Eastex Environmental Laboratory

February 2015 Newsletter

Providing superior service and quality analysis for engineering firms, municipalities, school districts, government agencies, industrial facilities and individuals in Southeast Texas since 1986.

If you would like EEL to complete your

DMR'S online,

please contact Brian at 1-800-525-0508

Log in to Client Connect to check your results from any where, any time!

Details on back page.

Call us today to discuss your

Total Coliform Bacteria Drinking Water Testing needs.

We provide testing, containers, pickup, sampling, electronic reporting. We service the entire Houston and Galveston area daily.

TOTAL COLIFORM BACTERIA test

is the standard microbiological test of the sanitary quality of drinking water. The EPA has stated that good drinking water should not contain any Coliform bacteria.

There are primarily 18 different bacteria which make up the group known as "Coliforms". In most cases, Coliform bacteria are not harmful. However, if these bacteria are found in your water supply, this indicates that other disease causing bacteria may enter through the same pathway and be present in your drinking water.

If Coliform bacteria are found, the water supply is considered a potential health hazard and is classified as "UNSAFE" for human consumption. This test DOES NOT indicate if the water is chemically safe to drink.

E. COLI – One of the Coliform Bacteria

E. Coli is one of the approximate 18 members of Coliform group. The standard Coliform Bacteria test tells the difference between coliforms of fecal origin, specifically E. coli (from the intestines of warm-blooded animals) and coliforms from other sources. Drinking water contaminated with E. coli is considered an "EXTREME HEALTH HAZARD".

The test results are reported as "PRESENT" or "ABSENT"

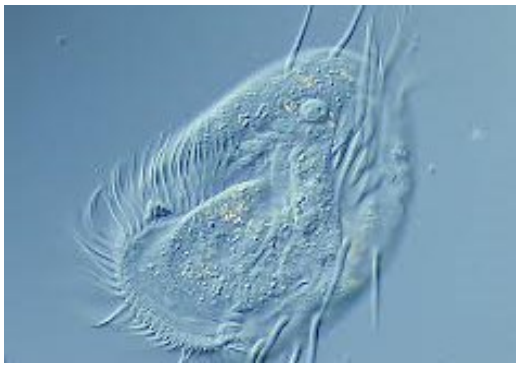
"ABSENT" – Good news, it means that Coliform bacteria were NOT in the test sample. In other words it "PASSED" the test.

"PRESENT" – Means that Coliform Bacteria were found in the sample and it "FAILED" the test. If Coliforms were found in the sample then E.coli (as a member of the Coliform Group) is also reported as "Present" or "Absent".

Coliforms "Present" and E. coli "Absent" – Very Unsafe – Potential Health Hazard.

Coliforms "Present" and E. coli "Present" – "EXTREME HEALTH HAZARD".

We Started this month with a new mystery Bug Of The Month



Can you guess what this is? Hint: Indicators of healthy sludge. Since they move fast and they prey on bacteria, they help to produce a low TSS and turbidity effluent. In Latin their name means eyelash. Some use their legs to 'flick' the food into their mouth!

See answer on the back.

Starting April 2016, Coliform will be replaced as the bacteria indicator for public health with ecoli. If a system receives a present coliform result it will need to perform some process checks to ensure the system is in good operation, but it will only receive violations for ecoli present results.

If your water system fails, contact TCEQ for resampling guidance. For private wells, until you have a test which shows that the bacteria are ABSENT, exercise caution with this system. It is recommended that you test for Coliform bacteria at least every six months. Call Eastex Lab for more information.

Article Source Environmental Leverage

Follow us on Twitter@eastexlabs

Continued on page 2

Surface water

There is more to consider than just coliforms!? Drinking water systems routinely use chlorine amine disinfectant for a number of reasons including reduced disinfectant bioproducts and delayed disinfectant by secondary and tertiary chloramines. But there are some water quality issues that can arise and you may need to watch for. The issues usually show up as customer complaints of taste and odor or an operator may notice areas where it seems especially hard to keep an acceptable chlorine residual. An operator may try to appease the customer by sampling for coliform bacteria and even with the absence results of coliform the customer still complains. Starting or stepping up a flushing program may seem to help for a while but has limited return. One possible answer is that there may be other bacteria present besides coliform being treated by chlorine. This non coliform bacteria is typically some aerobic strand that thrives on nitrogen. So while some of the chlorine is killing the bacteria, the residual ammonia nitrogen forms are actually feeding the rest of the bacteria! In the right conditions these bacteria will eat up your chlorination attempts, resulting operation headaches and water quality issues for your customers. In more established cases the bacteria grow so much they can set up a biofilm on the inside of the pipe making it even more resistant to treatment and in extreme cases cause reduced flow or you and the customer may see "snot" looking material coming from the pipes! So how can you detect and treat it. Unless you are in a more progressed stage setting some baselines and trigger points with HPC and nitrate+nitrite testing is the first step. HPC is heterotrophic plate count analysis and is a much broader range bacteria check than coliform testing. There is not a mcl from the state for this analysis so it is only useful as a benchmark. You can perform an HPC analysis while you are having trouble, implement some steps to address the issue and then follow up with another HPC to see how the levels changed. If the treatment is successful continue monitoring the HPC down to an acceptable baseline. Likewise the HPC can be checked to see if the level is approaching some trigger value. Nitrate+nitrite can also be used to monitor water quality and initiate some operations to alleviate issues. Nitrate +nitrite does have a MCL of 10 ppm but typically action levels for issues can be set much lower. Once baselines and action levels are set the treatment option chosen to use will depend on the specific situation but may include adjustment of the chloramines mix to run leaner ammonia, aggressive flushing to keep water age low and chlorine residual high, physically cleaning the lines using pigs, or temporarily switching to chlorine gas to "burn" the system. Whichever method used you want to know when to start and this comes by testing the system today.

Article written by Daniel Bowen
Laboratory Director

Answer to

Bug Of The Month:

Crawling Ciliates

Field Supervisor

Chris Wirzberg 936-653-3249

Field Techs Contact

Brian Sewell 936-827-3377

Wendy Willson 936-828-7209

Rico Valley 936-828-7205

Christopher Guinn 936-827-3378

Shawn Arnold 936-828-7208

Mark Bourgeois 936-828-7206

Lulia Galusha 936-828-7203

Cassie Tarron 936 –788-4193

New at Eastex Lab

Eastex started the New Year with a new LIMS. The new Laboratory Information Management System is called Element and we are pretty jazzed about all the cool stuff it can do. Of course implementing a new software program always has its challenges and we keep reminding ourselves that what doesn't kill us will only make us stronger. The new software comes with a new client web portal. You will have access to field data, charts, averages, min/max, and final reports via the web. We are excited about moving into a more paperless environment. The new web portal is located at

eastexecc.promium.com

and we ask that you call us for your username and password. Please ask for Ruth or Susan.