.

DEFINITIONS

(MCL) Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's 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. MCLG's allow for a margin of safety.

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

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

(NTU): Nephelometric turbidity unit, a measure of the clarity of water.

(ppm): Parts per million means 1 per 1,000,000 (corresponds to 1 minute in 2 years, or 1 cent in \$10 thousand.)

(ppb): Parts per billion means 1 per 1,000,000,000 (corresponds to 1 minute in 2,000 years or 1 cent in \$10 million.)

For more information about your water or this report please call Kevin McBurnett, Emerson City Manager, at (770) 382-9819 between the hours of 8:00 a.m. and 5:00 p.m. on weekdays. The regular City of Emerson Council meetings are held at 7:00 p.m. on the 2nd and 4th Monday of each month at City Hall, 700 Highway 93, Emerson, Georgia 30137. Attendance and participation by the Public is invited.