



STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH
REGULATORY SERVICES BRANCH
Environmental Health Section

EHS Circular Letter #2006-28

TO: Local Directors of Health
Chief Sanitarians
Certified Laboratory Directors

FROM: Clifford A. McClellan Jr., RS
Private Well Program
Environmental Health Section

DATE: June 5, 2006

RE: Recommended Fluoride Monitoring for Private Wells

Artificial fluoridation of public drinking water was introduced more than sixty years ago. Over the years, data tabulated by various national health authorities, e.g. the American Dental Association and the Centers for Disease Control and Prevention (CDC), has shown that this practice has reduced dental caries (cavities) in growing children and adults nationwide. Despite this evidence, national and international controversy over this common water treatment practice is still very much in evidence in the areas of dental health, cancer research and public water system management.

After a 2004 national state survey, the CDC reported that of all the Connecticut community water systems, 88% were providing their consumers with optimally fluoridated water. For the Connecticut consumers who are served by these public water systems, their artificially fluoridated water is monitored for daily fluoride levels as required by the Connecticut Public Health Code (PHC). The PHC sets the allowable fluoride concentration range from 0.8 - 1.2 parts per million (ppm) for artificially fluoridated public drinking water. Most of these public water systems dose at a rate of 1.0 ppm.

Private well owners do not have the convenience of knowing what fluoride levels are in their drinking well water. Fluoride is the ionic form of fluorine, the 13th most common element in the earth's crust. Fluoride readily combines with other ions to form many common compounds that are easily released into the environment naturally via air and water.

As stated above, Federal Agencies have determined that fluoride levels between 0.8-1.2ppm are considered



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optimal for the prevention of dental caries in preteen children as their permanent teeth form. A Maximum Contaminant Level (MCL) for fluoride has been set at 4.0 ppm because above this level, the formation of dental fluorosis (tooth mottling) or skeletal problems may occur in this same age group of children. Note that there is a secondary MCL of 2.0 ppm to prevent fluorosis. If a public water supply that fluoridates its water exceeds this level, public notices must be sent out to its customers.

The Drinking Water Section of this Department has found, through monitoring data, that 23 small public water systems, that do not artificially fluoridate, have detectable, if not elevated levels of naturally occurring fluoride in their supply wells. Natural fluoride is not clustered in one geographic area in Connecticut, but is fairly widespread. Please refer to the attached map. (Note that certain towns have high natural fluoride levels). Many of the private wells in these towns could easily be tapping into the same aquifers/rock formations that feed these public wells and have high fluoride levels.

You may wish to advise homeowners who are drilling new wells in these areas that fluoride be added to the 13 parameters that are to be tested as mandated in 19-13-B101(d) of the PHC. A complete listing of state certified laboratories that can perform fluoride analysis is attached for your convenience. The approximate cost of a test for fluoride analysis in drinking water is \$15-20.

The homeowner having a private well with a confirmed * fluoride level >4.0ppm, should be advised to call their local health department or the State Private Well Program at 860-509-7296, for drinking water or treatment alternatives.

* At least one resample

The following link provides more detailed discussion of fluoride and drinking water.

CDC: Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5014a1.htm>

cc: Suzanne Blancaflor, Chief, Environmental Health Section
Raymond Jarema, Section Supervisor, Private Well/Recreation Program

Attachments (2)