



Josh Arneson <jarneson@richmondvt.gov>

Richmond, VT water dept. concern: inadequate chlorination?

Montross, Ben <Ben.Montross@vermont.gov>

Mon, Sep 26, 2022 at 4:05 PM

To: Kendall Chamberlin <kchamberlin@richmondvt.gov>, Allen Knowles <knowles.allen3@gmail.com>, Stephen Cote <scote@richmondvt.gov>

Cc: "Arneson, Joshua" <jarneson@richmondvt.gov>

All,

I am not certain to which CDC guideline Allen is referring or its context, but that said, I do not believe there is reason for concern in Richmond based on the CDC information. As Kendall stated below, our state requirements for a groundwater system required to provide disinfection is 0.1 mg/L.

This is a complex subject, forgive me if I am telling you things you already know but:

Richmond is defined as a groundwater system, which means the water has considerable time to filter/work its way into the aquifer underground and when the water comes out of the ground it is free from pathogens/viruses/bacteria. There is a permitting and water quality sampling process and source protection management to ensure this.

In Vermont, unless the water system is documented as being vulnerable to pathogenic contamination (e. coli) or provide certain types of treatment, groundwater systems are not required to provide disinfection. There are several systems which do not provide disinfection throughout the state. Richmond is not one of the systems that has been determined as being vulnerable to source contamination based on our permitting process and history of sampling.

However, the water system is required to provide chemical disinfection and maintain a chlorine residual throughout the system because it utilizes aeration to address low pH. In Vermont we have identified particular types of treatment that could allow bacteria to propagate, and aeration is one of them. There are pieces and parts that when neglected *could* allow contamination into the system, so we direct systems to disinfect out of caution, however, Richmond has not demonstrated any such vulnerabilities to date.

For some background on public water system bacteria sampling:

Due to Richmond's population, it is required to collect one total coliform sample per month from one of four rotating locations throughout the distribution system. Total coliform should not exist in groundwater or in the infrastructure of a sanitary water system. In and of itself total coliform is not harmful to most people, but it is an indicator. If it can get into the drinking water, then something else such as e. coli, giardia, cryptosporidium, etc. could get in and create problems. A total coliform-positive sample doesn't mean that e. coli is there, it means it could get into the system the same way the total coliform did. Looking back in my program records, I see the last time Richmond had a routine sample positive for total coliform was 2014. There is follow-up sampling required, including directly from the well, and this was coliform-absent. No e. coli was found. It looks like there have been some other construction-related sampling which have been coliform positive but that is usually indicative of localized construction/water line work done and is not representative of the system as a whole or source water vulnerability. My current database goes back to 2005 and I do not see any detections for e. coli in the system on file.

Please let me know if I have addressed your questions and concern.

Ben

Ben Montross, *Drinking Water Program Manager* ([he/him](#))

Vermont Department of Environmental Conservation

Drinking Water and Groundwater Protection Division

Public Drinking Water Program

[1 National Life Dr](#) – Davis 4 | Montpelier, VT 05620

802-498-8981 office | 802-828-1541 fax

ben.montross@vermont.gov

dec.vermont.gov/water

The Agency of Natural Resources supports telework, and there are times when I may be working from another office location. I am available to connect by phone and email. I am also available to connect in-person upon request.

Note: Written communications to and from state officials regarding state business are considered public records and will be available to the public for review.

From: Kendall Chamberlin <kchamberlin@richmondvt.gov>

Sent: Monday, September 26, 2022 1:36 PM

To: Allen Knowles <knowles.allen3@gmail.com>; Stephen Cote <scote@richmondvt.gov>

Cc: Montross, Ben <Ben.Montross@vermont.gov>; Arneson, Joshua <jarneson@richmondvt.gov>

Subject: Re: Richmond, VT water dept. concern: inadequate chlorination?

EXTERNAL SENDER: Do not open attachments or click on links unless you recognize and trust the sender.

[Quoted text hidden]