

City of Florence

Water/Wastewater Department

2005 Annual Water Quality Report

The City of Florence Water/Wastewater Department is pleased to provide you, our customer, our annual Water Quality Report for 2005. The City of Florence Water/Wastewater Department is committed to providing the residents of Florence and Lauderdale County with the safest and highest quality drinking water possible. Daily testing is done at our treatment facilities using sophisticated equipment and the most advanced procedures, and the water produced by the City of Florence Water/Wastewater Department meets or surpasses both state and federal standards for both appearance and safety. This annual "Water Quality Report", which is required by the Safe Drinking Water Act (SDWA), tells you where your water comes from, what tests by independent laboratories show about it, and other information you should know about your drinking water.

But, most importantly:

The City of Florence's drinking water met or surpassed all federal and state drinking water standards during 2005.

For information about how you can participate in decisions or for general information about your drinking water, call us at (256) 760-6637 or consult our Web site at www.florenceutilities.com Information can also be obtained from the U.S. Environmental Protection Agency (EPA) Web site at www.epa.gov/safewater/.

OVERVIEW

The City of Florence Water/Wastewater Department drinking water is supplied by surface water from the Tennessee River and Cypress Creek. Modern, state of the art surface water treatment facilities using the most up to date technology treats the water from these two sources. In addition, we pump ground water from two wells in the Killen and Center Star areas of Lauderdale County, which is blended with the treated surface water sources. The well sources supply these areas only in Killen.

WHAT DO THESE TABLES MEAN?

It's easy! Our water is tested to assure that it is safe and healthy. **The Table of Primary Contaminants** provides an overview some primary contaminants that are known to pose a health risk to humans. In the **Table of Detected Contaminants**, the column marked Amount Detected shows the highest test results during the year. Sources of Contaminant Level show where this substance usually originates. Columns headed MCL and MCLG refer to:

Action Level - the concentration of a contaminant that triggers treatment or other requirements, which a water system must follow.

Maximum Contaminant Level or MCL: 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 technology.

Maximum Contaminant Level Goal or MCLG: 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.

Key to Tables

| | | | | | |
|------|---|--------------------------------|-------|---|--|
| AL | = | Action Level | pci/l | = | Picocuries per liter (a measure of radioactivity) |
| MCL | = | Maximum Contaminant Level | ppm | = | parts per million, milligrams per liter (mg/l) |
| MCLG | = | Maximum Contaminant Level Goal | ppb | = | parts per billion, micrograms per liter (ug/l) |
| NTU | = | Nephelometric Turbidity Units | TT | = | Treatment Technique – a required process intended to reduce the level of a contaminant in drinking water |
| ND | = | Not Detected | | | |

Table of Primary Contaminants

At high levels some primary contaminants are known to pose a health risks to humans. This table provides a quick glance of any primary contaminant detections.

