New Jersey Department of Environmental Protection

Guidance Regarding Testing of Private Wells Potentially Impacted by Harmful Algal Blooms

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Harmful algal blooms are caused by the growth of cyanobacteria (blue green algae) in a waterbody. The cells of the cyanobacteria can produce toxic chemicals called cyanotoxins. The concern for private wells is not the cyanobacterial cells themselves, but rather cyanotoxins which may be present in ground water near the impacted water body as a result of influence from surface water. If your well is near a waterbody that has tested positive for cyanotoxins, consider having the water tested for algal cyanotoxins. If you are unable to test, consider using an alternate source (e.g. bottled water) of water while cyanotoxins are present in the adjacent waterbody.

How can a homeowner determine if their private well is impacted by HABs?

The owner of a private well can have their water tested for some cyanotoxins at a private lab. The test for detecting cyanotoxins is called the Enzyme-Linked Immunosorbent Assay (or ELISA) test. In particular, the cyanotoxin microcystin can be tested using the EPA Method 546 methodology, which tests for total microcystins and nodularins, another cyanotoxin. This method is also known as Microcystin ELISA-ADDA.

Currently, there are no New Jersey laboratories certified for EPA Method 546 for total microcystins and nodularins with ELISA. However, New Jersey labs routinely contract with out of state labs that analyze for microcystin using EPA Method 546.

For residents in the Greenwood Lake community:

1. To find a list of certified labs for private wells in New Jersey visit the Data Miner system:

   https://www13.state.nj.us/DataMiner

   Search by Category and select "Certified Laboratories"
   Open results for "PWTA Laboratories Certified for Sampling" for laboratory contact information.

2. The NJDEP has verified that Garden States Labs (mentioned by Greenwood Lake) has a partnership to ship to ALS in Middletown, PA for ELISA testing
   Call toll free 800-273-8901

How are the samples collected?

To determine the presence of HABs, a pre-treated sample directly from the source (before it is treated or filtered) must be collected and analyzed by the laboratory. The toxin levels detected in pre-treated water sample will help determine if a treatment system is needed to remove cyanotoxin.

To help ensure the water sample was collected, prepared and transported correctly, it is recommended that trained laboratory personnel collect your water sample for analysis. If the homeowner decides to collect the sample, make sure they contact the lab BEFORE collecting the sample. The lab will provide the proper collection containers, materials and instructions. Follow the instructions carefully and be

prepared to ship or transport the samples on ice immediately to the lab. For any sample taken at a faucet (before or after treatment), the recommendation is to first run the water for at least five (5) minutes to ensure a fresh sample of the water is obtained. Note: Care must be taken when collecting the source water sample to ensure you do not have skin contact with the water.

What should I do if the lab reports that cyanotoxins are present in the sample of my private well water?

Consider using an alternate source of water during an algal bloom where cyanotoxins are present.

There is treatment available for cyanotoxins which may be considered for a longer-term solution. Treatment for cyanotoxins falls into two categories: Point-of-Entry (or whole house treatment) or Point-of-Use treatment at individual taps.

Point-of-Entry Treatment (Whole House)

There are several steps in the water treatment process for reducing algae and cyanotoxins from your drinking water. Reduction of algae and the cyanotoxins in a private drinking water system can be done using a combination of filtration, oxidation with chlorine, and granular activated carbon (GAC) or powdered activated carbon (PAC). The Ohio Department of Health has a factsheet called HABs Drinking Water Treatment for Wells and Springs that contains more details on HAB treatment available at https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/private-water-systems-program/media/habs_treatment_wells_springs.

Like the requirements in Ohio, the installation of water treatment for HAB cyanotoxins on your private water system well requires a permit from the local health department prior to installation of the whole-house treatment system. The installation and sizing of any treatment system should be done by a professional.

Sampling should be performed on treated water once treatment is installed to verify the effectiveness.

Point-of-Use (Individual Taps; Not Whole House)

NSF International scientists and public health experts have been testing and certifying products for more than 70 years. They have tested and certified water filters to ensure they reduce microcystin toxins to below the health advisory levels set by the U.S. Environmental Protection Agency (EPA). To find products that are NSF certified to reduce microcystin in drinking water, visit our web page: NSF Certification Listings for Microcystin Filters. Or visit the website at http://www.nsf.org/consumer-resources/water-quality/drinking-water/blue-green-algae-toxins-in-drinking-water

For any questions about microcystin in drinking water or finding a water filter to reduce microcystin, please contact the NSF Consumer Information hotline: +1.800.673.8010 or send an email to: info@nsf.org.