

## Microcystin Report

Project: Northeast Aquatic Research

<u>Sample Identification</u>	<u>Site</u>	<u>Date Collected</u>
Lake Pocotopaug	Surface grab at dock	8/27/14

### Toxins – Microcystins (MC)

#### Sample Prep

The sample was ultra-sonicated to lyse cells and release toxins. An aliquot was filtered prior to analysis through 0.45 µm PVDF.

#### Analytical Methodology

A microcystins enzyme linked immunosorbent assay (ELISA) was utilized for the quantitative and sensitive congener-independent detection of MCs. The current assay is sensitive down to a LOD/LOQ of 0.15 µg/L for total MCs

A saxitoxin enzyme linked immunosorbent assay (ELISA) was utilized for the quantitative detection of saxitoxin. The current assay is sensitive down to a LOD/LOQ of 0.02 µg/L saxitoxin.

#### Summary of Results

<u>Sample</u>	<u>MC Levels</u> (µg/L)	<u>STX Levels</u> (µg/L)
Lake Pocotopaug	< 1.0	ND
<i>Limit of Detection</i>	0.15	0.05

Microcystins were detected in the sample at levels below most health state advisory levels of 6 ppb (µg/L).

Submitted by:



Mark T. Aubel, Ph.D.

Date:

8/29/14

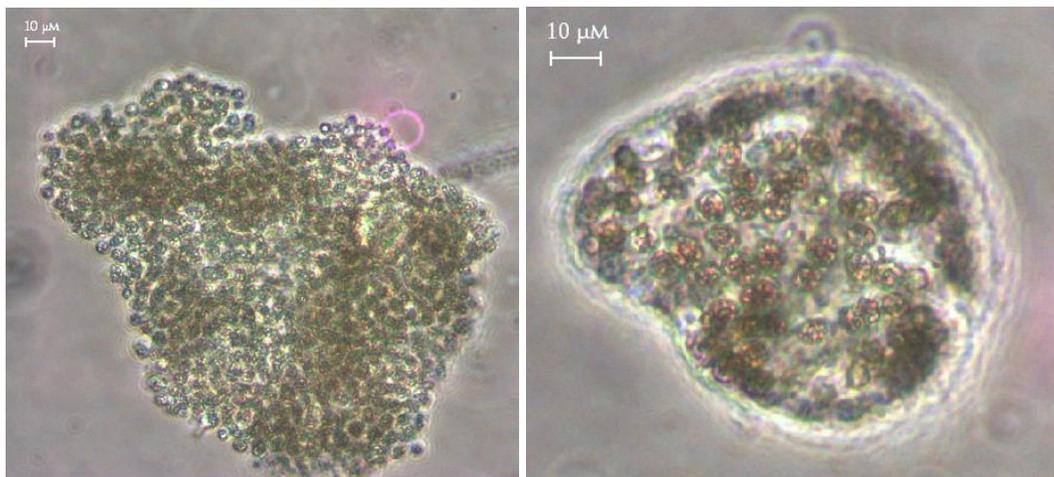
The sample was dominated by the potentially toxigenic (PTOX) cyanobacterium *Chrysochloris* cf. *ovalisporum*. Other cyanobacteria present included *Dolichospermum/Aphanizomenon* sp., *Microcystis* sp. and *Woronichinia naegeliana*. It was not possible to provide a more specific identification for the *Dolichospermum/Aphanizomenon* sp. due to the lack of akinetes (resting cells) and the similarity in morphological characteristics to both genera. *Chrysochloris ovalisporum* is a potential cylindrospermopsin producer. *Dolichospermum* and *Aphanizomenon* species are potential anatoxin-a, saxitoxin and cylindrospermopsin producers. *Dolichospermum*, *Microcystis* and *Woronichinia naegeliana* are potential microcystin producers.



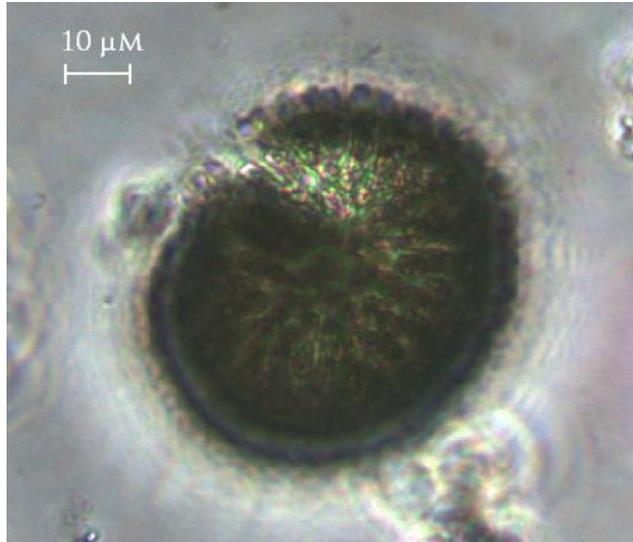
*Chrysochloris* cf. *ovalisporum* sp. 400x



*Dolichospermum/Aphanizomenon* sp. 400x



*Microcystis* sp. 400x



*Woronichinia naegeliana* at 400x