| CONTAMINANT | MCL | AMOUNT DETECTED | CONTAMINANT | MCL | AMOUNT DETECTED |
|--------------------------------|--------|-----------------|----------------------------|-----|-----------------|
| Bacteriological | | | Endothall | 100 | ND |
| Total Coliform Bacteria | < 5% | < 1% | Endrin | 2 | ND |
| Turbidity | TT | 0.38 | Epichlorohydrin | TT | ND |
| Radiological | | | Glyphosate | 700 | ND |
| Beta/photon emitters (mrem/yr) | 4 | ND | Heptachlor | 400 | ND |
| Gross Alpha (pci/l) | 5 | ND | Heptachlor epoxide | 200 | ND |
| Combined radium (pci/l) | 5 | ND | Hexachlorobenzene | 1 | ND |
| Inorganic | | | Hexachloropentadiene | 1 | ND |
| Antimony (ppb) | 6 | ND | Lindane | 200 | ND |
| Arsenic (ppb) | 50 | ND | Methoxychlor | 40 | ND |
| Asbestos (MFL) | 7 | ND | Oxamyl [Vydate] | 200 | ND |
| Barium (ppm) | 2 | ND | PCBs | 500 | ND |
| Beryllium (ppb) | 4 | ND | Pentachlorophenol | 1 | ND |
| Cadmium (ppb) | 5 | ND | Picloram | 500 | ND |
| Chromium (ppb) | 100 | ND | Simazine | 4 | ND |
| Copper (ppm) | AL=1.3 | ND | Toxaphene | 3 | ND |
| Cyanide (ppb) | 200 | ND | Benzene | 5 | ND |
| Fluoride (ppm) | 4 | 1.33 | Carbon Tetrachloride | 5 | ND |
| Lead (ppb) | AL=15 | ND | Chlorobenzene | 100 | ND |
| Mercury (ppb) | 2 | ND | Dibromochloropropane | 200 | ND |
| Nitrate (ppm) | 10 | 1.56 | 0-Dichlorobenzene | 600 | ND |
| Nitrite (ppm) | 1 | ND | p-Dichlorobenzene | 75 | ND |
| Selenium | 50 | ND | 1,2-Dichloroethane | 5 | ND |
| Thallium | 2 | ND | 1,1-Dichloroethylene | 7 | ND |
| Organic Chemicals | | | Cis-1,2-Dichloroethylene | 70 | ND |
| 2,4-D | 70 | ND | trans-1,2-Dichloroethylene | 100 | ND |
| 2,4,5-TP (Silvex) | 50 | ND | Dichloromethane | 5 | ND |
| Acrylamide | TT | ND | 1,2-Dichloropropane | 5 | ND |
| Alachlor | 2 | ND | Ethylbenzene | 700 | ND |
| Atrazine | 3 | ND | Ethylene dibromide | 50 | ND |
| Benzo(a)pyrene[PHAs] | 200 | ND | Styrene | 100 | ND |
| Carbofuran | 40 | ND | Tetrachloroethylene | 5 | ND |
| Chlordane | 2 | ND | 1,2,4-Trichlorobenzene | 70 | ND |
| Dalapon | 200 | ND | 1,1,1-Trichloroethane | 200 | ND |
| Di-(2-ethylhexyl)adipate | 400 | ND | 1,1,2-Trichloroethane | 5 | ND |
| Di(2-ethylhexyl)phthlates | 6 | ND | Trichloroethylene | 5 | ND |
| Dinoseb | 7 | ND | TTM | 80 | 75.4 |
| Diquat | 20 | ND | Toluene | 1 | ND |
| Dioxin[2,3,7,8-TCDD] | 30 | ND | Vinyl Chloride | 2 | ND |

Table of Secondary Contaminants

| Contaminant | MCL | Units | Amount Detected |
|------------------------|--------|-----------------------|-----------------|
| Aluminum | < 0.20 | ppm | < 0.05 |
| Chloride | 250 | ppm | 8.77 |
| Color | 15.0 | units | < 5.0 |
| Copper | 1.0 | ppm | < 0.05 |
| Foaming Agents | 0.50 | ppm | < 0.05 |
| Iron | 0.30 | ppm | < 0.05 |
| Manganese | 0.01 | ppm | < 0.01 |
| Odor | 3.0 | Threshold Odor Number | < 1.0 |
| Silver | 0.10 | ppm | < 0.05 |
| Sulfate | 500 | ppm | 25.0 |
| Total Dissolved Solids | 500 | ppm | 120 |
| Zinc | 5.0 | ppm | <0.05 |

Table of Detected Contaminants

| CONTAMINANT | MCLG | MCL | Range | Violation | Amount Detected | Present or Absent | Likely Source of Contamination |
|--|------|------|-------------|-----------|-----------------|-------------------|---|
| Bacteriological 01/01/05 – 12/31/05 | | | | | | | |
| Turbidity 04/02/05 | | | | | | | |
| Total Coliform Bacteria | 0 | < 5% | | NO | < 1% | Present or Absent | Naturally present in the environment |
| Turbidity | 0 | TT | | NO | .38 | NTU | Soil runoff |
| Inorganic Chemicals 01/25/2005 | | | | | | | |
| Fluoride | 4 | 4 | 0.19 - 1.33 | NO | 1.33 | ppm | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |
| Nitrate | 10 | 10 | 0.60- 1.56 | NO | 1.56 | ppm | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Organic Chemicals 01/01/2005 – 12/31/2005 | | | | | | | |
| TTHM | 0 | 80 | <5.0 - 75.4 | NO | 75.4 | ppb | By-product of drinking water chlorination |
| HAA5 | 0 | 60 | <1.0 - 32.0 | NO | 32.0 | ppb | By-product of drinking water chlorination |

UNREGULATED CONTAMINANTS

The City of Florence Water/Wastewater Department did not test, nor was it required to test, for Radon during 2005.

