



# Cryptosporidium in source water? Or, just more monitoring without finding much (hopefully)?

Analyses for Cryptosporidium in Kansas surface waters have so far shown low levels that will not require additional treatment processes at water treatment plants.

**O**n January 5, 2006, EPA promulgated (officially announced) regulations called Long Term 2 Enhanced Surface Water Treatment Rule (“LT2 Rule”). These regulations required, among other things, subpart H systems to sample their source water for Cryptosporidium. Subpart H systems are public water supplies that have as their source water supply either surface water or groundwater under the direct influence of surface water.

Cryptosporidium is a protozoan parasite that causes a gastrointestinal illness. Transmission of the illness can be through the consumption of water or food contaminated with feces or by contact with infected persons or animals.

Cryptosporidium is highly resistant to free chlorine and combined chlorine. Proper filtration should remove Cryptosporidium.

The sampling schedule of the source water for Cryptosporidium is based on the population served by the system or the largest system in a combined distribution system. Sampling for systems serving population of 10,000 or more has already been completed or is presently underway. The schedule for systems serving fewer than 10,000 must begin no later than April 1, 2010.

If Cryptosporidium is found in the source water in excess of specified levels, then additional treatment

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processes, or source water supply protection measures, or more stringent filtration standards, may be required.

The E. coli / Cryptosporidium sampling processes will be repeated in the future. For Subpart H systems serving fewer than 10,000 people, another round of sampling for E. coli is scheduled to begin by October 1, 2017. Those systems that are triggered into a round of sampling for Cryptosporidium must begin that sampling by April 1, 2019.

## E. coli sampling results

The cost of sampling for Cryptosporidium is quite expensive, especially for small systems. Thus, the regulations allowed systems serving less than 10,000 to sample their source water in 2008-2009 for E. coli. If these sampling results for E. coli are below specified levels, then sampling for Cryptosporidium is not required.

The E. coli sampling was conducted through the KDHE laboratory and Bureau of Water. There were 65 systems serving fewer than 10,000 people that sampled for E. coli in 2008-2009. Of the 65 systems, 23 systems met the specified level and are not required to sample for Cryptosporidium.



This photo shows a filtering apparatus for *Cryptosporidium* sampling. Note the white filter housing on the left, the water meter, and the filtered water bucket. Also, the vertical, green plant influent line on the right is being sampled. One of the plant's blue filters is in the background.

There are 42 systems in Kansas serving fewer than 10,000 persons that must now conduct *Cryptosporidium* sampling of their source water.

KDHE has reviewed *Cryptosporidium* sampling results that have so far been reported by larger systems on the Missouri River, Kansas River, and Cheney Reservoir. Based on these results, KDHE staff suggest that most Subpart H systems will not be required to provide additional treatment due to *Cryptosporidium* sampling results of the source water.

**The regulations require that sampling for *Cryptosporidium* be conducted at least twice per month for 12 months or at least monthly for 24 months. The annual cost for all the analyses and shipping may be as high as \$13,000.**

schedule must specify the calendar dates when each sample will be collected.

Some systems serving fewer than 10,000 people have already submitted their schedule and have begun sampling for *Cryptosporidium*. Also, the systems must contract with a private laboratory because the KDHE laboratory will not perform these analyses. A list of the private laboratories approved for *Cryptosporidium* analyses can be found on the EPA website link in the sidebar in this article.

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### **Cryptosporidium sampling**

For those systems that are required to conduct *Cryptosporidium* sampling, the sampling must begin no later than April 1, 2010, and the systems must submit their sampling schedules to KDHE no later than three (3) months prior to the start of sampling. Thus, the sampling schedule must be submitted no later than January 1, 2010. The



**Most all regulated contaminants under the Safe Drinking Water Act are based on treated water. This however is not the case with *Cryptosporidium* which is regulated by the level based on the untreated, surface water source and NOT by the level in the treated, drinking water. This represents a significant change in logic.**

**EPA's list of approved laboratories for analysis of Cryptosporidium:**

[www.epa.gov/safewater/disinfection/lt2/pdfs/labs\\_approval/list\\_lt2\\_approvedlabs.pdf](http://www.epa.gov/safewater/disinfection/lt2/pdfs/labs_approval/list_lt2_approvedlabs.pdf)

**EPA Fact Sheet on the LT2 rule:**

[www.epa.gov/safewater/disinfection/lt2/pdfs/fs\\_lt2\\_finalrule.pdf](http://www.epa.gov/safewater/disinfection/lt2/pdfs/fs_lt2_finalrule.pdf)

**EPA Quick Reference on LT2 Rule including major provisions, critical deadlines and requirements:**

[www.epa.gov/safewater/disinfection/lt2/pdfs/qrg\\_lt2\\_qrg\\_sch4\\_final.pdf](http://www.epa.gov/safewater/disinfection/lt2/pdfs/qrg_lt2_qrg_sch4_final.pdf)

**EPA LT2 Rule regulations links:**

[www.epa.gov/safewater/disinfection/lt2/regulations.html#prepub](http://www.epa.gov/safewater/disinfection/lt2/regulations.html#prepub)

**EPA starting point for registration or entering the CDX reporting system:**

[https://cdx.epa.gov/epa\\_home.asp](https://cdx.epa.gov/epa_home.asp)

**EPA site for registration in CDX site:**

[www.epa.gov/safewater/disinfection/tools/pdfs/instructions\\_mdbp\\_dcts.pdf](http://www.epa.gov/safewater/disinfection/tools/pdfs/instructions_mdbp_dcts.pdf)

**Contact information for Kelly Kelsey:**

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The white filter housing on the left contains a filter to remove Cryptosporidium. A filter with its golden filter media and black ends is also shown nearby.

encouraged to contact several laboratories to compare price and service. Unfortunately, there are presently no Kansas laboratories that provide these analyses and services.

**Reporting results**

Systems serving fewer than 10,000 persons are required to report the sampling results to KDHE no later than 10 days after the end of the first month following the month when the sample is collected. For example, if one or two samples are

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taken in September, then those results must be submitted to KDHE by November 10. This reporting can be done by ordinary mail.

A system has the option to arrange a setup where the consulting laboratory electronically submits the results directly to the EPA Central Data Exchange (CDX) site, which is the agency's electronic reporting site. This setup also meets the requirement to submit the results to KDHE because KDHE has access to the CDX site.

However, a system has only 10 days after EPA receives the results to contest any questionable or unrepresentative results.

If a public water system chooses to use the optional CDX site for reporting results, the system should notify KDHE that it will be doing so. Such notification can be given when the system sends its sampling schedule to KDHE.

Some systems serving fewer than 10,000 persons have chosen to use the CDX site. Other systems have chosen to not submit the results electronically because of the difficulty in arranging the electronic setup and the limited time to contest any data. Each system should give careful consideration when deciding on which method to use in reporting results.

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## Contacts and additional information

Questions, sampling results reporting, and other correspondence on the LT 2 Rule should be directed to Kelly Kelsey of KDHE's central office in Topeka (see sidebar). Kelly has assisted many systems already with the LT2 Rule and other water supply requirements.

EPA has the LT2 Rule and numerous documents on their Web site. Some of these information links are listed in the

sidebar on opposite page.

KRWA staff are also available if anyone wishes to have additional information concerning the LT2 rule or to discuss possible decisions concerning sampling, submitting results, or interpretation of the results.

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