ASBESTOS and DIOXIN

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 is not required.

SOURCE WATER ASSESSMENTS

The City of Florence Water/Wastewater Department has performed source water assessments for the Wilson Lake Treatment Plant located on the Wilson Lake (Tennessee River) and the Cypress Creek Treatment Plant located on Cypress Creek. In addition, assessments have been completed for Peck Lane and Houston Hill's wells located in the Killen and Center Star areas. This information may be viewed in the Water/Wastewater Department office between the hours of 8:00 am to 5:00 pm, Monday through Friday. Appointments for reviewing are recommended.

REQUIRED ADDITIONAL HEALTH INFORMATION

To ensure that tap water is safe to drink, EPA prescribes limits on the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for 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 about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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 can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- (A) Microbiological contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) Inorganic contaminants, such as salts and metals, which can be natural occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- (C) Pesticides and herbicides, which may come from a variety of sources such as agricultural, storm water runoff, and residential uses.
- (D) Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.
- (E) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Some people may be more vulnerable to contaminants in drinking water than is 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 their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791).

CYPRESS CREEK STREAM BANK INITIATIVE

The City of Florence Water/Wastewater Department is committed to providing the safest water possible for our customers. As part of that commitment, we are partners in a program whose goal is to protect one of our most valuable resources in our area, Cypress Creek.

The Cypress Creek Watershed is comprised of 135,360 acres within the Tennessee River Basin. In addition to being a source of supply for up to 16 million gallons per day of water for the City of Florence and Lauderdale County, it also is used for recreational purposes and serves as a habitat for upland game and numerous bird and bat species. Protection and preservation of the watershed for the use and enjoyment of all is critical.

To protect this wonderful resource, a partnership was formed with the City of Florence Water/Wastewater Department, USDA-NRCS (Natural Resources Conservation Service), USDA-FSA (Farm Service Agency), area farmers, University of North Alabama, Shoal Creek Water Watch, and the Lauderdale County Soil & Water Conservation District. The partnership, with the assistance of an ADEM grant of \$143,490 and an existing NRCS program has already made progress toward protecting Cypress Creek from degradation by creating forest buffers (planting of trees) and fencing to prevent livestock from entering the streams. The response from landowners along Cypress Creek and its tributaries has been overwhelming to date. Through the existing NRCS program and financial incentives offered by the partnership, to date the following has been accomplished:

- 40 landowners have applied for assistance through the NRCS to create forest buffers, fencing to move livestock away from the stream banks, and for the use of alternative water supplies for watering livestock
- 36 contracts have been awarded
- 522 acres of stream buffer has been established, with an additional 327 acres contracted to be established as of 3/01/05
- Over 10 miles of stream bank has been protected (buffered)
- Over 1400 head of cattle have been excluded from the creek and its tributaries
- Applications for over 16,000 feet of fencing to exclude livestock has been received, with 7,000 feet being contracted to date
- 9 alternative water systems have been supplied to landowners who once used Cypress Creek for livestock watering

If you wish to participate as a landowner, or if you or your organization would like to become involved with the Cypress Creek Stream Bank Initiative, please contact our offices at the number below, or you may call the local NRCS office, 764-5833.

NATIONAL PRIMARY DRINKING WATER REGULATION COMPLIANCE

This 2005 Annual Water Quality Report was prepared by Michael Doyle and Regina Hall of the City of Florence Water/Wastewater Department using technical assistance and guidance from the American Water Works Association (AWWA), the National Rural Water Association (NRWA), United States Environmental Protection Agency (USEPA), and the Alabama Department of Environmental Management (ADEM).

We will be pleased to answer any questions about the City of Florence Water/Wastewater Department and our water quality. Call our offices at (256) 760-6637 on Monday through Friday between the hours of 8:00 a.m. and 5:00 p.m. The City of Florence Water/Wastewater Department operates under the authority of the Mayor and Council of the City of Florence, Alabama. The City Council meets every 1st and 3rd Tuesday of each month.

Learn more about the City of Florence Water/Wastewater Department water system at www.florenceutilities.com.